Reshaping the architect-client relationship through neighbourhood based live-projects using digital technologies

Akash Angral

Submitted to The School of Simulation and Visualisation of

The Glasgow School of Art

for the Degree of Doctor of Philosophy

August 2018

ABSTRACT

The fundamental aim of this study is to examine and report the elements that often lead to breaking down of architect-client relationship (ACR), and how such knowledge can help emerging architects to develop an understanding of the profession at an early stage. The research involves challenging the conventional methods of architecture practice for private residential projects, amidst the growing influence of recent technologies such as social media, online games, multimedia, productivity applications and mobile devices. The thesis concentrates on the client's viewpoint, position and concerns, and attempts to reflect upon their thought processes during the initial stages of a project. Also, it considers the role of digital technologies as the most instrumental in reshaping the architect-client relationship (ACR).

This study has aspired to develop a narrative about the relevance of ACR by collecting, correlating, and comparing views from architects, clients and other professionals for agreements and differences. The study deliberates issues such as, debt-laden education, job insecurity, lack of practical skills, peer-orientated work culture and subsequently emerging ideology of genius and autonomy. Other topics explored in this thesis include, inability of academics to bring in the discipline-specific example, tactical knowledge of practice, real-world design problems and client interaction into architectural education. A critique has then been developed on design studio culture that promotes form and aesthetics distanced from actual reality, including its impact on the early years of an architect's career (after RIBA part-1). Therefore, the main contention of this thesis is the emphasis on training architecture students in client-centric skills rather than design-centric aptitude and secure the future of this profession.

A combination of qualitative online survey, semi-structured interviews, and online focus group discussions under the comprehensive umbrella of the case study method have been used to construct a pragmatic framework. The data collection was focused on 'revealed preferences' and users' needs rather than 'stated preferences', in term of likes and dislikes, as in a standard survey. Key themes from the literature review were formulated into scenarios and statements and act as the main tool for inquiry during fieldwork. A five-point Likert scale was chosen for online survey, with options ranging

from 'Strongly disagree' to 'Strongly agree'. The data has been analysed using a combination of thematic and grounded analysis approach with manual coding in NVivo pro 11.

Overall, this study strengthens the idea that the predicament of the profession and the marginalisation of architects is due to their detachment from clients. The architect-client relationship, specifically from the viewpoint of clients, is an under-researched area. It identifies two main reasons for the breakdown of the architect-client relationship. One is the absence of a collaborative approach in the architectural discipline, and the other is ignoring user needs for aesthetic preferences by the architects. The advent of technologies and the stress level that comes with it is also partly responsible for this status quo. It has been noted that architects are using these technologies, but only for self-promotion and tactical benefit rather than to empower clients and bring transparency in practice. Similarly, in academia, the educators are willing to embrace Social-Media only in their personal lives and not for teaching or creating an interactive or experiential learning environment.

This study has also shown that students can learn the importance of being client-centric collaborative problem-solving methods and a variety of interpersonal skills through client interactions at the early stage of their career. This exposure of experiential engagement, when combined with theoretical and ethical discourse, would equip them with comprehensive knowledge of the complexities of client relationships, social understanding and pragmatic skill needed for the professional roles that they will ultimately play. The researcher has concluded that architecture schools should introduce real-world client interaction using digital technologies and provide meaningful practical knowledge and an engaging learning experience for the students.

My main contribution to knowledge is the development of a conceptual framework to enhance architect-client relationship. In this proposition, the neighbourhood-based online platform has been contested as a workable mechanism for bringing in and integrating, real-world client interaction to impart practical skills alongside theoretical knowledge.

AUTHOR'S BIOGRAPHICAL SKETCH

In September 2015, I completed my MSc. from the School of Simulation and Visualisation at The Glasgow School of Art and subsequently enrolled as a Ph.D. student. Before moving to Glasgow in 2014, I practiced as an architect in India for 14 years, where I completed many industrial and residential buildings. Besides having teaching experience in architecture schools, I have also worked on a variety of commercial and aesthetic art commissions.

My research interests are based on the concerns of emerging architects, the marginalisation of architects and reshaping the architect-client relationship. I want to question the popular notion that the architect-client relationship (ACR) is central and relevant only to professional practice, and instead, argue that it must be considered an inseparable part of architectural academia. My work seeks to inform policy for architectural education and proposes to exploit the opportunities offered by digital technologies to bridge the gap between educational activity, professional practice, and pragmatic research. Hence, I have concentrated my critical response in the following strands:

1. To contextualise the architect-client relationship in the digital age and find reasons why it so often breaks down.
2. To generate new knowledge about the 'informed client' and their expectations and aspirations vis-a-vis transparent operations, mutual trust, and alternative rules of procurements.
3. Urging practicing professionals to disseminate the otherwise tactical knowledge of the construction industry to emerging architects.
4. To establish that there has always been an immediate need to introduce real-world client interaction in architectural education, and that with the advent of digital technologies, the possibility of fulfilling this need now is much easier than ever before.

Previous research: In 2009, I started tutoring in Design Studio and Building Construction modules at an architecture school, as a visiting faculty member. I entered the world of architectural academia and research because I enjoy sharing my experience of real-world situations in professional practice with students; I believe these are an invaluable resource for emerging architects. These lecturing experiences and interactions

with students led me to discover that I equally enjoy theory work, especially theoretical fields that see wide use in empirical research, such as critical theory and constructivism. I also entered architectural academia because throughout my professional practice and teaching, I personally experienced the disparity that prevails within the discipline. I discovered that while it was challenging to become established as a successful practitioner, there was not enough mentorship, help, or endorsement available to emerging architects. There were no well-established routes for students, especially in the architectural curriculum, to engage with building professionals and clients where they could learn usable onsite skills. Moreover, traditional methods of training, such as an internship with a practicing architect, live-build project, in-house workshops, etc., had become inadequate and/or obsolete. Apart from drafting and office management, internship programs with architects were not able to offer either meaningful real-world experience or client management skills in the current architectural landscape, on top of which, digital tools were revolutionising the way people work, engage, and interact. Hence, in this exploratory stage, I was more engrossed in identifying the gaps and articulating the problems faced by the profession.

<u>Emerging research:</u> Many things may seem easily doable with the growing influence of digital technologies and the internet; it has, however, become challenging not only for architects but also for other professionals to satisfy the needs of their customers and create products easily accepted by users. However, with multiple options now available to clients through digital platforms such as Social-Media and mobile apps, clients often find themselves engulfed in feelings of discontentment about the options that they must forego in lieu of the ones that they choose. One could argue that although clients and users are becoming familiar with recent technologies, aggressive digital marketing also impedes the decision-making process and has a detrimental effect on the architect-client relationship.

 With the advent of digital technologies, numerous possibilities have presented themselves, which promise to address various issues faced by stakeholders in academic and professional spheres in architecture, engineering, construction, and operations (AECO) industry. To that end, many new models have emerged, such as collaborative practice with building information modelling (BIM), working in virtual environments (VR and AR), digitally recording practical experience, and online *crit* and feedback systems for students. However, further research is needed to establish the feasibility and effectiveness

of these new pedagogical approaches. Hence, the primary motivation for my future research is guided by the implications of these technologies and ways to mitigate any undesirable consequences for emerging architects and clients. Some areas that I have identified for immediate investigation are:

1. What happens when traditional methods of architectural training and practice, such as, interactions among personalities and interdependencies between processes, roles, and people's actions, are confronted with the adoption of recent digital technologies?
2. What happens when people are swayed by the effect of digital fetishisation? What are the implications of the gap in language and terminology in architecture, considering the use of digital workflows?
3. How do architects in the digital age adapt and use technology to inform alternative routes of procurements? Since in architecture the prototype is the final object, what happens if the process they devise and the planning they do go wrong? Who bears the cost of this experiment?

This thesis is

dedicated to my beloved parents, and

to my loving wife and our wonderful children,

Param Avi and Ravika, who have always been

a source of resilience, encouragement and

inspiration to undertake higher studies

and to face the eventualities of life

with passion, enthusiasm,

trust and love of

God.

ACKNOWLEDGMENTS

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CHAPTER 1

INTRODUCTION TO THE THESIS

This chapter gives a brief overview of the architect-client relationship (ACR) and the overall structure of this research. The first section introduces the topic and makes explicit the significance of the research and knowledge gap. The reader is then familiarised with the theoretical position of the researcher concerning architects, clients, architectural education and technology. Next, this chapter outlines the problems that this thesis will attempt to investigate (Section 1.2), including the need to solve these problems (Section 1.3). Section 1.4 defines the aim of this study, later interpreted as three research questions with a set of five objectives. Section 1.5 explains the research outline and conceptual framework; Section 1.6 describes the approach to investigation, followed by limitations of the research in Section 1.7 and finally the structure of the thesis.

1.1   BACKGROUND

Architecture and the act of making a building for a client can be seen as a privilege enjoyed by architects, unlike the provision of any other product or service. Architects are endowed with comprehensive vision (Sariyildiz and Veer, 1998); they design and plan the whole building process; however, for many in the profession it is appalling to learn that an architect is no longer considered a key person by clients (Schoenmaekers, 2011; Stevens, Williams and Green, 2015). Most consultants and contractors get paid in full for their products or services, yet often only the architect is held responsible for any shortcoming. Although they remain subject to strict regulations and a professional code of conduct, their reputation, and that of the profession as a whole, has been adversely affected in recent decades (Celento, 2007; Buchanan, 2012).

Literature and research projects commissioned by professional institutions, such as the Royal Institute of British Architects (RIBA), the Architecture Registration Board (ARB), Building Design (BD), *Architects Journal* (AJ) and others, suggest that 'architects are not only "losing their ground" but also their professional status, which is becoming highly speculative, and clients are desperately looking for alternatives' (Baillieu, 2015). As noted

by Howard Davies in *How Clients See Architects: The Strategic Study of the Profession*, architects are simply viewed as service providers or product suppliers, and 'certainly do not represent a special case in the eyes of the client' (Davies, 1993, cited in Carmichael, 2002, p. 20). Moreover, 'on any given project, if architects, general contractors, construction managers, engineers, and sub-consultants all agreed that there should be a higher level of collaboration, then why isn't it there?' (Burr and Jones, 2010, p. 134). The role of architects has been diluted, and their position undermined, by other professionals concerned with and involved in building activity. These professionals have successfully captured large market shares, once an architect's domain, both regarding finance and authority.

Extensive research has shown that viewing architecture as art, a culture of allegiance and indoctrination, disassociation from clients and end users, neglecting moral and ethical responsibilities, and outdated models of education and practice have all led to the marginalisation of practising architects, increasing stress levels of academicians and heightening the concerns of emerging architects. Davies (1993) notes a consistent client response of '"dismay" at architects' "arrogance", their "perceived unwillingness to accept and acknowledge criticism" and "as 'being intellectually above the concerns of the client's world"' (Cited in Carmichael, 2002, p.21). Hazel Bines (1992) opines that the involvement of clients and users in education could 'not only offset some of the criticisms of professional attitudes and power relationships in relation to clients and consumers but could also help to ensure that professional formation does address the changing nature of professions in society as a whole' (p. 135).

According to a RIBA report (Stevens, Williams and Green, 2015), the conventional architecture practice model has become obsolete as the internet and digital technologies have become an integral part of our daily lives and intellectual capabilities. One RIBA publication says, 'the architectural profession, unfortunately, does not view itself as part of the wider construction industry', and that this [is] a fundamental value that needs to change' (Robinson *et al.*, 2010, p. 13, cited in *Building Futures*). Most practising architects subscribe to the objectives of securing more social control over the practice, 'with various characteristics such as barriers to entry, distinctive competence, codes of conduct, etc.', which is lobbied by architectural associations and professional institutions (Hughes and Hughes, 2013, p. 29). While professional organisations were consciously created to regulate and structure the profession, their role has been widely criticised, due to internal politics and varied opinions among their members (Scott, 2001).

Many studies advocate that a successful ACR is shaped by positive behavioural attitudes and mutual respect among all participants (Long and Wilson, 2002; Tusa, 2002; Watson, 2002; Stater, 2010). According to RIBA, common complaints from clients about their architects are often rooted in misunderstanding and dissatisfaction (RIBA, 2007). Most new clients do not know how to communicate their needs and do not understand design processes. As such, unless they make efforts to familiarise themselves with the architectural language of communication, many will find themselves trapped in a strange situation, where they feel stressed and constrained (Siva and London, 2011). Moreover, communication among architects and clients is not intuitively driven, and clients' education is essential for them to understand architectural language and for their interests and attitudes to become aligned (Chen, 2004).

The architect-client relationship has to be seen as more than just a financial transaction. Ideally, it should be a consortium where one party requires a service, and the other provides it. For its smooth functioning and mutual benefit, it is essential that both parties invest equal stakes. Instead of being captivated by their love of design, clients should be at the core of an architect's professional life. Hence, main strand of argument in this study is that architects will no longer be needed in future, and the profession will be rendered insignificant and seen as frivolous by society unless considerable steps are taken to address the status quo.

1.1.1 The position of architects in this study

According to a survey in 2005, 'only 2% of architects in Britain were "very" happy with their jobs, scoring last of 30 professions surveyed' (Happiness Index Survey, cited in Celento, 2007). In a survey published in *Architects Journal* in 2012, 43% of respondents said, 'they would commission an architect through word of mouth or ask a friend'. The results of this survey also revealed that the British public was largely ignorant of some of the key services offered by architects. Similarly, findings of *The Cultural Value of Architecture* project suggest that there is a lack of clarity amongst the public about the role of architecture. This lack of clarity could be one of the main reasons for the marginalisation of the profession (Samuel *et al.*, 2014). A recent study by the Centre for Disease Control and Prevention in America reported that 'architecture and engineering professionals ranked fifth most likely to commit suicide, compared to those in other jobs' (McIntosh *et al.*, 2016).

Conferring to data published by RIBA in 2013, domestic clients constitute 52% of the micro-practice client base (firms of five or fewer architects) and 34% of all UK clients of the overall architecture practice in the UK. The architect-client relationship is the most neglected aspect within the profession (Cuff, 1991; Till, 2005). Growing concerns about the disparities among architects and clients have initiated multiple debates within professional circles. In September 2015, a roundtable discussion organised by RIBA reported a series of findings that suggested:

> Many architects lack the people skills needed for collaborative working. Some architects need a cultural shift to adjust to flat management structures. Clients are, in most cases, keen to see architects step forward to lead the vision. [Digital technologies] offers a fresh opportunity for architects to re-establish their role leading the vision. Architects need to be business savvy, demonstrating an awareness of how to deliver value. *(Client & Architect: Developing the essential relationship,* RIBA; Stevens, Williams and Green, 2015, p. 23)

The majority of architects are inclined to hog the limelight and overindulge and exaggerate their role as social reformers and designers of the built environment, which has been partly well received in developed countries (Schoenmaekers, 2011). Although there ought to be exceptions, but why is the discipline fundamentally oriented around architects' pessimistic viewpoint that clients do not understand the way they work? Why can't it progress with an optimistic outlook, where clients are treated with the trust and respect they deserve?

1.1.2 The position of clients in this study

Many studies advocate that clients hold the most important position in the architectural design process. (Kostof, 1977; Prak, 1984; Ellis and Cuff, 1989; Banham, 1996; Hill, 2001; Tessema, 2008; Awan, Schneider and Till, 2011; Siva and London, 2011). Hence, their aspirations must never be undermined, and they must always be given accurate information about building design. Nevertheless, a gap between architects and clients has always existed, even when architects are aware that in the absence of teamwork, mutual respect and trust between them and clients, their designs would never travel beyond the drawing board. In a building project, when both architects and clients possess information and knowledge regarding drawings and instructions, why is there still a discrepancy in its usability and applicability? Does the lack of appropriate design language, a potential

barrier in the design process, make it harder to engage fruitfully with a not-expert client? Or does the theoretical discourse of design-centric ideals indoctrinate architects to reject function for the form? (Salingaros, 2008). Or perhaps architects tend to assume that they play a key role, since they are one of the first teams to be appointed and hold advance money or a signed contract, and they expect everyone to dance to their tune, including the client?

Why should clients pay so much before construction starts on site? The model answer prescribed by RIBA is, 'because a large amount of work has to be completed before we get to the site and also where the major value is added' (RIBA, 2010, p. 3). Even the code of practice and legislation are biased and favour architects. Architects consider their job done after completion of construction drawings and a bill of quantities, and in the case of any alterations, they believe this should be paid again. Clients often report that architects tend to lose their initial motivation after they receive advance payment, and abandon their responsibilities in the event of any later problems or mistakes (Walker and Newcombe, 2000). Is it not clever of architects to collect the major part of their fees (up to 65%) before the construction stage and (up to 95%) before the completion of the project?

1.1.3   The position of architectural education

Paolo Freire fiercely exposes the hierarchy of power and the internal workings of architecture colleges in his book *The Pedagogy of the Oppressed* (Freire, 2000) [1970]. He compares schools of architecture to banks, where tutors deposit data into students: the more data they can deposit, the better teachers they are, and students are simply there to submissively receive it. The peer-orientation in the discipline encourages competitiveness among students, and as new architects, they only aim for glamorous jobs and bigger commissions (Salingaros, 2008). Peer-orientation also promotes the 'creative genius' model during education and training, and literature suggests that it results in the profession's design-centric attitude and lack of interpersonal skills (Prak, 1984; Banham, 1996; Till, 2009).

The Architectural Education Review Group report points out that 'the misalignment between student expectations and the reality of practice may partly explain why the majority of architectural undergraduates do not go on to join the profession' (Pathways and Gateways 2013, p. 13). Emerging architects are incapable of identifying and addressing clients' emotional requirements, and the lack of real-world client interaction

during education could be one of the main reasons for this. David Gloster, head of RIBA Education, believes that 'while graduates cannot be expected to know everything, in the architectural world the theoretical discourse does not seem to address the changing needs of the profession at all, but actually, it competes against it'. Moreover, he maintains that 'there is a fundamental lack of risk-taking by schools in speculating the fundamental nature of architecture' (The Big Debate: Friday Lectures series, 2014). This calls into question traditional teaching approaches, the conventional studio environment and the role of *crit*.

Christine Percy (2004, p. 150) notes that 'the crit could become a site of contestation in the hegemonic display of power relationships between the academic members of staff'. 'Crits-manship', in the words of Stevens (1995), describes *crit* as an exhibition of the 'embodied cultural capital' of the profession. 'Surviving this ordeal [the *crit*] is seen as a rite of passage, something to aspire to, even though no systematic evidence demonstrates that this atmosphere is necessary for the training of professionals' (Brown, 2004; cited in Blair, 2007, p. 92). Many other scholars have called the traditional design *crit* intimidating, hostile, humiliating, boring and demoralising (Percy, 2004; Chadwick and Crotch, 2006; Blair, 2007; McCarthy, 2011). Despite several attempts to reform this ritual in the design studio, the current model continues to prosper. Therefore, a progressive tutor-student relationship is a pivotal framework in architectural education to stimulate creativity and pragmatism based on an interdisciplinary approach, innovative technology and tactical knowledge (Kowaltowski, Bianchi and de Paiva, 2010).

1.1.4 The position of technology in this study

The last two decades have seen the influence of digital design and technology and its profound impact on all disciplines, including architecture. Although technological advancement has increased the amount of information and data shared among practitioners and stakeholders, a collaborative approach is still missing. Architects have resisted the use of recent technologies and modern workflows. According to results of a survey (Seaman and Tinti-Kane, 2013), Social-Media is widely used by faculty, but only personally; if used professionally, this happens outside of teaching, and its use is negligible for academic and teaching purposes. Faculty members remain apprehensive even when they realise the potential difference these resources could make in their teaching. Terry

Anderson (2016, p. 46) describes this as a fear or natural rejection that educators feel when confronted with recent technology and its application.

Technological advancement and complex workflows have led to an increased amount of information and data. The extent of this influence on architectural practices is overwhelming; architects face new challenges and, at times, they lack a vision for the future and find themselves lost (Robinson *et al.,* 2010). Poor communication, lack of articulation skills, misunderstanding and conflict, can often be found at the heart of any problem that arises in an ACR (Coughlan and Macredie, 2002). The study adopts the position that the role of communication technology is central to improving the ACR and that a collaborative approach facilitated by digital technologies holds immense potential to reshape the practice and education of architects.

1.2   PROBLEM STATEMENT

Problem 1

Architects always argue that clients do not understand their hard work in producing design solutions. They also claim that clients often take out many aesthetic elements and design features to reduce project costs, but the clients do so because of a lack of technical knowledge, suggesting that architects are not able to communicate their ideas. Unless clients are familiar with the architectural language of representation, they will struggle to understand the modalities of space depicted by two-dimensional plans, elevations and paper drawings. Moreover, the professionalised approach that architects take during the initial stages of a project somehow fails to win clients' trust, leaving them dissatisfied, with curtailed desires and limited control over their project. As a consequence, an architect is often seen as someone who tries to increase project costs by specifying expensive materials, etc. This creates discrepancy, mistrust and contempt, especially in private residential construction projects, where clients generally end up trusting contractors more than architects.

Problem 2

Currently, the discipline operates on a philosophy that Architecture is an Art and there exists a stable method for its education and practice. Even though understanding the ACR is one of the most critical aspects for architects' successful business prospects, it remains the most neglected and under theorised subject during education. Similarly, the prime choice of many educators – the design studio operates on theoretical constructs and does not prioritise understanding about the users need, financial constraints and real-world issues. The popular method of assessment and feedback, the traditional *crit,* intimidates students, incapacitates learning, and makes scholarship counterproductive. Moreover, this study takes the view that Live-Projects and Design-Build programs, as they are traditionally known and used in academia, do not offer meaningful practical exposure to real-world situations. The focus of such projects is more on empowerment and engagement of the students as a group rather than client interaction. The design briefs ignore individual design skills needs of the students, lack definite problems and realistic budgets, and often result in unexpected outcomes.

1.3   KNOWLEDGE GAP

Architectural education is structured around the concepts of genius, autonomy and peer-orientation, preparing graduates to fend for themselves while aiming at individualistic development, where *good design* always means something unique, further pushing boundaries of form and aesthetics (Banham, 1996; Hill, 2001; Carmichael, 2002; Till, 2009). Bob Borson (2016) argues that without critical engagement with real-world settings within academic discourse, and real clients for studio projects, architects may never find answers to the question 'why do we create a good design'? Also, architects claim to operate in a collaborative environment, though many still struggle to strike a balance between the purpose of architecture and their individualist egos (Ivory, 2004). The architect-client relationship is an under-theorised field of study, especially in the context of recent technological advancements, how architects get work, and current ethical and moral obligations of architects. Significant gaps in knowledge also exist around the following:

1. A mismatch between the client expectations, design process and artistic aspirations of the architects.
2. Proper, timely and clear communication between the stakeholders and the architects.
3. Inadequate endorsement and mentorship by education or practice during the personality-moulding phase of making an architect of a student.
4. Lack of impartment of practical skills and sound knowledge during education.

Although there are many guides on establishing an architecture practice, (Carmichael, 2002; Forlati, Isopp and Piber, 2012; Chappell and Dunn, 2016), it is difficult to implement policy and advice for emerging architects wanting to establish a foothold in the market. The RIBA publication *A Guide to Successful Client Relationships* by Susan Carmichael draws on established architects' experiences and stresses investing time in understand clients' personalities to ensure goodwill and long-term successful relationship. However, her observations expose how incomplete an architect's education and training is, even several years into their careers. Reflecting only the viewpoint of practising architects, it fails to acknowledge the lack of such training, pathways and mentors for students.

1.4   AIM, QUESTIONS AND OBJECTIVES

This study aims to examine the relevance of the architect-client relationship in emerging architects' education and training. One theme running through this research is the way digital technologies reshape the architect-client relationship in practice and the tutor-student relationship in education. Overall, this thesis highlights the clear need for reassessment and repositioning of the architect's role in society and raises awareness about the much-neglected architect-client relationship, articulating that it is an essential element for creativity and advancement in architectural education, practice and research. Based on the knowledge gap and the problem statement, the study aims, questions and objectives are defined as follows:

RA 1.   To offer critical insight into why the architect-client relationship often breaks down.

RA 2.   To demonstrate the pressing need for introducing real-world client interaction in architectural education.

Research Questions

RQ 1.   What factors contribute to the breaking down of an architect-client relationship?

RQ 2.   What is the role of architectural education in addressing these issues?

RQ 3. What is the role of digital technologies in reshaping education and practice for a stronger architect-client relationship?

Research Objectives

RO 1. To examine the ACR in the 21st century and find reasons for its breakdown.

RO 2. To generate new knowledge about the informed client and their aspirations vis-a-vis transparent operations, mutual trust and alternative rules of procurement.

RO 3. To examine the relevance of the ACR in practice and recommend it as an inseparable part of education.

RO 4. To explore reasons that restrain emerging architects' ambitions in the age of digital technologies.

RO 5. To contend that the advent of digital technologies enhances the possibility of introducing real-world client interaction into education.

Research structure, objectives, and methodologies

General Problems

Crumbling architect-client relations and marginalisation of architects

Ignoring user needs and peer-orientated work culture

Debt-laden education, job insecurity and lack of practical skills

Absence of collaboration and Resistance towards technology

Propositions

1. Design-centric attitude and lack of understanding of client needs has led to the marginalisation of architects.

2. Emerging architects are facing significant challenges, such as debt-laden education, job insecurity, lack of practical skills, self-centred work culture etc.

3. Client-centric attitudes and digital technologies can help bridge the gap and lead to a better architect-client relationship.

Objectives

Examine architect-client relationship in the 21st century and find reasons for its breaking down

Describing the position of clients and ethical responsibilities of architects.

Identifying role of media, advertising and communication and impact of digital technologies ACR

Outlining concerns of emerging architects including routes to employment and influence of Stararchitects

Identifying problems in academia, the design studio and crit appraising pedagogical approach of live-projects and other such models

To contend that advent of digital technologies enhances the possibility of introducing real-world client interaction in education

Verifying result and formulating findings into a conceptual framework.

Studies

Historic development of the architecture
The role of the architect in society
Users and clients in architecture
The function of professional institutions
Digital technologies and the ACR

Problems in academia
'Influence of Starchitects'
Students and emerging architects
Learning and Teaching in Architecture
Digital technologies and architecture education

Research Design

A closer examination of architect-client relationship and concerns of emerging architects

Conclusion

To secure the future of the architects, students need to be trained in client-centric skills in a real-world setting, and this can be done using digital technologies

Methodologies

Reviewing the literature of research on architectural education and practice.

Identifying knowledge gap
Reviewing the literature
Classifying the Criticism
Developing research framework
Conducting preliminary content analysis

Reviewing the literature
Identifying the issues
Establishing a format for description
Content analysis - induction
Verifying the results

Phase 1
Identifying problems and issues for examination
Designing survey questionnaire
Conducting online survey

Phase 2
Designing semi-structured interviews
Conducting interviews
Coding the data

Phase 3
Qualitative analysis in NVivo
Grounded theory and thematic analysis
Validating results
Establishing reliability of findings

Data collection

Collected 180 responses
55% from the UK and 45% Non-UK,
47% > 10 yrs exp, 15% > 5 yrs exp.
41% established architects, 31% clients
& 8 % emerging architects

26 semi-structured interviews, (13 architects, 9 clients and 4 other professionals)

3 events & conferences
2 focus group meetings.

Figure 1   Research structure and conceptual framework of the study   Source: Author

1.5 RESEARCH OUTLINE AND CONCEPTUAL FRAMEWORK

A key feature of this research is the interplay between wide-ranging and focused approach of the framework. The study extends its scope to several topics in a simultaneous fashion, capturing diverse flavours and essence of various concerns of architects, clients and emerging architects. An important aspect of the problem is elaborated to introduce a topic, guiding a pragmatic critique on the state of architect-client and tutor-student relationships. The main motivation for producing rich descriptions and insightful explanations was a deep understanding of the ACR set in real-world contexts.

Although the literature review is divided into two chapters, some topics still overlap to ensure holistic understanding that helps to develop two separate sets of arguments. It has been argued that theory and practice often contradict each other, and post-modern discourse guided the discipline more towards design-centric paradigm rather than client-centric vocation. It has also been pointed out that tactical knowledge from practice is rarely shared and communicated within academia. Even when projects and articles are published or shared on the internet or social media, the intention is to promote the architect, not to share the knowledge. Towards the end of this study the research will attempt to determine whether the situation is still the same and what potential, if any, digital technologies have to reshape the architect-client relationship.

Some strands of the research method are based on the work done by James Brown (2012) and Rachel Sara (2004). Their research queries the relevance of Live-Projects in architectural education. There is an immense range of material about architectural pedagogy to be cited, existing in different forms, such as essays, short articles, open letters and manifestos, academic journals, books, exhibitions, public lectures, web pages, Social-Media groups and other online databases. Instead of highlighting each published and unpublished work starkly with multiple references, the views of scholars have been appraised to formulate a strong theoretical framework, leading to a compelling case question within the aim and scope of each section. The first part of this research deals with descriptive 'When' and 'What' questions, which are investigated through literature review and an online survey; the second part deals with explanatory 'How' and 'Why' questions, studied using semi-structured interviews (Shavelson and Towne, 2002, pp. 99-106; Yin, 2012, p. 5).

Moreover, it has been noted that not only is the ACR is an under-researched topic in academia, it is also an area that requires researchers to have significant experience of practice, to include understanding from both theory and practice.

1.6   APPROACH TO INVESTIGATION

A combination of approaches, such as a qualitative online survey, semi-structured interviews and online focus group discussions, under the comprehensive umbrella of the case study method, have been used to construct the framework for this study. Key themes from the literature review have been developed and written in a critical tone in the form of scenarios and statements, mainly from a client perspective, helping the respondents to reflect on past experiences while answering the questions. For ease of reporting similarities and contrasts between clients' and architects' views, a Likert Scale (Rensis, 1932) has been used to gather respondents' opinions and solicit their judgements on individual statements, based on their lived experience to build consensus around key issues, which are important to both architects and clients. A critique of their relationship has then been formed, and its relevance for educating emerging architects and students has been evaluated.

1.7　CONTRIBUTION TO KNOWLEDGE

The research outcome and main contribution of this study is a conceptual framework that facilitates academic tutors and practicing architects to play a proactive role in educating students. The effectiveness of this framework has been validated through public response and discussions with architectural educators and practicing professionals. As such, prototyping or piloting this conceptual framework was not the main objective of this research and remains an area for further investigation, where its success and impact in producing desired outcomes could be measured through quasi-experiments and other research methodologies. Other contributions of this study are defined as follows and discussed in detail in Section 7.4.

1. The development of a theoretical framework for enhancing the architect-client relationship through Neighbourhood-based live-projects.
2. The development of comprehensive underpinning literature around architect-client relations, including how they influence the decision-making skills of architects and clients when they progress through the various stages of the design process.
3. An articulation of the importance of two lesser known aspects of architectural discipline: a) the absence of client experience in education, and b) unmet client expectations in practice.

1.8   DESCRIBING THE LIMITATIONS OF THE STUDY

<u>Time:</u> This research initially aimed to understand the role played by digital technologies in effective learning, and alternate models of practice, to reshape the ACR. However, not only was the research over-ambitious but since these involved broad topics in their own right, such as the effect of digital technologies on effective learning at architectural schools and alternative practice models for emerging architects, studying them was deemed to be beyond the scope of a time-bound PhD. Thus, this research primarily focusses on the ACR and its relevance for emerging architects.

<u>Scope:</u> Studying the ACR called for a broader understanding and reasonable knowledge of all aspects of an architect's professional life. This study purposefully considers clients with a modest budget as the most significant stakeholders in private residential projects, as the architectural discipline has been less considerate towards them. The critique had to focus on the empowerment of clients and the future of emerging architects. It criticises the theoretical discourse advocating that 'function follows form'. As such, the scope of this thesis is not limited to architects, clients and emerging architects; it also attempts to explore digital technology, architectural education and practice through a lens of social and ethical obligations of a service-oriented knowledge-based profession. However, considering and examining every aspect of the problems that prosper on sidelines of architecture would have exceeded the volume of this work and made this project too long.

<u>Tone:</u> This thesis advocates neither for clients nor architects, but rather attempts to articulate their viewpoints, aiming to identify missing links and gaps in architects' education. No statement, concept or question voiced in this study is intended to be demeaning or a threat to architects' professional credibility. This research aims to progress a positive postulation derived from the 'revealed preferences' rather than 'stated preference' of the respondents.

<u>Language:</u> The study needed to be suitable for a broader audience as it addresses the concerns of clients, emerging architects, educationists, policy makers and practitioners. Some explanations may be required for non-architects, but the context should be clear for architects and vice versa. Language suitable for both architects and non-architects was

chosen to draft statements and questions for all the respondents to relate to, reflect upon and give their honest opinions easily.

<u>Context:</u> The data in this study is collected from Scotland-based interviews, with 55% of survey respondents from the United Kingdom; likewise, most of the literature originates from and refers to conditions in the United Kingdom. Being based in a specific location is a limitation that might have affected the clarity of the context. However, Guba and Lincoln (1994) state that 'generalisation can occur when the mix of social, political, cultural, economic, ethnic, and gender circumstances and values is similar across settings. Therefore, this study adopts the hypothetical position that globalisation and advancements in Information Communication Technology (ICT) have made professional practice, availability of technologies and dynamics of the ACR the same everywhere.

1.9   STRUCTURE OF THIS THESIS

<u>Chapter 2-</u> The Profession and Practice of Architecture tries to narrow down the concerns of clients. An attempt has been made to voice and articulate the feelings of clients and users. These are in line with what has been voiced by Lefebvre in *The Production of Space*, where he talks about how users are turned into abstractions, as well as Banham in *The Black Box*, Prak in *Architects' Belief Systems*, Cuff and Russell in *Architects' People* and many others.

<u>Chapter 3:</u> Education and Training in Architecture highlights and debates issues concerning emerging architects, such as debt-laden education, job insecurity, lack of practical skills, a peer-orientated work culture, high entry and exit barriers to the profession and ideologies, which emerge in response to these issues. It attempts to classify factors that hamper the aspirations of prospective students and dissuade them from becoming successful practitioners.

<u>Chapter 4:</u> This chapter elaborates on the development of this thesis's ontological and epistemological framework using case study, grounded theory and constructivism. The sequential phases of an online survey, semi-structured interviews and other methods facilitate an excellent procedure for the systematic inquiry to achieve the aim of this study. Qualitative analysis of the data has been done by reflecting on the issues identified in the literature review and comparing them with the findings of this study. This also includes an inductive analysis and assessment of recent studies and survey reports published by various professional organisations and research clusters.

<u>Chapter 5:</u> This chapter reports the results from the online survey and semi-structured interviews on the factors relating to the breaking down of the ACR (Sections 5.1 to 5.7). Pie charts show the collective response (in blue) to each question, followed by architects' responses (in yellow), alongside a summary capturing the essence of everyone's responses in narrative form. This is followed by findings from the semi-structured interviews in the form of a dialogue. In part 2 of this chapter (Sections 5.8 to 5.12), each scenario is discussed, and the responses are evaluated concerning the observations made in Chapter 2. It highlights which arguments resonated with respondents and which did not. Towards the end of this chapter, the statements are regrouped in the order of their acceptance rate.
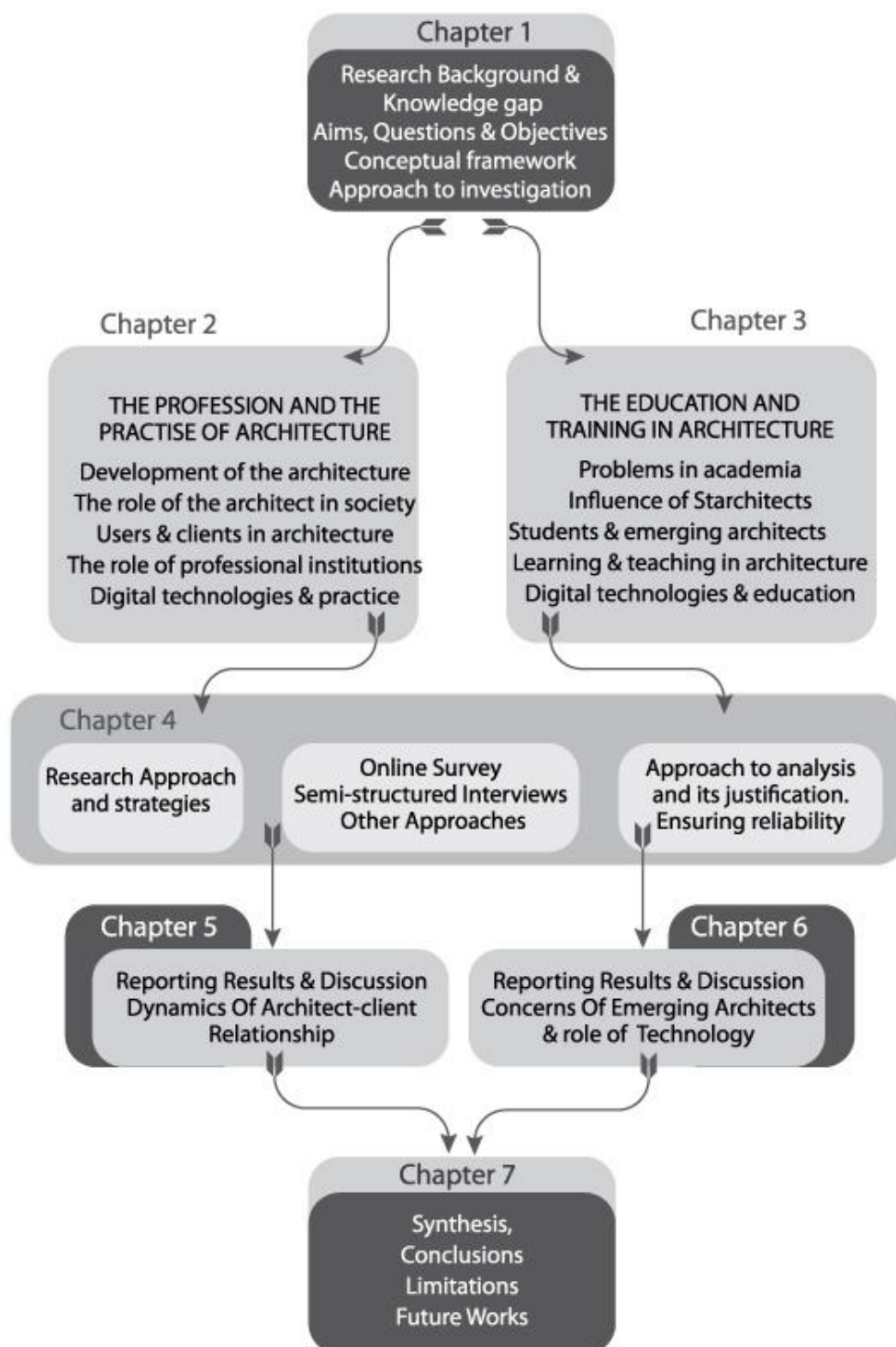
Figure 2   Chapter-wise layout of the thesis

Chapter 6: In this chapter, results of the aspects relating to architectural education, concerns of emerging architects and the role of technology are presented and critically discussed in light of the observations made in Chapters 2, 3, 4 and 5. These statements are regrouped in the order of their acceptance rate towards the end of the chapter.

Chapter 7: The concluding chapter attempts to synthesise this research by again clarifying the theoretical background and position of the researcher concerning the scope and aims of the study. It also focuses on a conceptual proposal for introducing and integrating real-world client interaction into architectural education through a neighbourhood-based Live-Project. The thesis ends by articulating findings and conclusions, conducting response validation for this study, acknowledging limitations and suggesting future work on this topic.

CHAPTER 2

THE PROFESSION AND THE PRACTISE OF ARCHITECTURE

Since the Postmodern era, the architectural profession has undergone significant changes in response to the social, functional, and emotional needs of the society resulting from the demands of population growth, technological advancements, and environmental concerns. Many scholars such as, Lefebvre in *The Production of Space*; Banham in *The Black Box*; Prak in *Architects' Belief Systems*; Cuff and Russell in *Architects' People*; Salinargos in *Architecture and Deconstruction*, Merul Ponty in *Less for Less Yet*; Tom Spector in *The Ethical Architect*, Johnathan Hill in *The Use of Architect* and Jeremy Till in *Architecture Depends*, have documented and emphasised the benefits and shortcomings of these changes and the direction this profession will take in the future. For most of the 20th century, the architectural design process and professional practice of architects was concerned with producing individual works of art for wealthy people and public clients. However, during the 1980s, in response to pressure from the building industry, architects' offices proliferated both in size and number. Specialised consultants gradually complemented the experience, judgement and talent of individual architects and master craftsmen to help modern architects in delivering complex buildings. While the profession scaled new heights in the last few decades, where architects were able to produce some of the most enduring and monumental buildings of the 20th century, the relationship between architects and clients deteriorated to an all-time low, which is now threatening the role of the architect.

The goal of this chapter is to contextualise the ACR and evaluate the factors responsible for its deterioration and then define the impact of these factors on the future needs of emerging architects and clients. Two propositions guide the study in this chapter: a) design-centric attitude and lack of understanding of client needs have led to the marginalisation of architects; and b) client-centric attitudes and digital technologies can help bridge the gap and lead to a better ACR. The chapter is structured into five sections and addresses key themes and ideas related to architects, clients and their relationship, predominantly during the initial stages of a private residential project. At the end of each

section, a concluding argument is made, outlining issues and questions, which emerge from the review of the literature.

2.1 DEVELOPMENT OF THE ARCHITECTURE

2.1.1 Historic development of architecture

In the 1st century AD, Vitruvius talked about the cardinal principles of architecture, describing architecture as 'a science, arising out of many other sciences, and adorned with much and varied learning: by the help of which a judgment is formed of those works which are the result of other arts' (Vitruvius, 1914, p. 9). Proclaiming the moral ethics of work and what they mean for architects, he held that architects should be courteous, honest, virtuous, temperate and 'keep up their position by cherishing a good reputation' (ibid.). The Vitruvian discourse, dealing primarily with the prescribed and acknowledged aspects of architecture, emphasised that architecture was ultimately for the betterment of society and that its quality depends mostly on the social relevance of the work rather than its aesthetics or workmanship. The fundamentals of architectural theory and its interpretations thereafter are deeply rooted in the Vitruvian discourse that all buildings 'must be built with due reference to durability, convenience, and beauty' (Vitruvius, 1914, p. 13). Although the architectural theory has always promoted ethics as an inseparable part of one's education, their application and practice in real-world scenarios remain subjective and questionable.

While all of the built environment is accredited to architects, architecture as a formal discipline and profession was only recognised during the Renaissance in the 1700s. The commission for Design of Doors and Dome of Florence Cathedral in 1419 is often regarded as the first architectural competition, which was won by Filippo Brunelleschi (Wikipedia, 2018). Past philosophers and intellectuals, such as Leon Battista Alberti, Andrea Palladio, Henry Wotton and Sir William Chambers, mainly subscribed to the Vitruvian values of presenting beauty in terms of the 'utilitarian benefit it bestows on man's wellbeing' (cited in Spector, 2001, p. 39). Alberti claimed that when utility and structure were adequately addressed, beauty was an almost inevitable result. Palladio argued that reason would perform the function of the supreme arbiter between the demands of function and beauty. The 19th-century German architect Karl Friedrich Schinkel maintained that 'the task of architecture is to make something practical, useful and functional into something beautiful' (cited in Spector, 2001, p. 39).

In the introduction of *The Age of the Masters,* architectural historian Reyner Banham reflects on his experiences with modernism and its famous architects. 'I had the good luck

to meet all of them – Le Corbusier, Frank Lloyd Wright, Walter Gropius, Richard Neutra, Mies van der Rohe –and for me, as for three generations of architects, they were father figures who commanded awe and suspicion, affection, respect and the normal pains of the generation gap' (Banham, 1975, p. 3.). Corbusier and Mies looked forward to a day when all houses would be *machines for living*, just as offices had long been *machines for working*. As opinionated by Banham, architecture was a courageous attempt, made by the architects, as they followed the footsteps of the Masters of the Modernist movement. However, in doing so, they often put more emphasis on marvelling at their creation, boasting about their contributions to society and glorifying their own achievements, irrespective of whether the finished product actually satisfied users' needs and fulfilled their expectations (Banham 1996, p. 294).

Although architecture stood for Vitruvian values, new meanings have also been ascribed and associated with it lately. Alain de Botton (2006) describes the architectural practise as: 'we ask not only that it [architecture] do a certain thing, but also that it look a certain way, that it contribute to a given mood: of religiosity or scholarship, rusticity or modernity, commerce or domesticity' (Chapter 2, para. 12). However, Sir George Gilbert Scott contradicts this view when he says, 'Architecture, as distinguished from mere building, is the decoration of construction' (Chapter 2, para. 8). De Botton (2006) elaborates on this view:

> If the Doge's Palace in Venice deserved to be classified as great architecture, it wasn't because the roof of this giant administrative office was watertight or because it provided Venice's civil servants with the necessary number of meeting rooms – but, rather, the architects defensively suggested, because it sported carvings on its roof, a delicate arrangement of white and pink bricks on its facades, and deliberately slender, tapering, pointed arches throughout – details that now seemed to have no place in the brave new world of modernism (ibid.).

2.1.2 Development of architecture during 20th century

In the latter half of the 20th century, Robert Venturi, Jean Jacob and other modernists declared that architecture was too complex to uphold the values preached by Vitruvius. As a result, they promoted a pluralistic view of architectural values (Venturi, 1977). Toward the end of the 20th century, traditional ways of practising architecture were confronted with factual realities and needs of the evolving industry and commerce (Burr

and Jones, 2010). The ethics of individual architects were replaced by those of the architectural practice that they were employed in. Accordingly, in the name of professionalism and the business in general, architectural ethics were reconvened by the professional institutions to emulate the business world (Kostoff, 2000). Although, this dampened the aspirations of artistic architects, but the practise of architecture was rebranded as a professional service-oriented consultancy distinct from construction, and architects' performance could now only be evaluated on professional conduct, rather than craft or workmanship. This indemnified architects from direct responsibility, as now they were only required to act within an 'overall professional standard of skill, knowledge and judgment' (Sapers, 1988). Therefore, any error or mistake made during construction could not be blamed on architects, and if a builder corrects the mistake, it is typically addressed as a change order and the client has to pay for it again (Thomsen, 1999; Burr and Jones, 2010).

In the late seventies, theorist Charles Jenks characterised architecture and its values by building upon the same concept of plurality, asserting that 'pluralism is the Post-Modern ideology above all others' (Jencks, 1990, p. 6). By emphasising the importance of ethics and the morality of pluralism, postmodernism advocated for 'otherwise arbitrary preferences and hence greater social relevance' (Spector, 2001, p. 40). Arguably, in the case of modernism, art and utility were persistently intertwined, whereas, during postmodernism, they were liberated from that interdependency. Claiming the liberation of art and thus abandoning social benefit to be a by-product of such action, '[postmodern] architects were happy to stick to art and techniques, leaving morality to the politicians' (ibid., p. 41). They based their main arguments on the origin of personal reasoning neither felt a need for a collective critical arrangement and nor did they ever felt motivated to find a common area of agreement (ibid.).

Reflecting upon the history of architecture, one can discover that major transformations and key movements in celebration of architecture were either a result of the Industrial Revolutions or an outcome of shifting radical ideologies and economic sequences (Rifkin, 2011). According to Walker and Newcombe (2000), the historical development of architecture is notable for the architects' successful struggles to resist capitalism throughout the 19th century and this is how they act today. As such, architects always work for a fee and do not share any risks associated with innovation that they propose in projects (Ball, 1998). Tochtermann (1986) contends in this context that only the rich and

powerful could afford to hire architects to design buildings for themselves or structures for communities and the public to live in and use. For example, the philanthropic buildings, housing and institutions during the Industrial Revolution, later with the rise of communism and the welfare state and, most recently, by speculative property investors, where the goals are still the same, but the actors are different. Similarly, Alistair Parvin (2014b) remarked while commenting on and critiquing the works of the illustrious architect Le Corbusier that his philosophy and modernist visions were largely manifestations of the spirit of the state welfare during the early 20th century.

Another noteworthy observation by Alastair Parvin while citing an example from the architects' salary guide of the Royal Institute of British Architects was that the lowest-ranking architecture graduate earns a salary of around £24,000 (RIBA Appointments, 2017), which, income-wise, puts him in the richest 20% of the UK population and the richest 2% globally (Global Rich List, 2017). This supports the assumption that to afford an architect, clients must be richer than the architect and must have large disposable incomes, which certainly leads us to an uncomfortable yet undeniable conclusion that virtually everything we recognise as architecture today is a design for the richest 1% (Parvin, 2014b). Despondently, in the book *Spatial Agency: Other Ways of Doing Architecture*, Awan, Schneider and Till (2011, p. 32) urge architects to think of themselves as agents:

> If agents (read architects) are indeed to allow themselves to act otherwise, then the knowledge that they bring to the table must be negotiable, flexible and, above all, shared with others. Agents [must not act] alone but as part of a mutual enterprise, as a defining feature of the agent's makeup. "Mutual knowledge" (Giddens, 1984) is not determined by professional norms and expectations, but rather is founded in exchange, in negotiation, out of hunch, out of intuition. Mutual knowledge means abandoning the hierarchies embedded in most professional relationships ("I know more than you do,") and instead welcoming contributions from everyone in the spirit of a shared enterprise.

Architects were indoctrinated to assume the fallacy that they are superior. Even when patrons and bureaucrats hired them, they rarely hesitated to claim that 'it [is the architects], not their clients who were building for the upliftment of the society' (Ackerman, 1969). Whereas, as also noted by Banham, Lefebvre and many other historians, architects have only fought a one-sided battle, with the sole agenda of projecting themselves in an optimistic role, i.e. for the betterment of society. Thus, efforts

were made to create a make-believe image of architects as noble practitioners, capable of shaping entire cities with a sketch (Parvin, 2014b). Rarely have they admitted otherwise, instead spent much of the energy and focus in aligning their 'worldview and perspectives' to suit their whimsical belief that they have a moral responsibility to make the world a better place through design. Surprisingly, the awareness and empowerment of consumers, motivated by the conceptions of the so-called 'Third Industrial Revolution', have rendered the illusory ambitions of aesthetic architects' backfire, threatening the future of the whole profession. However, the real paradox is that architects still want to justify their fees and contribution through value added in the design phase, even when it has been widely written that they struggle to communicate the value that they bring to projects (Hill, 2001; Till, 2009). Does this not imply that architects need to play a more proactive role during construction? How can collaboration and acknowledgement of the contributions of others help architects?

2.1.3 Ethical and moral obligations of the architects

In the introduction to his book *The Ethical Architect* (2001), Tom Spector states that 'architects live and work today in a functioning but weakened profession that lacks a dominant design ethics' (p. viii). According to him, the moral mission of modernist architecture reached its nadir when Jane Jacobs (1961), Robert Venturi (1966), Bruce Allsopp (1974) and other theorists revealed the dilemmas and repudiated the claims of its manifestos (ibid.). For instance, Bruce Allsopp, in *Towards a Humane Architecture* (1974), identifies a major flaw in architects' assumption that if they designed per their own standards – the purest and finest form of architecture – the common man would adapt and like the same. Allsopp regrets the existence of this view and blames professional institutions, where a set of rules and standards of judgments were developed, conveniently aligned to suit architects' own assemblage. He writes 'Thus, a surgeon can perform an excellent operation, though the patient dies, and an architect can design a students' hostel which is the cynosure of professional admiration but creates detestable living conditions' (Allsopp, 1974, pp. 3-4). According to Spector (2001), criticisms such as this one exposed the modernist ideal of solving societal problems through design, in all of its weaknesses and contradictions, leading the architecture profession into a state of ethical disarray.

In the essay, *Architectural Ethics: A Phenomenological Perspective*, Beata Sirowy (2013), maintains that the *sine qua non* of architecture is essentially its human purpose, while arguing against the postmodernist viewpoint of theorists such as Eisenman (1984) and Tschumi (1994), who advocate that architecture is an abstract exploration of form and must remain the realm of intellectuals (Ellis and Cuff, 1989). Furthermore, she also rejects the other popular notion that, since architecture involves an inquiry towards intelligence, projection and innovation, it ought to concentrate more on efficiency, performance, prognosis and novelty, while ignoring consequential social criticism (Koolhas, 1995; Somol and Whiting, 2002). She contends that in both aesthetic and pragmatist approaches, architects tend to assume a certain position of autonomy that isolates them from external conditions, such as social, cultural and political factors. According to Karsten Harries (1983), architectural artefacts or solutions fail to communicate and deliver value when human realities do not inspire them or when they ignore real-world settings (Harries, 1983).

Cuff (1989) has pointed out that architects deny the importance of buildings as finished products and see them as stepping stones in their own lives, repudiating the validity of social sciences in architecture. Architects tend to view 'architecture' as an 'art' instead of realising that they first need to find the social relevance of their work. Architects need to understand what creativity is when it is appropriate, what types of creativity exist and what can be done with it (Cuff, 1989, cited in A. M. Salama, 1995, p. 5). However, in recent years, other jobs in the building industry have been recognised as equally creative; therefore, researchers, project managers, programmers, 3D specialists and other consultants can also be deemed creative practitioners (Salama, 1995). Likewise, creativity has more to do with problem identification than problem-solving. Thus, to be creative also implies that one is creative enough to understand creativity better, knows why it is better to be creative, better for what and better for whom (Rapoport, 1987, 1994).

 In his lecture *Building, Dwelling, Thinking*, Martin Heidegger (1951) visualised buildings as *elements* of the meanings of the *lifeworld*: a world, according to Heidegger, comprising earth and sky, divinities and mortals, to things and objects, including plants and animals. Likewise, the essential task of architecture was not solely to build for the sake of it but to preserve the *lifeworld* (context and environment) of its inhabitants (Heidegger, 1971). He accentuated that the building activity empowers the builder (read architects) to gather elements of the existential space and concretise and embody them in the environment.

To illustrate this, Heidegger discussed the activity of building that emerged from the *lifeworld* of farmers and provided a meaningful setting for their dwelling: 'Peasant Cottage in the Black Forest' (p. 157). Accordingly, he held that 'only if we are capable of dwelling, only then can we build' (ibid.). Likewise, he argues, it would not only help us to establish our identity in the world and to express associated values, but also respond to the local context.

Another examples in this context are the famous Schindler House and the Gamble House, both in southern California, which Banham (1996) describes as 'disturbingly near to a fresh start in architecture' (p. 172). In his essay "The Master Builder", Banham claims that Rudolph Schindler demonstrated a major gesture of liberation from the solid, monumental tradition of Otto Wagner's teachings in Vienna. In his California isolation, Schindler had already launched the 'concept of analyses' by creating open-sided rooms and open-roofed courts, which contrasted with the grounded beliefs of European modernist architects, who were looking for new meanings and connotations to represent 'interpretations of indoor and outdoor space' (Banham, 1996, pp. 166–174).

2.1.4   Phenomenological viewpoint on development of architecture

Phenomenology, a philosophical method of discovery based on conscious experiences of objects and events, is understood by most of us without any scientific explanations (Husserl, 1970, [1936]; Heidegger, 1993 [1927]). Edmund Husserl interpreted phenomenology as a 'return to the things themselves' – a return to the state of factual reality. As early as 1936, Husserl observed in *The Crisis of European Sciences* (1936) that the dominance of natural sciences, rationality and scientific reasoning over philosophy had led to the deterioration of Western culture. According to him, science should not be understood in isolation from the human experience but as an integral part of human accomplishment. He argued that 'the concrete life-world […] is the grounding soil of the "scientifically true" world' (Husserl, 1970, p. 130). Similarly, painter and philosopher Edward Winters discussed Kant's categorisation between 'free beauty' and 'accessory beauty', and the inability to adhere to these distinctions, which led to the entry of the 'cult of genius', which Winters calls 'modernism'.

> Winters claims that the notion of 'free beauty' makes no sense to him; however, since Kant has placed architecture in the category of the accessory, Winter's inability to understand the concept of 'free beauty'

should not be a problem – but it is. For it seems that since Kant first invented them, the categories of the free and the accessory have not been kept sufficiently apart. One consequence of the failure to adhere clearly to the categorical distinctions is that into the practice of architecture has crept the cult of genius. This cult Winters calls 'modernism' and he firmly rejects it.

He would seem to imply that the proper client of architecture is an unformed group in search of an identity. The idea that there is a connection to be made between architecture and identity leads Winters to suggest that there is a significant point of intersection between public art and architecture; this is the monument. He believes that architects who adopt a 'humble' approach to their work will produce monuments capable of forging communal identity (Edward Winters, cited in Watson, 2002, p. 316).

Generally, lived experiences are the primary source of knowledge, which we make sense of through contextualising and by applying common sense. Therefore, expert knowledge and opinions are accepted only if they are sufficiently connected with our daily lives. As argued by Merleau-Ponty (1945), 'the world is not what I think, but what I live through' (Cited in Spector, 2002, p. xviii). Thus, a reality based on scientific and mathematical logic perhaps only offers an obscured view of reality, because it isolates an important part of the real world – the one that is full of human values, interpretations, perceptions and behaviour. According to Hans-Georg Gadamer, the practice has been defined as a 'science, which develops into a knowledge of "manipulable" relationships by means of isolating experimentation' and thus follows the path of technology (Gadamer, 1981, p. 70). Speaking of the application of science and its actual practise, he holds that there are vital differences between them, and it is essential to give due consideration to the various choices that humans make. He further explains that 'practice means not only the making of whatever one can make; it is also a choice and decision between possibilities. Practice always has a relationship to a person's being' (Gadamer, 1996, pp. 3–4). Similarly, for Pérez-Gómez (1983), 'theory may work smoothly on a formal level, but it is unable to come to terms with reality. Correlatively, practice has been transformed into a process of production, without existential meaning, clearly defined aims, or reference to human' (p. 8)

In response to this view, Sirowy (2013) holds that due to the disunion between theory and practice, the architectural discipline has repositioned, and this division has limited the profession's potential. Both theory and practice became more instrumental after

embracing modern transformations and recent technologies, which precluded speculative and philosophical theories in the name of rational justification, mathematics and logic. A lack of vision, chiefly from an ethical standpoint, i.e. function follows the form, has become a common attribute in defining the practise of architecture and specifying its priorities (Guba and Lincoln, 1994).

The ethics and morality of architectural practice have been under continued criticism of architectural theory (Hill, 2001). Banham (1975), strongly states that 'the gravest of all doubts was whether or how architects could continue to sustain their traditional role as form-givers, creators and controllers of human environments' (p. 5). Nevertheless, even when many historians, scholars and critics raised concern about the ethical responsibilities of architects, the gaps between theory and practice have continued to increase under the pressures of technological advancements and global transformations, which have led to the current muddled state.

2.1.5 Contemporary perspective on the development of architecture

The transformation of the profession, the change in the role and expectations from architects, can be largely attributed to the emergence of complex types of human activities during the early 1970s. The requirement of diverse building types led to complex designs that incorporated not only functions and aesthetics but also services, structure, modern materials and precise budgets. It was at this time that other building professionals, such as civil engineers, visual artists and contractors, started to stake claims on the commercial architectural landscape. Niels Luning Prak (1984) notes that the involvement of architects in the creation of a built environment varies considerably. According to him, 80% of the buildings in the USA, the UK and Switzerland were designed by architects, and this percentage was only 30% in France and Italy (p.30). As discussed previously, Alastair Parvin concurs with Dendra (TED Talks 2010 Berlin) that architects only serve about 2 percent of the super-rich population of the world and therefore can account for only about 2 percent of buildings globally, which according to Dendra is a 'pretty rubbish market share'. Furthermore, he argues that even though we task architects with responding to challenges associated with a sustainable future, their role has remained marginal:

> Although architecture occasionally writes fascinated (and often, brilliant)
> love letters to the "vernacular", to "architecture without architects", to
> "the timeless way of building" or to "informal architecture", the profession

has remained fundamentally ambivalent to the generic, copied architecture that has constituted most of the built environment throughout most of history. (Parvin, 2014b)

According to Frank Ghery, '98% of what gets built today is shit' (Winston, 2014). Incidentally, many architects concur with this viewpoint, which would imply that 98% of buildings are just spaces suitable for human dwelling and hence could not be classified as 'architecture'. However, Alastair Parvin put it thus: 'behind the often-baffling smokescreen of unimpeachable coolness, critical theory and obfuscating *archibabble* that architecture conjures around itself, there is an embarrassingly simple assumption: architecture is a profession. Practised by professionals. Who get paid' (Parvin, 2014b).

2.1.6   Concluding argument

Several problems faced by architects and clients have been identified and discussed in this section. At the outset, it has shown how architects have ignored social and ethical obligations. By looking at the historical development of the architect's role, it can be contended that architects have always preferred to work within artistic paradigms. Overall, it can be implied that when architecture was transformed into a specialised field of study, the essential link between clients and architects was broken. Based on the above sections, one could also argue that architects were historically never able to interact with end users, except for those who could afford to patronise them. As such, the design of buildings began to originate from a theoretical understanding of form and function, instead of the practical knowledge of architects. The need for regulation led to the establishment of professional institutions, and the practice of architecture started taking the shape of a business that provided a variety of services to its clients. The next section will clarify the social status of architects and their motivations and dilemmas, including why architectural discourse is still professed as if architects are elite social reformers and the form-givers of the built environment.

2.2 THE ROLE OF THE ARCHITECT IN SOCIETY

The famous British architect Cedric Price claimed, 'architecture s peripheral to the most important social aims. I wish it was less peripheral. That's why I´m an architect' (Glendinning, 2018). Architects generally enjoy a strategic and tactical advantage over engineers and artists, since they are trained as both technicians and artists. However, contrary to their own belief, they are certainly not seen as the protagonist of the process (Schoenmaekers, 2011). Just because their contribution is visible and conspicuous, architects tend to oversell their role. Although architects are proactive in exercising their power over consultants and contractors when they are working directly with a client. However, they can be seen as acting otherwise, when their client is an experienced builder or a real estate agent. The noteworthy trait is that architects do not endorse or value the skills and efforts of other building professionals. For example, in the case of interior designers and architectural technicians, architects argue that they, by licensing such professionals, public safety and welfare may be at risks because they lack technical skills and professional qualification. According to Spector (2001, p.23), architects' disapproval of interior designers is nothing more than part of a power struggle.

Architects struggle to strike a balance between the purpose of architecture and their ego (Ivory, 2004). It is no longer possible for architects to build single-handedly and their vision is guided by the requirements of the client and executed by various consultants and engineers. If an architect is not able to adapt to this collaborative culture, he is often confronted by poor design, unhappy clients, and a project that everyone wants to wash their hands off. Architects' inclination to hog the limelight, overindulge and exaggeration to sell their role as social reformers and designers of the built environment has only been partly successful in developed countries, except for Belgium, where they have been able to establish a complete monopoly, where all buildings must be designed by an architect (Schoenmaekers, 2011). Lobbying by architectural associations to secure more social control is a central ideology for most practising architects. While these organisations were consciously created to regulate and structure the profession, their role has been widely criticised due to internal politics and the varied opinions that their members hold.

<u>Architects' dilemma:</u> Drawing upon the four major approaches to Western ethics, Thomas Fisher (2010) attributes phases of architectural project and describes the ethical dilemmas that architects are often confronted with. Phase one: architects get

commissioned for a project based on 'virtue-ethics' (personal qualities such as honesty and integrity). Phase two: 'contract-ethics' come into play during negotiations of architectural fees, alongside the appointment of other consultants and contractors. In phase three, design and contract administration call for 'duty-ethics' to display good intentions and fairness. Finally, the last phase, 'utilitarian-ethics' demands evaluation of whether the clients' aspirations and needs were met (ibid. p. 11). According to Bernard Williams, many architects often struggle to reconcile societal values with professional norms, as argued in Professional Morality and Its Disposition (1995). As a result, they often face 'disquieting ambivalence' with respect to ethical duties. Henry Cobb explains how uncertainty looms over – how an architect can best fulfil his duties and make difficult choices, as the recipients of his service are 'fiercely committed to widely divergent and deeply conflicting principles of human duty….Hence, a disquieting ambivalence with respect to ethical issues – a pervasive uncertainty about how best to fulfil my duty as a professional – is a nearly perpetual state of mind for me, as surely it must also be for every architect in practice today whose work significantly touches or shapes the public realm' (Cobb, 1992, pp. 47–48).

There is yet another theory that suggests that the relationships between professions and society could be better understood through the lens of power struggle rather than from the standpoint of ethics. As Magali Larson thought of the same predicament as a tactical move in which professionals tried to interpret and present things that suited their assemblage and financial gains, rather than client benefit. For example, in the case of architecture, norms are set to favour the architects, such as legitimising their knowledge through academic institutions, creating a high entry and exit barriers, demanding public recognition of their status and protecting their own interests (Larson, 1979; Winch and Schneider, 1993).

It is therefore natural for architects to struggle with the dilemma of doing moral good while satisfying their professional egos (Winch and Schneider, 1993). Spector (2001) maintains that the present situation is likely to prevail unless architects determine whether they want to pursue the role of an expert consultant or a concerned professional – whether they want to design beautiful things for their clients or keep trying to define goodness for the public. In fact, many scholars and practitioners admit that it was indeed challenging to establish a practice with the aim of achieving versatile and impactful architectural solutions while ignoring some of the relevant philosophical considerations

and phenomenological observations (Sirowy, 2013, p. 178). Nevertheless, by ignoring ethics under the pretext of professionalism, architects are often looking for reasons to justify their actions and are not able to reflect the value of reflecting human ways of existence (Woolgar, 1991; Suchman, 1994; Watson, 2002).

Thus, it could be argued that architectural ethics indubitably need a more prominent place within architectural discourse. As Wasserman *et al.* (2000) have pointed out, 'architecture, in its many manifestations, is as much an ethical discipline as a design discipline' (p. 31). Sirowy (2013) clarifies that Husserl's view (1936) urges us to redefine the rules of engagement between objects and people based on phenomenological frameworks where the *relation* and *response* of people were valued over the *materialistic* worth of things. In Husserl's view, the way out of the crisis would be to reconstruct the basis of philosophy and intellectual life in terms of phenomenology. It is, therefore, essential to repetitively question and re-evaluate such charters, which are solely based on scientific and mathematical reasoning, to consider a more philosophical, socio-cultural and humane approach.

2.2.1 Social status of architects

More than a century ago, the manifesto of *Deutscher Architekten*, the German parallel to RIBA and AIA, expressed great disappointment at the loss of architects' professional goodwill, acceptability and affordability. Their manifesto called upon architects to make all possible efforts, at all levels, to win back their professional due place in the ever-widening construction industry (cited in Gaber 1966, pp.223–226). According to Bruce Mau, there is still a significant gap between 'the world of design' and the 'design of the world' (Mau in Hyde, 2012). While sharing knowledge was a slow process in the past, the exponential rise of digital technologies and the internet has enabled advanced radical exchanges to occur rapidly between disciplines. One reason why people hire architects is that they believe that architects can translate their unestablished and unforeseen needs and make them a beautiful home while keeping their interests and investments secure from novice contractors and inferior workmanship. Hence, architects are entrusted to take on the ethical responsibility of doing the right thing by mediating and negotiating the best possible solution.

Arguably, architects are able to convince their peers via their theoretical writings (Gans, 1977; Banham, 1996), but what about their clients and other lay people who use their

buildings? Do they commission architects to give them functional, practical and economical buildings? Do they pay for the concepts, so that the architects can write about them only to gain a competitive edge over other architects? Moreover, how good is a building if it has to be appreciated only after understanding conceptual and theoretical underpinnings or by reading what its author thinks about it? At least from the clients' viewpoint?

Therefore, the present study contends that it is high time for architects to respond to the call for radical change in their outlook and working practices, as expressed in an open letter (addressed to professional institute published in the RIBA publication 'Practice Futures)'. The letter Implies that 'at the decade where the capacity of citizens to engage, map, mobilise and co-produce has been revolutionised by Web 2.0, why were the architects still focussing largely on CAD? (Hill, Brinkley, Johar and Foxell, 2010). The letter charges architects to analyse everything through the lens of social usefulness in the period of change and the liquidity of modern society. It asks them to reflect on whether they have designed places that 'deliver the best possible social and economic outcomes or the most substantial rate of interest for short-term financial investments'. Or if they have 'relinquished their professional duty to uphold the public good, just to become consultants to financial instruments' (ibid.).

What has changed now – the situation in the UK

Looking at the current state of affairs in the UK, it is slowly becoming apparent that, ACR plays a significant role in the successful completion of a project and yet remains largely neglected aspect during education and training of architects. Chris Ivory (2004) argues that an architect's reputation is tied to their earlier works, which act as a living advertisement to ensure future commissions. Hence, for architects, 'innovation becomes central to this process because a building which looks good, even if it is only because of an innovative roof or cladding system, will always speak better of the architect than a more mundane creation' (ibid., p. 506). Moreover, since they work for a fee as a specialist consultant, they anyway run a relatively lower risk compared to other project stakeholders.

It is strange in a way that, while architects get awarded every year at various award functions, clients are hardly recognised for their contribution to the process. Very few exceptions, such as RIBA's 'Client of the Year Award', to recognise the best client of the

year, but sadly, most of the time these clients often represent trusts, housing associations and real estate developers – rarely are they an end user client. Moreover, apart from being excellent 'pay-master' clients, they are usually nominated by the architects and represent only a segment of corporate clients who retain their architects throughout a project. Perhaps it is easier for architects to deal with local authorities and corporate clients since they are most risk-averse and least keen to question an architect's propositions. One question that needs to be asked, however, is whether there are any satisfied end users or non-corporate clients worthy of nomination for such awards or recognition?

Once an item is decided in a project, it affects the total project cost, upon which the architects' and contractors' profits depend, and even if clients come across a cheaper substitute, they are unable to get approval from the architect, since it will drive down their fee percentage, apart from other concerns. According to Amanda Baillieu, the complaints of managers, contractors, public sector officers and developers suggest that architects lose interest in a job soon after construction begins on site (Baillieu, 2015). For example, looking at the RIBA plan of work stages, many architects feel that at stage 5 (after technical design and before construction), their part of the job is 80% done. Architects think that after finishing the drawings, it is up to clients whether or not to accept what has been drawn, and, in case they want any changes made, they should be paid again.

The recent study by RIBA, *Client & Architect: Developing The Essential Relationship,* suggests that 'clients certainly felt let down in a way by the architects' and that 'clients think architects who listen and understand properly are rare. That must change' (Stevens, Williams and Green, 2015, p. 18). One participant in RIBA study, Gregor Mitchell, who voiced contractor-clients' concerns, said that there was no point in hiring an architect if they were unable to 'significantly improve profitability by reducing costs or squeezing more space out of a building'. Many surveys and research projects commissioned by RIBA suggest that architects are not only 'losing their ground' but also their professional status, which is becoming highly speculative as clients look desperately for alternatives. Baillieu questions the purpose of such studies and research projects and asks 'what the point of all these hundreds of client interviews was, unless it's to address the skewed procurement system and the reality of what's really happening'. She alleges that such research projects are merely an attempt to reverse the old image of RIBA being anti-change and protectionist (Baillieu, 2015).

Burr and Jones (2010) conducted a study to examine the current position and explore the future possibilities and indications of the architect's role. Using a series of Delphi rounds, they sought to evaluate and build consensus on 'what it means to be an architect' in present times. Their results report that the majority of panel members described an architect as 'one who functions as the creator of the building's design' (p. 126). They also report that the influence and professional significance of an architect in the construction phase are nowhere near that of a general contractor. The majority of the panel stated that poor communication between an architect and general contractor would most likely cause conflict between them. The overall concern of the panel members was that 'the role of the architect is not clear and is not heading in a positive direction' (ibid., p. 130). According to Burr and Jones (2010), there exists a 'discrepancy between the actual and the perceived-and-desired level of collaboration and communication…If architects, general contractors, construction managers, engineers, and sub-consultants all agreed that there should be a higher level of collaboration, then why isn't there?' (p. 134).

Ideally, an ACR should be a kind of consortium where one party requires service, and the other provides it. Accordingly, for the smooth functioning of this venture, it is essential that both parties invest equally to benefit mutually. Whereas, in reality, clients often feel that as soon as the architects receive advance money for a project, they tend to lose much of their initial motivation. Generally, earnest money or caution money is secured from contractors, to ensure their reliability and to cover the cost of any mistakes they might make. The question is, is it only the contractors who make mistakes, while the architects are always right? It may also be noted that a construction contract is generally signed between the builder and the client directly, thereby the contract limits the role of the architect in managing or supervising the contractor's operations. All of this works to the architects' advantage.

2.2.2 Media and its influence on the practice of architecture

The role of the media in the industry can also be held accountable for the existing gap between architects and clients. Print media, in particular, has been a widespread medium promoting and reinforcing popular taste within communities of urban dwellers. The phenomenon has been further influenced by input from television since 1980 and the internet after that more recently (Leonard *et al.*, 2004). Architectural print media can be divided into three broad categories. First, one in which architects boast of their

projects since they are always looking for recognition for being the intellectual and social peers of their elite clients (Gans, 1977). According to Kelbaugh (2004), *Starchitects* have established systematic global networks of criticism, critics' circles and publications in which awards, books and magazines are the real media of expressing their status. In such magazines, photographs are privileged at the expense of physical artefacts and the people who use them (Salama, 2011). Second is the media of the construction industry and its promotional material that informs stakeholders about innovations and developments in the sector. The third is the one that talks about current consumer culture prevalent in our society. The influence of media and advertising provokes feelings of desire and fetishism within society and is discussed further in the paragraphs below.

It has been well documented that the media's influence on people's needs and desires is directly connected to our identities and the way we live our lives nowadays (Baudrillard, 1968, 1998; Veblen, 1970 [1899]; Bourdieu, 1984; Corrigan, 1997; Marcoux, 2001). This process is further fortified by the existence in contemporary society of a set of conditions described by Baudrillard (cited in Corrigan, 1997, p.20) as 'the need to need, the desire to desire', factors that are closely related to the now all-pervasive culture of advertising. Mark Gottdiener points out how the prevalent pervasive power of advertising has made people obsessed with goods and commodities. Possession has become a means of seeing ourselves, seeing others, and signalling the type of person we wish to be (Gottdiener *et al.*, 2000). The reach of material objects has been extended by commodification to encompass most aspects of human life in industrialised countries. 'There is no want or need that does not already have its correlate in some object manufactured for profit. Consumer society is fetishisation writ large' (Gottdiener *et al.*, 2000, p. 9). Therefore, advertising is closely related to conspicuous consumption (Veblen, 2005 [1899]) in which commodities are assigned values, convey social meaning and form the basis of status hierarchies built on social distinctions (Bourdieu, 1984).

Effect of advertising in the marginalisation of architects

An architect's reputation and that of the profession at large have been adversely affected in the past couple of decades, while other professionals involved in building activity have successfully captured large market shares, which were once an architect's area of expertise. These professionals are giving tough competition to architects, which is good in a way for clients, but the flexibility they offer regarding alternative routes for

procurement, i.e., usually charging after completing the work or service, has the added benefit for the clients leading architects to lose much of their business. They can imitate the role of architects in such a way that it is hard to tell the difference. However, the real paradox is that architects refuse to acknowledge this as a threat and still want to hang on to the outdated, traditional model of practice, seen in, for example, their unwillingness to embrace the change of being client-centred. They still expect that a client will walk into their office with a project and ask them to design a beautiful building. While the Architects' Code: Standards of Professional Conduct and Practice prohibits them from advertising themselves, however, the importance of raising awareness amongst the public about the role of an architect and adapting to modern workflows, at the same time, cannot be undermined. Business models that enable a transformation towards sustainability must meet three objectives simultaneously: a) the provision of business incentives for the delivery of long-term service levels and performance; b) the empowerment of professionals within the businesses to act according to long-term goals; and c) adequate short-term returns for financing the two other objectives' (Aho, 2013, p. 114).

In *The System of Objects*, philosopher Jean Baudrillard contests that customers are won over by the perceived notion that advertisers take an interest in their wellbeing. The latter display and project warmth through their intentions and demeanour to personalise the product or services (Baudrillard, 2006, p. 170 [1968]). Through cultivated language, advertisers are not only able to convince consumers that specific products and services are essential parts of their lives, but also construct the idea of consumer choice, empowerment and simple solutions that inevitably appeal to the consumer (Leonard *et al.*, 2004). Advertisements are marketed to bolster symbolic, designed and functional solutions. However, pressure from the media also cultivates misconceptions, can cause the consumer to question their perception of a home and can trigger pressure to maintain social confidence by succumbing to ever-changing trends, especially in upper-class societies. 'What constitutes the ideal is of course always changing, if only incrementally, so the home is never finished' (Perkins and Thorns, 1999).

Apart from focusing on the house as a product, home magazines highlight the lives of the 'elite class' and publish stories that 'romanticise' their lifestyle, which is not the readers' lifestyle. Such media pressures not only bother but also challenges readers' sense of home and induce in them a misapprehension; by way of regaining social confidence, they

are induced to catch up with the latest trends. According to Hope and Johnson (2001), this is a form of pressure that 'promises hope rather than understanding' (p. 131). 'Once a particular product installation or alteration takes place, it becomes indispensable to upgrade and maintain a complementary aesthetic within that space' (Bourdieu, 2013 [1984]).

Likewise, less expensive media is targeted at working- and middle-class people who have disposable incomes, persuading them to believe that they too can undertake home renovation by engaging in DIY activities. However, with a few exceptions, such advertisements of the ideal home rarely talk about the cost implications and other technical issues associated with renovating or achieving glamorous interiors. They do not stress the significance of and need to involve an architect or consultants in some capacity, nor do they state the effects of making such modifications. Imaginably, this is perhaps on account of customers own apprehensions that architects might suggest otherwise or recommend some other solution, which would, in all likelihood, hamper the advertiser's financial interest. Thus, it is fair to conclude that even when such solutions often turn out to be costlier than originally anticipated, a majority of homeowners continue to prefer contractors and other building professionals over architects and depend upon the limited task-specific of such workers.

2.2.3   Language and terminology in architecture

This section aims to highlight the differences in how architects and non-architects perceive buildings and aspects of buildings, due to the gap in language and terminology that they use. This difference suggests a possibility that clients sometimes feel intimidated or the architects do not take the time to consider or device an effective way of communication to suit their clients' needs (Siva and London, 2011). As a consequence, many clients are often left with repentance, since they end up eliminating countless desirable options along the way (Carmon *et al.*, 2003). It is confusing for clients to select an architect, because of the ambiguities and impediments involved in a custom design solution. The fear of being dissatisfied by customised architectural solutions for their housing needs makes many potential clients buy a flat in a real estate development instead (ibid.).

In the last three decades, the real estate market has grown tremendously, sustaining itself through vicissitudes and continuing to flourish at a swift rate. Perhaps developers are

better able to meet the demands and needs of the general public. Traditionally, mass housing schemes were designed by experts in the field of architecture (architects, technical architects, etc.), without taking into consideration customers' or users' opinions (Montanana, Llinares and Navarro, 2013). However, the modern housing sector operates on a new model: a product development management tool, which not only considers the needs and requirements of end users and potential customers but also makes them an integral part of their wealth-creating chains, thereby selling them the concept of becoming rich. Arguably, modern-day clients can find more value in an upcoming real estate development than a private home constructed by an architect. By selling a flat, developers empower their customers to avail themselves of products and services that are better adapted to their social, functional and emotional needs, such as community halls, clubhouses, day-care centres, shopping centres, etc.

Many studies have concluded that architects and non-architects have completely diverse perceptions of and emotional responses towards buildings. Robert G. Hershberger's (1969) study explores the possibility of whether architects are able to use buildings as a communication tool to convey their intentions to non-architects. His experiment involved comparison of differential ratings of twenty-five aspects of buildings, using thirty semantic scales, by four groups of respondents: graduating students, pre-architects, architects and laypersons. Hershberger found that the architects had a completely different way of perceiving buildings, a tendency that he attributed to their professional education (Hershberger 1969).

Groat (1982) studied the significance of modern and postmodern architecture and found differences in the ways that architects and accountants interpreted and classified buildings. She found that while accountants tended to sort buildings based on preference and type, architects instead used categories, such as design quality, form, style and historical significance. Again, these differences appear primarily due to training as, for example, the architects could clearly distinguish between modern and postmodern designs, whereas the accountants could not. Nasar (1988) found that when architects were asked to predict what non-architects would find appealing, they were often unable to do so. Subsequently, Devlin and Nasar (1989) confirmed that architects and non-architects had different perceptions of architectural style and different style preferences.

Akalin *et al.* (2009) did a study by analysing architecture and engineering students' evaluation of fifteen photographs of five sets of single-family house facades with different degrees of complexity. He found that the engineering students' responses to the properties were more positive, whereas the architecture students proved to be more critical. Designers and users have different reactions to and preferences for environments, in their study, Erdogan *et al.* (2010), found 'meaningfully different aesthetic attitudes between the pre-architects and new learners'.

By applying Brunswik's Lens Model (1956), which assumes that individuals respond to particular characteristics in the physical environment, Montañana *et al.* (2013) conducted a study with 80 architects and 80 non-architects to evaluate their reactions and emotional impressions and to translate these findings into participants' overall evaluation of the building. It was found that the architects based their assessments on design-related aspects (innovation, amount of light and whether a structure was outward-facing), while non-architects focused on functionality (family home, good functional layout). Their results suggest an increased awareness about functional requirements on the client's side, which may be attributed to the rise of the internet in the last decade, DIY catalogues, print and online media, etc. Their findings also suggest a change in the public's attitude, where more architectural clients are shifting towards a demand-based solution to meet their needs (ibid.)

2.2.4 Concluding argument

This section has defined the status of architects in society, including their contributions, motivations and dilemmas. According to the above-cited literature, it seems that history is repeating itself; in short, qualified architects are being replaced by much less qualified and 'financially-manageable builders'. It has emphasised how other professionals, such as engineers and interior designers, have established a stronghold in the market segments that architects have ignored due to their preferences for design-oriented missions. Is it because architects ask for money in advance that many clients prefer to choose professionals who offer alternative arrangements for doing things?

Print and digital media advertise concepts and products in such a simple way that users not only understand them quickly but are easily convinced to pay for them immediately. Advertising's language, graphical content and photographs are far more effective in conveying the benefits of concepts and products across a wide range of users and clients

than descriptive architectural drawings. It is worthwhile to point out the inconsequential role of the architect within the context of media influence. Architects' dilemma and their struggle to negotiate relationships with their clients, consultants and other members of society indicate a lack of training in interpersonal skills; thus, architects become isolated from society. The review also stresses why society needs architects, i.e. to provide them with value for their money by producing beautiful and functional buildings rather than works of art. If an architect wants to communicate their intentions to a user of the building, they must take user's ideas about perceptions or desires seriously when it comes to the developing a design brief.

The disparity between the language and terminology used by architects and clients offers insight into the reasons for the poor development of their relationship. It raises questions about the capability of architects, given that part of the architect's job is to understand client (that is, lay) perceptions and accentuates the need for additional training of architects to better understand the public's tastes. The next section aims to explore the aspirations and expectations of clients and tries to build a picture of how clients see architects.

2.3   USERS AND CLIENTS IN ARCHITECTURE

In contrast to the times and works of the great masters during the 'Golden Age of Architecture', where the client played an active role in architectural commissions, modern clients have gradually lost their influential status, and their needs are generally overlooked. It is particularly noticeable among middle-class clients with limited budgets who aspire to have an architecturally designed house. For many architects, the end users are often abstract, as in the case of housing projects, where architects have no information about who will inhabit the flats that they design.

The term 'Users': In his book *The Use of Architects*, Jonathan Hill (2001) critically debates different opinions of eminent scholars and puts together a more comprehensive narrative on the role of users within architectural discourse. According to Lefebvre (1991), 'users' is a 'pejorative label used to describe the inhabitants of a space or a building', and there is an absence of 'well-defined terms with clear connotations to designate them' (p. 362). Supporting Lefebvre's arguments, Hill (2001) cites Adrian Forty, who considers the category of 'user' as a precise apparatus through which modern society 'deprived their members of the lived experience of space (by turning it into a mental abstraction) and achieved the further irony of making the inhabitants of that space unable even to recognise themselves within it, by turning them into abstractions too' (Forty, 2000, p. 312).

Peter Gleichmann, a German sociologist, noted that architects who worked in such cultures were often dealing with abstractions, when they had no reference to the site, actual needs of individual users or the issues the site was responding to, they were working on the instructions of their employers (Gleichmann & Waldhoff, 1977, cited in Prak, 1984, p. 23). As such, Hill (2001), holds that the term 'user' denotes vicious inferences, as if buildings were merely utilitarian objects used by people. He also argues that problems arise when architects wrongfully think of the 'user' only as an abstraction and assume that all 'users' will have the same requirements.

The term 'Clients': Problems also lie in the word 'client'. Not only does this word project the image of a customer as 'someone' who has abundant 'funds and means', but it also presents this 'someone' in a glamorous and dazzling light. The word 'client' fails to communicate that this 'someone' is also a human being with aspirations, who hopes to have his needs and desires met, 'someone' who is looking for 'service' and willing to pay

for it. It is therefore essential for architects to look at their clients as a 'critical someone' who can bring an unrivalled source of knowledge and insight about their own needs and aspirations, from which 'the architects, having skilfully tapped into this rich seam, can then generate unique solutions' (Carmichael, 2002, p. 7).

Often, first-time clients take architects too seriously and give them free rein, not daring to intervene because they believe that the architect is always right. Besides, this leads architects to take things lightly and not consult the users of the building or analyse systemic shortcomings that need to be put right. It is perhaps the most common mistake, where clients assume that an 'architect is a god or a mind reader who can solve all your problems' (Tusa, 2002, p. 350). To reduce the risk of confusion, lack of clarity and disappointment, architects should have regular dialogue with clients and urge them to make clear choices (ibid.).

2.3.1   Nature of design problems

In a broad sense, all design problems can be labelled as ill-defined, amorphous, and unclear by nature. Moreover, given the setting of an ever-changing modern world amidst social, political and financial unrest, some scholars have also termed them 'wicked problems'. Such ill-defined problems require careful analysis before any suitable method is found to solve them (Reed, 2002). Rittel and Webber (1973) identify a series of characteristics that are instrumental in understanding such 'wicked problems' (See Figure 3) within the specialisation of Urban Planning. To solve these wicked problems, designers use a range of inductive, deductive and abductive skills to question ideas and form explanatory hypotheses, while evaluating the problems as the design progresses (Thagard and Shelley, 1997; Martin, 2006). Martin (2006) defines abductive logic as the logic of 'what might be'; deductive as the logic of 'what should be' and inductive as the logic of 'what is'. Aspects of abduction include that explanation is not a deduction; hypotheses are layered; abduction is sometimes creative; hypotheses might be revolutionary; completeness is elusive; simplicity is complex; and abductive reasoning may be visual and non-sentential (Thagard and Shelley, 1997).
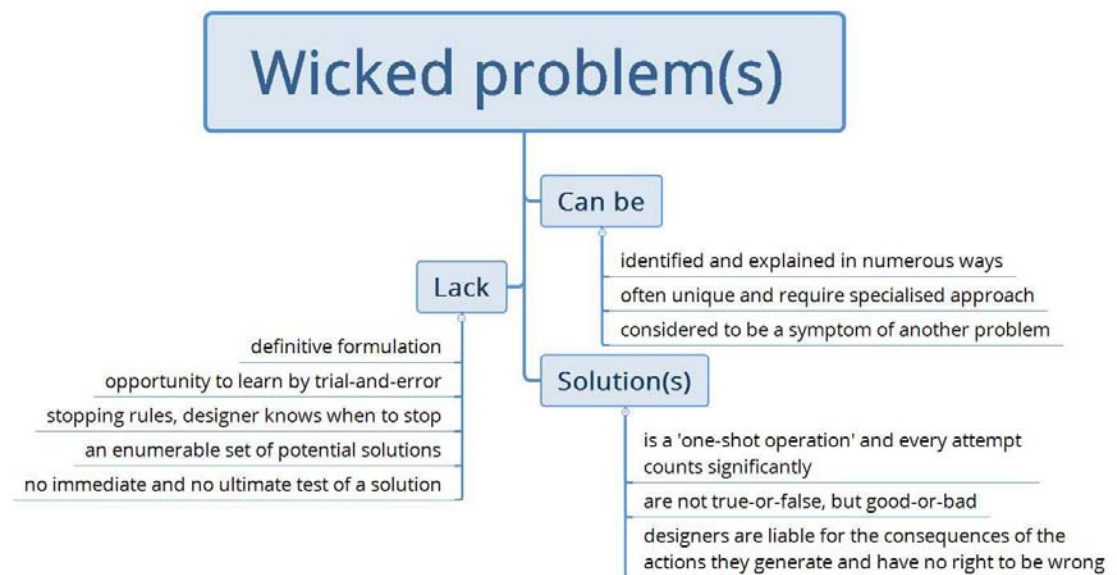
Figure 3:   Characteristics of 'Wicked Problems'

Source: (Rittel and Webber, 1973)

<u>Limitations of drawings:</u> The language of architectural drawings and the representation of architectural objects on a sheet of paper also contributes to the wicked nature of design problems. Unless there is a higher level of understanding or collaboration between clients and themselves, the architects are only able to symbolise and address physical attributes of client needs on the drawing. Hill argues that this limitation of drawings, as a medium, has never been challenged, and often during the course of a drawing, the author is more engaged with its technical aspects, ignoring emotional and psychological issues, hence the needs of the user. Architectural drawings have a direct effect on the finished product; thus, only physical elements of buildings and their aesthetics continue to dominate the minds of contemporary architects, where function follows the form.

According to Robin Evans (1997), 'the drawing presumably has been overvalued, whereas its unique power to affect the buildings is hardly accepted at all' (p. 154). Similarly, it is worth noting that apart from architecture, all other arts, such as performance, installations, crafts, etc. are not as much dependent on drawings as a medium for their expression. '[These] are remarkable not just for the fact that they make little or no use of drawing, but for the impossibility of their development through this medium' (Evans, 1997, p. 157). Likewise, Hill also argues that '… the architect who chooses not to recognise the differences between the spaces of architects and users, and between the

building and the representations of the building, is unable to reach a level of mature self-awareness' (Hill, 2001, p. 354).

> The architect has a 'representation of this space, one which is bound to graphic elements—to sheets of paper, plans, elevations, perspective views of facades, modules, and so on. This conceived space is thought by those who make use of it to be true, despite the fact—or perhaps because of the fact—that it is geometrical: because it is a medium of objects, an object in itself, and a locus of the objectification of plans. Its distant ancestor is the linear perspective developed as early as the Renaissance: a fixed observer, an immobile perceptual field, a stable visual world' (Lefebvre, 1991, p. 361).

Likewise, is it the 'end-product' that should be attributed to the role and value of the architects, or the 'process' by which that end-product is achieved? Architects can conceive the final form of buildings and similarly visualise or imagine how a building might look like a finished product. However, clients can visualise neither the end product nor internal spaces from 2D drawings (and at times, not even from 3D visualisations). Clients' primary concern from the first meeting onwards is the expectation to be guided all the time; this remains their only motivation to engage with an architect. Architects, on the other hand, tend to assume authority and responsibility for all aspects of the process, from design to delivery of the end-product, including legal accountability. According to Banham (1996), 'this willingness to assume responsibility, is only what makes architects a noble profession. It is not what makes them architects' (p. 294). He further argues that instead of focusing on performing buildings tasks as service providers, their design-centric attitude not only reveals the fundamental value system on which architecture operate, but also the narrow and skewed assumptions on which it rests.

Flexibility in design: 'Flexibility is based on the principle that a building can absorb, or adapt to reflect, changes in use' (Hill, 2001). Walter Gropius contends that 'the architect's ultimate concern in designing buildings was their human use and occupation, and the reality that the architect's involvement in a building ceased at the very moment that occupation began' (Cited in Forty, 2000, p. 143). However, the introduction of the concept of flexibility in the architectural discourse permitted architects to, not only ignore the users' of spaces but also extend their 'involvement in a building, even after the occupation began and beyond the period of their actual responsibility' (ibid.). DeGory argues that the inclusion of *flexibility* increases the value of an architect's skills and the

exchange value of the built environment (DeGory, 1998). Forty (2000) identifies three concepts of architectural flexibility, which not only help architects design multifunctional spaces but also ensure that clients are forced to return to them for any future consultations:

1. Technical flexibility: For example, allows users to add additional floors, and make sure that the constructed structure is technically sound.
2. Spatial redundancy: Flexibility to subdivide the internal space by partitions.
3. Flexibility: The flexibility for political strategy ensures the further development of the property, such as extensions and new buildings on an existing plot.
4. An open plan: 'suggesting a loose fit between space and use' (Hill, 2001, p. 356).

2.3.2 Value addition in architecture

'Nature creates and does not produce; it provides resources for a creative and productive activity on the part of social humanity; but it supplies only the use value and every use value... either returns to nature or serves as a natural good' (Lefebvre, 1991, p. 70). He contends that 'work' has something irreplaceable and unique about it, whereas a 'product' is something that can be reproduced with repetitive actions and gestures. As such, architectural products and buildings are labelled as 'artefacts' and 'original works' by their creators. For clients, however, these 'artefacts' are just 'products' that fulfil their physical and emotional needs, referring to the concept of fetishisation as discussed in Section 2.2.2. If someone likes a 'product' (artefact in its creator's terms) in the window of a furniture store or the sophisticated interior of a hotel or a house, they develop a feeling of fetishisation, which impels them to own that 'product'. People usually aspire to purchase a similar variant, but if they are unable to afford it, they are happy to find a suitable match that fits their budget.

This 'commotion' can be seen in almost all middle-class homes, where people keep buying off-the-shelf products, such as furniture and furnishing items, to catch up with the popular style. One could argue that, in a way, this action of bringing in new furniture is also, eventually, creation of a new piece of work or interior and is comparable with what architects create. Perhaps this is what users expect from architects in terms of design. Therefore, it is reasonable to conclude that middle-class clients, for whom architects do not prefer to work (Mackay *et al.*, 2000), generally demand products and services which provide them with use value. They are not necessarily interested in original works, great designs or artefacts. However, this does not imply that they necessarily know how to create a 'work' by using the 'products', or, for that matter, how to differentiate between

the two. As Roberts *et al.* (2000) note, since it is hard for first-time clients to determine the value at the outset, an architect's name helps clients to distinguish between competing service providers. Usually, the owners of small to medium types of residential projects with modest budgets are often overwhelmed with suggestions from friends and well-wishers. They are also influenced by advertising, where schemes and offers on building-related products motivate them into deliberations and encourage them to indulge in impulsive buying. But it would not be wrong to assume that, generally their intentions behind these actions are to achieve the best possible results, within their budget.

Many times in residential projects, instead of listening to their clients and discerning their needs and intentions, architects are often more concerned with aesthetic aspects of creating a great design for their portfolio. Whereas some architects merely consider the financial viewpoint and try to assess the fees, terms of engagements and profitability of undertaking such project. While there is nothing wrong on the part of the architects to evaluate the profitability of an assignment, but they tend to overlook two important aspects during these initial stages of engagements. First, that the clients are aware of the fact that they are availing the services of a professional, which costs them money, and second, they are under strong external influence from friends, which obscures their vision and lessens their rational decision-making capabilities. Although, the professional conduct of architects, the initial contract paperwork, the fee structure, etc. informs the client as to how much it will cost them in terms of architectural fees, but do not communicate the look and feel of the end product. In other words, a contract of engagement is simply a promise in the shape of paperwork, which lacks the factor of 'take-home feeling' or 'value for money'.

Many people are worried about losing money or having their trust broken, and this makes them want to invest in something tangible which is physically verifiable and contributes to overall 'quality value' of the building, rather than architectural fees (Macomber, Howell and Barberio, 2007). For example, according to clients' value addition is conspicuous, when they deal with other professionals and consultants in the building trade, such as carpenters, electricians and plumbing contractors. Who, although notoriously avoid such general obligations and preferring only to execute orders, are not only better-off being themselves and pledging limited responsibility but are also able to communicate the 'value for money' instantaneously. For example, when ordered, a carpenter will make a door as per specifications, but will not generally be responsible for making sure it fits the

size of the opening. Such situations sometimes do call for alterations, which is seen as an added cost for the clients and lack of coordination on the part of the architects, which sometimes becomes the major cause for discontentment, at least for the clients.

According to Macomber *et al.* (2007), 'Value is an assessment made relative to a set of concerns that someone wants addressed. There is nothing of value independent of a person saying (assessing) it is valued' (p. 1). In the architect-client context, they further add that, using design conversation, the architect must keep exploring the concerns of the client, which inevitably keep changing throughout the life of the project. The design and value delivered to clients suffer if the requirements are fixed early, and explorations are cut short (ibid.). Logically seen, the value is added to a product or service through innovation and improvisation of the available resources while working within specific limitations. For example, take the case of stone flooring. Imagine that on the drawing, the architects have specified a size of stone slabs to be used in a room, but during the execution stage, due to the raw size of the stone slabs (natural marble), the specified size may not be the optimal size to minimise wastage. By adjusting the size of the cut slabs, the stone mason can substantially reduce wastage, thus bringing about added value.

Perhaps the arrogance, over-confidence and ego of architects are the reasons why many of their designs remain unbuilt. There are examples of great designs by master architects, such as Illinois Sky-City by Wright, Lewis House by Frank Gehry, Chicago Spire by Santiago Calatrava and Tianjin Ecology and Planning Museums by Steven Holl, which are still acclaimed by the architectural community and considered masterpieces but were either rejected or not readily accepted by clients. Some oversight or omission on the part of the architects' professional conduct ought to have played a considerable role in disallowing many of these exceptional designs from getting built. Ilari Aho (2013) stresses the need for innovative and sustainable models for architectural practice and urges the research community to propose new business models. These new models must reflect value-addition in the delivery and operations of buildings and consider 'how value is actually validated in practices, how performance data can be shared amongst stakeholders (feedback and feed-forward) and allow for 'fine tuning' or rectifying problems' (p. 114).

<u>Target-Value Design:</u> Target-value design is a method by which design is optimised to fit as-built conditions or adjusted to benefit from the sizes and types of building materials. Working on design in isolation and a non-collaborative manner often results in projects

that are overpriced, unconstructive, off-target and late. When architects do not adopt a Target-Value Design approach (Macomber *et al.*, 2007), in which realistic targets and achievable budgets guide the design, client expectations are often frustrated. The estimates of current design practices are based on designs whose constructability is yet to be evaluated. But by radically transforming them to a Target-Value Design approach, which is based on detailed estimates of constructible designs, architects can deliver target value from the design process (See Figure 4). Hence, it can be argued that a substantial amount of value could also be added during the construction stage, particularly on private residential projects. It can be added by contractors, masons, joiners, etc., as well as the clients themselves, as discussed earlier in the case of alternate flooring.

Figure 4   Target Value Design Practices

Features of Target Value Design approach (Macomber, Howell and Barberio, 2007).

2.3.3   Clients' assessment of architects

While clients are the vital source of employment for everyone, from those drawing a daily wage to an architect, sadly they are seen as just one of the many parties involved in the process of building houses. Architects somehow lack the skills to learn or draw on their own experience as possible consumers of a variety of products and services

that they procure. While architects have a natural desire to spend most of their time designing, it is imperative for them to accept the fact that ultimately, their actual role is to serve clients. Carmichael warns, 'Being client-centred is now critical to long-term success (or even survival) as an architect. It can no longer simply be regarded as an optional extra in a social and economic climate where most successful organisations have developed a customer care ethos' (2002, p. 1). As cited in *Rethinking Construction* (1998, p. 19), the best companies have a customer-centric approach, where value addition corresponds to consumer feedback and the price they are prepared to pay. Likewise, improvisation or allied activities that don't contribute to these values are considered waste and are eliminated.

Based on recent studies and mainstream media, it can be inferred that the public perception of architects is not very encouraging. People think that architects are stereotypes who would increase project costs by imposing their designs. Besides, architects rarely put in an effort to change that viewpoint; in fact, most architects follow the belief that 'we are so unlike you and you cannot understand the way we work' (Till, 2005). Perhaps architects have yet to reckon with the dilemma of whether the buildings they design are for the users or experimentation and celebration of their own ego at someone else's expense?

One criticism of the RIBA publication, *A Guide to Successful Client Relationships,* by Carmichael, is that it focuses on and draws upon experiences from established architects and clients from housing societies and corporate organisations. Difficulties arise, however, when an attempt is made to implement its recommendation, policy and advice in the context of emerging architects wanting to establish their foothold in the market. For example, it stresses investing time to understand clients' personalities to create goodwill and a long-term successful relationship during the whole project but does not acknowledge the reality that architects are never trained in these skills and, even if they wish to engage in such actions, there are no established pathways or mentoring available for them. Carmichael's observations only reflect the viewpoint of practising architects and what they have learned through their experiences. However, in hindsight, her observations also signpost and expose the actualities of how incomplete an architect's education and training is, even after spending several years.

<u>Challenges for clients:</u> The following part of this discussion moves on to describe in greater detail the common pitfalls that clients face while dealing with expert architects and contractors. Building regulations are prescribed in such a manner that if you require planning permission for your project, you would generally hire an architect in some capacity or another. Some people hire architects to manage a whole project, while others engage them for minor alterations or sometimes only to get permission from the local planning authority. Architects are equipped with specialised skills and technical knowledge, can generally ensure that the work is done to acceptable professional standards. In developed countries, architects are also subjected to a statutory code of practice and must have professional indemnity insurance to protect their clients. Nevertheless, clients are not often keen to hire architects, for simple reasons, such as the fact that engaging one can add 15% to 20% to the project's cost. Besides, it is generally perceived that the architects impose their own ideas rather than listening to the clients (Woolgar, 1991; Suchman, 1994), and do not seem greatly interested in smaller projects (Mackay *et al.*, 2000). Many studies have suggested that the public has only limited knowledge of what architects do. In the developed world, most are not even aware that they do not have to commission an architect for their work, while in the developing world nobody cares about architects and nobody cares about clients. Arguably, architects can add value to any project, but engaging one is not a legal requirement (except in the Netherlands and Belgium), and in fact, they only design about 2% of buildings worldwide (Schoenmaekers, 2011).

Conventionally, people who hire architects pay a lump-sum fee for the design stage and an hourly fee during the construction stage, perhaps due to the varied commitment that the project demands during construction. Although architects argue that the construction stage is highly unpredictable, but one could argue that this unpredictability prevails due to the lack of an architect's efforts in the design phase when they leave essential detailing to last. Consequently, architects have to spend more time redesigning during the construction stage, since they have to fix their own mistakes, which eventually leads to cost and time overruns. In this way, clients not only end up paying architects twice for the same thing but also have no recourse to any legal framework entitling them to a refund.

Similarly, the blame game is also far too common in a construction project, and both architects and contractors are obstinate professionals in this game. However, it is

generally clients and often first-timers, who bear the brunt by paying more than required for the same job. Quite often, this is due to the fact that both architects and contractors are keen to rush into construction, without ensuring proper detailing, planning and coordination. Clients generally fall into the trap that: the sooner they start, the sooner they can finish. Since, many clients must pay mortgages, interest and rent, and are anxious to move in as quickly as they can. Many clients also end up hiring a long-distance architect, assuming that a local architect won't have as good a design as an architect based elsewhere. Although hiring a non-local architect is not a problem, provided clients can manage the associated logistics and costs, but unless it is a very specialised job, local architects are likely to have the expertise and talent required to be able to do it.

The position of middle-class residential clients: Why is it that all architects only want to work on bigger projects, or for rich clients (Gans, 1977; Salingaros & Alexander, 2008; Salama, 2011), and ignore middle-class clients? Is there a lack of mentorship to undertake small projects in architectural practice? Why do architects feel that clients do not value their designs and do not pay their fees? Why do clients place more trust and confidence in contractors and those who sell architectural products and services, rather than architects? Perhaps contractors and advertisers have proved to be better listeners, more efficient salespeople, and excellent service providers at a relatively low cost, which is largely lacking among architects (Aho, 2013).

Middle-class clients continue to be generally ignored by the architects (Mackay *et al.*, 2000), even when working with them could offer invaluable experience, which could act as a launching pad for emerging architects. It is a missed opportunity for architects to understand user needs and secure a good living. It is also relatively common in practice that even the smallest addition or alteration can often turn out to be a much larger project than originally anticipated; this could be an appropriate realm for emerging architects and designers who are easily accessible to their clients. Surely, by working with a new generation of architects, users can have their desires fulfilled, with the possibility of having flexible and mutually agreeable rules of engagement and understand the value that architects can bring to projects.

Role of emotions in decision making: There is yet another factor at work, which despite not being apparent during the initial stages plays a critical role in the development of the ACR. It involves psychological influences which are at play when

clients are making choices and decisions about a particular product or a service. Architects spend a good amount of time preparing concepts and designs and undertaking considerable research before making recommendations and suggesting options and product choices for their clients. Although unprepared, clients are generally expected to make choices from the options and products the architects present, during short periodic meetings. Since clients must often make choices instantaneously, it leaves them with a feeling of discontentment about the options that they have to forego in lieu of the ones that they chose. As a result, this anxiety intensifies the attraction of such forgone options and can make *choosing feel like losing.* In other words, although this occurrence and its outcomes are unintentional and not explicit during the initial stages of the design development process, they have considerable impact over the course of a project (Carmon *et al.*, 2003).

2.3.4 Resisting user/client input

Before modern times, the needs and choices of users were the primary motivation for something new to be created or designed. But today we live in a supply-driven world, in which products are first created and then marketed to consumers by creating their demand through advertisements, at an additional cost. The rapid rate of change in the trend of supply and demand further complicates the situation. Users keep struggling to cope with this change, and their needs or desires are largely customised or manufactured like product variants. As such, it is hardly odd to find architectural practices that merely focus on efficiency and pragmatism while ignoring users' needs (Alofsin, 2002).

According to Gadamer (1981), we have lost the crucial link between 'knowledge of the world' and 'knowledge of what it means to be human'. The major consequence of this process is 'the degeneration of practice into technique' and its 'general decline into social irrationality'; in other words, 'the modern civilisation lacked the ability to address and consider questions about life and reality as a whole' (p. 74). To overcome the crisis, we need to rehabilitate the concept of practice and restore the connection between what was favourable for humans as well as scientific development, he claims.

<u>Architects do not understand clients:</u> 'Although users and clients can be full partners in the design process, architects do nevertheless seek to [actively] manage their relationships with users and clients' (Ivory, 2004, p. 506). As such, there is no good reason to exclude people from making decisions about what is good for them, yet most

architects behave otherwise (Hughes and Hughes, 2013). Ivory (2004) further argues that architects do this 'not only to reinforce organisational boundaries (Woolgar, 1991), or to maintain a sense of professional autonomy (Suchman, 1994), but also in order to ensure that their own longer-term strategic interests are served by the project' (p. 506).

One of the most famous examples is The Farnsworth House, which according to many critics and architects, is the purest translation of Mies van der Rohe's modernist ideals. However, for Mrs Farnsworth, the client, the residence — while beautiful — was virtually unlivable, its transparency leading her to feel like 'a prowling animal, always on the alert … always restless' (Barry, 1953, p. 270). She comprehended the building to be 'a glass cage on stilts' (ibid.). The row resulted in conflicting court cases that they brought against each other – one suing for unpaid construction costs, the other for malpractice. The client alleged that the architect had, by 'fraud and deceit', led her into paying $33,872 more than the original price they had agreed upon in 1949; the case, however, was decided in favour of the architect who, of course, collected his fee, but sadly, the pair never again spoke to one another.

Some architects trick clients in the name of value-engineering, which in architecture implies re-designing to reduce the scope of works and eventually the cost because the actual project is over budget. Every detail in their proposal is aimed at producing a monumental work, and any interaction or interference from the client/inhabitant is purposefully left out (Goodman, 1972). They often find rational reasons for their actions under the excuse of value engineering or technical explanations, assuming a certain position of authority (Rieger, 2002). Certainly, over time, the client becomes dismayed and loses trust in architects, when they invest their time and money to hand-pick beautiful concepts, features and materials, only to discover that they are over budget and need to make more affordable choices.

<u>Client training…whose job is it anyway?</u> It can be contended that even before approaching clients for projects, architects have a moral duty to educate and train clients, even if they are not first-timers (*Business of Architecture: Tools for a Profitable Practice*, 2018). The core of the ACR is typically composed of expectations. Thus, for architects, having realistic and achievable expectations is not just important, it is the most critical aspect for a successful outcome. It is the moral duty of an architect to guide clients in the right direction when they are confused. Rory Hyde (2012, P 167) narrates a popular

incident in which Cedric Price, the late British architect, whom a husband and wife had approached to design their new house, got irritated by their bickering and said, 'you don't need a new house, you need a divorce!' This quote, popular among architects, apart from being funny, captures Price's ambivalence towards his clients and acknowledges that a new building is not necessarily a solution to complex and fragile human relationships and people's social and emotional needs.

From this point of view, Cedric Price's approach was all-embracing: he advocated that architecture should be enabling, liberating and life-enhancing and that it must 'enable people to think the unthinkable' (Glendinning, 2018). Through his practice he redefined the notion of what architecture might be, suggesting that the primary job of an architect is to be able to ask the right question, to which Reyner Banham commented: '…the basic approach is certainly one that appeals to me, a way of really not saying, "What kind of building do you want?", but almost of asking first of all, "Do you really need a building?"'

2.3.5 Conditions in the United Kingdom

Many scholars have written about the role of users in the creation of the built environment, but most have written from the perspective of the architect and architecture as a discipline, not from the perspective of what clients think of architects (Tusa, 2002; Golden, Montgomery and Rikala, 2015). The recent study by RIBA, *Clients and Architects: Developing the Essential Relationship*, is perhaps the most relevant study that presents clients' concerns in a way that has not been attempted previously (Stevens and Williams, 2014). This further supports the claim that the architectural profession has isolated itself from the general public. In 2012, a survey conducted by *the Architects Journal* made shocking discoveries about public knowledge of the profession. For example, the study found that the British public was largely ignorant of some of the key services offered by architects. They reported that 72% of respondents were unaware that architects apply for planning permission from local authorities, and a staggering 86% had no idea that the architects generally select and manage contractors. George Wade of Will Alsop's ALL Design was deflated: 'You would hope people would be more aware of the creative process; this says to me that people think of architects in the same vein as someone who would tile your bathroom' (cited in Thompson, 2012).

On the other hand, we often hear architects claiming that they find it hard to justify their fees to new clients, and some who claim otherwise complain that they are not paid their

worth for the projects. For example, there are incidents where clients eliminate elements of a design to cut costs or undermine the value of good design. Uniqueness and creativity are often not crucial, as many clients already have aspirations and some ideas about what they want, though they are unable to communicate their purpose clearly to architects and do not know how to achieve the desired end product within their time and budget. Architects generally hold out creativity and design as their main strengths, even as research from Cornell University shows that people do not want creativity, they want low risk (Mueller *et al.*, 2012). Fiona Samul (2014) writes that most architects prefer to work for the premium end of the market, where there are fewer consumers (Samuel *et al.*, 2014). One of the participants of the *Cultural Value of Architecture Project*, a property developer, endorsed this view by saying that apart from good design, he expected speedy delivery, efficiency in design, an open attitude that enabled him to provide input in the process, a certain amount of speculative work on a pro bono basis and trust (ibid., p.71). Such observations highlight the image of an architect – and their associated value – in the minds of the general public. Therefore, there exists a need to develop frameworks that enable both architects to understand clients and clients to understand the value of architects.

2.3.6   Future practice of architecture

Thinking of the current and future trends of development, many scholars argue that the profession of architecture is headed for a total collapse considering the way things are changing. Peter Buchanan (2012) argues that change is evident in many aspects of the environmental crisis, such as population, pollution, diminishing biodiversity and, most challenging for architects, global warming, which calls for more responsible and sustainable architecture. Admittedly, it is even more important for architects to ensure their own survival in the rather fragile economic context which periodically heads towards a meltdown.

Rory Hyde (2012) formulated the core arguments for his award-winning book, *Future Practice: Conversations from the Edge*, on a simple question: 'could [architects] ever be trusted to enact change on such a grand scale again', like during Modernism, when architecture had become 'a key tool in real-estate speculation; a business product with an expectation to generate a return on investment (p. 4). Responding to architects' claims of being marginalised, financially undervalued, over-regulated by professional institutions

and exposed to market instability, he argues that the lack of responsibility towards society and the erosion of the architect's civic values are the reasons for their side-lined position (ibid.). In this book, the author makes conscious attempts to highlight other ways of enacting social change, and by discussing emerging trends and pathways, he establishes a strong case that provokes a 'rethink'.

Similarly, criticising the way architecture has operated in recent decades, Bruce Mau suggests that if we isolate the end-product of architecture, the profession largely reflects 'a deep culture of synthesis informed by civic values' (Hyde, 2012, p.29). He regrets that architects became separated from mainstream society due to 'regulatory obsessions', which were aimed at securing their financial interest and intellectual standing. He states:

> You spent so much time policing the fence that you forgot to open the door. You were so focused on not letting anyone in who didn't have the credentials that you forgot to let people out. And what has happened is that design has really come into its own as the bigger voice, and architecture has become kind of notched down in its impact and importance because of this regulatory obsession. This obsession with the boundary has constrained the capacity of architecture right at the moment when it's so important to extend beyond the boundary. (Hyde 2012, p.30)

According to Mau, many architects and designers define their work as thinking practice and hence work in an isolated state. For this reason, they often tend to overlook the negative impact their designs have on people. He urges designers to take a holistic view while claiming that they are best equipped to answer and solve problems of the future: 'we realised that we were facing the wrong direction, we were looking at the one percent and we needed to turn around and look at the ninety-nine percent, to think about putting the tools in hands and allowing them to produce their future' (Mau cited in Hyde, 2012).

Having reached Peak Oil, a crisis inevitably looms upon the world, with no sign of hope of averting it. According to Buchannan, we cannot afford to advance in green measures, for that would be to 'seriously misread our predicament and delay the transition to what has been called the Third Industrial Revolution, …the most promising road to economic recovery'. As opined by Jeremy Rifkin (2011), Industrial Revolutions are often an outcome of the confluence of new energy and new communication technologies. Architecture has experienced major shifts and re-evaluation of its philosophy during such industrial

revolutions in the past. For example, modern functionalist architecture emerged after the First World War, which was refined and further embellished during the fifties and sixties using a variety of materials after the Second World War. It can be argued that architecture has once again reached a tipping point and is set to undergo a fundamental overhaul sooner than later due to the confluence of information, awareness and a need to build a sustainable environment.

2.3.7   Concluding argument

This section has offered insights on the status of users and clients, including how the usage of the word 'client' in the design process conveys an image that is unrealistic. Similarly, when clients give them free rein, they do not dare to intervene, because they believe that the architect is always right. Besides, this leads architects to take things lightly and not consult the client or user of the building or analyse systemic shortcomings that need to be put right. The evidence presented in this section also suggests that the limitations of drawing as a communication tool also contribute negatively, making it difficult for clients to understand the value that architects add to projects.

Arguably, common sense leads us to ask: Why should architects be paid a major portion of their fees before something has been built on site? Why can't architects be paid an agreed percentage calculated as per the amount of the running bills corresponding to completed works on the site? When contractors invest their resources and money, they only get paid after completing a task or a stage of construction; why should architects be treated as a special group, who must be paid most of their fees upfront? It is common to see architects justifying their advance payments by saying that a large amount of work has to be completed before they get to a site, where the major value is added. But why should this be a large percentage of the whole project cost? Why should it not be a modest sum to cover the basic expenses of drawing a design and initial operational costs? The researcher by no means intends to imply that architects should not secure their deals and clients, but why should this necessarily take the form of advance money, rather than another type of binding agreement? After all, no one else is paid in advance; most tradespeople work on the basis of a paper contract, and even they run the risk of non-payment by the client in some cases.

These studies clearly indicate that there is a relationship between an architect's inability and a client's failure to strike an optimum balance among quality, cost and time.

Moreover, the role of emotions and other psychological factors also seem to emphasise clients' concerns. Taken together, these observations support the notion that engaging an architect not only increases the project cost by 15-20% but also that architects are not interested in small projects. In view of all that has been mentioned so far, one may suppose that architects stand isolated from the public, who are largely ignorant of the services they offer.

2.4   THE FUNCTION OF PROFESSIONAL INSTITUTIONS

This section will focus on the evolution and role of professional institutions in the discipline of architecture. It will show how the policies of these institutions govern and dictate the development of professional practice and architectural education. The objective of this section is to highlight that due to regulatory constraints there are very few progression pathways for emerging architects and no well-established route to get work for practitioners. The review traces the role of professional institutions within a product-infatuated society and the emergence of innovative technologies. When radically new possibilities for design and construction are available to clients through other building-related professionals, what are the meaning of legislation and regulatory constraints imposed by such institutions on architects? By comparing the architectural profession with other industries and service-oriented professions, the review will accentuate the need for architecture to learn from them. The key points addressed in this section are: a) maintaining the integrity of the profession to serve the public interest, b) How to best ensure and safeguard the interests of its members, i.e. architects, and c) the positioning of architecture as a service and as a business.

2.4.1   Professional institutions

Alongside industrialisation and the rise of the market culture in the 19th century, professional institutions emerged as a small group of practitioners, joined together by common interests and a social agenda (Larson, 1979; Hughes and Hughes, 2013). Once this happened the architects, artists and engineers, through the network of these institutions, could advance their influence within wider society and hold esteemed and powerful positions in their respective domains due to the specificity of their skills. These institutions were characterised by high entry and exit barriers, the establishment of key qualifications for membership, and governed through various codes of conduct (Hughes and Hughes, 2013). To maintain their authoritative position, these institutions now needed social acceptability and credibility to survive (Scott, 2001). This legitimacy has been described by Suchman (1995) as 'a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions' (p. 574).

Professional institutions can also be understood as normative socio-institutions with a progressive social agenda and a 'commitment to maintain and promote the usefulness of

the profession for the public advantage, i.e. to serve the public interest' (Hughes and Hughes, 2013, p. 34). According to Douglass Cecil North, 'Institutions are the rules of the game in a society, or more formally, are the humanly devised constraints that shape human interaction' (North, 1990, p. 3). Robert Dingwall (1983), however, notes that 'the professions presume to tell the rest of their society what is good and right for it' (p. 5). In an interview with Rory Hyde, Bruce Mau contends that architecture has a deep culture of synthesis informed by civic values, and almost all architects are civic-minded (Hyde, 2012). This quality of architects, according to him, is the most valuable asset they can offer to the society.

The RIBA and the ARB: Architectural practice in the UK is regulated by professional institutions, such as RIBA, ARB, RIAS and others. Professional Code of Conducts mandates practices to maintain acceptable standards in the services that they offer, and in case of noncompliance, architects are subject to charges of professional negligence (Winch and Schneider, 1993, p. 926). Hence, architects must negotiate a perfect solution every time to satisfy their clients and professional peers, maintain acceptable standards of delivery, retain a competent skillset and be able to afford continued professional growth, including earning a reasonable income.

Unlike other professions, the practise of architecture is not regulated under the law, except for a few countries such as Belgium and Netherlands. It means that the public is free to construct buildings and structures without the involvement of architects (Shepherd, 1999). Thus, one of the principal agenda items of many architectural critics, academics and practitioners has been to pursue social and financial protection for the profession. For example, in 1999 *Building Design* reported that the Architects Registration Board (ARB), led by RIBA's then-president David Rock, sought to incorporate new legislation to extend the scope of the 1997 Architects Act, largely because it was considered insufficient by architects who wanted to extend their control and establish a monopoly (Fairs, 1999). Appropriating various models, such as theory of design and understanding of art through experience, he states, that architects are able to claim that they can predict not only the form but also the use of their buildings; and that architects also held that 'users are a threat to architects, in that their ability to transform buildings and spaces questions architects' perception of themselves as the authors of architecture' (Fairs, 1999; Hill, 2001, p. 252). In short, architects claim is that only they can make buildings, which could be classified as 'architecture'.

Johnathan Hill's book *Actions of Architecture* (2001) and Awan, Schneider &Till's, *The Spatial Agency* (2011) database (practitioners and practices cited in this book), elaborate several popular debates of the profession in the 20th century, including the contribution of users to architecture. For example, in 1975, the New Architecture Movement (NAM) took an explicitly oppositional stance to normative architectural practice: it set out to criticise the conventional notions of professionalism and the internalised structure of the profession, particularly the system of patronage, where a building's designer has little contact with its users. NAM also called for the unionisation of architects, claiming that RIBA failed to represent the majority of architects working within the private sector, dominated as it was (and still is) by private practice principals rather than their employees (Awan, Schneider and Till, 2011).

2.4.2 Architecture as a service

Architectural practice is an organisation of voluntarily associated partners, just like many other firms providing services, such as those of lawyers, accountants, advertising practitioners and consultants. Sveiby and Riding, 1986 classified all such firms as Knowledge-Based Organisations (KBOs); the term is derived from '*kunskapsforetaget*', or 'knowledge firm' (Cited in Winch & Schneider, 1993, p.923). Accordingly, every KBO positions its resources in a way that empowers them to sell their professional knowledge and expertise, as a capacity to produce, rather than a product. Such KBOs can further be divided into three categories. The first type is firms that are involved in playing a transactional role as a third party, like accountants, lawyers, etc. The second are those, which promote creativity as their main forte or competence, such as architects, designers, artists, etc. The third type offers technological solutions and can be grouped around the KBO of technology, machinery, etc. (ibid., p. 925).

The issues faced by an architectural practice have been further debated by Winch and Schindler (1993), using Porter's (1980) framework under three strands.

First is the competitive context, which includes:

1. Competitive rivalry due to low start-up capitals, i.e. not having a lot of capital for a start-up and higher exit barriers (Larson, 1979; Hughes and Hughes, 2013).
2. Threat to the role of architects due to technological advancements.
3. New modes of procurements; other building professionals and 'design and build' contractors, etc.

The second strand is the way in which architects position themselves in the market to gain work. Maister (1982) suggests that positioning is often done on the basis of the working methods, 'technology' and 'values' that motivated them when they started out. Theoretically, positioning can be based either on:

1. 'Strong Delivery' involving reliable, repeated service with technical excellence at a lower cost as it happens when architecture is practised as a business.
2. 'Strong Service' involving the ability to deal with complex projects and challenge sector-specific assignments like an architectural office;
3. 'Strong Ideas', such as experiments of the architectural studio and innovative projects.

The third strand is based on moral values and ethical responsibilities that the practice promotes, such as:

1. 'The practice-centred business', where the practice is seen as the exercise of a profession and a way of life. The organisation's objectives are likely to be qualitative.
2. 'The business-centred practice', where the practice is seen as a business and a way of earning a living. The objectives are likely to be quantitative and financial (Winch and Schneider, 1993, p. 929).

As a result, it can be implied that like any other KBO, an architecture firm's services and its quality is dependent on the overall experience of the clients and not necessarily on the end product alone. Since many of these services are intangible, they vary on a case by case basis, even as production and consumption are inseparable and, hence, cannot be stored for evaluation at a future date (Parasuraman *et al.*, 1985). Therefore, architects and their commitment to providing good service to their customers are the major assets of architectural practice. However, striking a balance between the skillset of its employees and the services offered, of course, remains one of the major challenges being faced by this type of KBO (Maister, 1982).

2.4.3   Architecture as a business

Investment in property is considered perhaps one of the safest options, and it is realised through the act of developing a piece of land – by constructing a building of some kind – which increases the value of the land upon which it is built. Architects play a small, but very significant role in the construction industry, which is largely dependent on ever-changing economic circumstances. Residential construction, unlike commercial construction, has always been at the mercy of an economic boom or slump, primarily due

to fluctuating interest rates. Inflation during peak demand and unemployment in downturns are deleterious to the economy overall. When circumstances fluctuate, often with little warning, projects may not happen most efficiently and this raises costs, and in most cases, clients pay more for less satisfactory design, as well as for delayed or postponed projects (cited in Murray and Langford, 2008).

One of the many aspects that drive the construction industry is the durability of the product. One might wonder why new buildings are made so differently from existing ones. Admittedly, there is the availability of new materials and technology that affects virtually all aspects of human life. Some architects subscribe to the notion that the 'cost of a building is secondary to the aesthetic pleasure and delight that a fine architecture can wake' (Prak, 1984, p.8). However, the financial viability factor remains crucial, at least in the case of mainstream construction, which influences the choice of materials and the manner and form in which the project is finally completed.

Interestingly, everyone in the industry, including architects, contractors and sub-contractors, are so vigilant about the vagaries of the market that they try to bid and work on multiple projects simultaneously, to ensure a constant flow of income is maintained. This trend has enabled the expansion of larger architectural practices at the expense of smaller ones, which rely more on assembly-line production systems with more clerical staff and draftsmen. Moreover, it is also relatively easier for practical architects and contractors to secure funding for projects that are simple and whose design is practical and has definite resale potential. As it is, developers are able to ensure almost 90 per cent of funding through a bank because they can establish financial viability of the projects. Although this attitude of financial institutions asserts a 'negative influence of keeping imaginative design within bounds, it appears that only the wealthy or the bold, or both, may transgress those bounds' (Halper, 1966, p. 266, cited in Prak, 1984, p. 19).

However, complaints about the quality of material and workmanship are usually the issues with such developments. Since developers want to maximise returns by quickly selling the product to conservative investors, they have little incentive to consider a project's qualitative aspects. Similarly, an investor who is offered a lucrative rate of return on a project will be less interested in the integrity of the material and quality of work. Ultimately, it is the tenant or occupant who must cope with the irregularities that may arise in such buildings. Systems have been rationalised and established so as to maximise savings over quality. Even lending institutions do not show any interest, as they do not

reduce the amount of loans for poorer quality construction by the same percentage ratio as the savings to builders; thus, one could argue that lending institutions end up indirectly encouraging cheaper construction (Halper, 1966, p.267, cited in Prak, 1984, p.19).

Nevertheless, in the construction process, mishaps and surprises are bound to happen, as it involves many people who are linked by 'such a tenuous and opaque network of power relations and often working with such sophisticated and risky techniques, [that it] is bound to misfire from time to time' (ibid., p. 24). Clients generally end up either blocking or losing large sums of money without any returns, paid as advance during construction, in case of any delays on the part of the architects, contractors or due to some other legal issues. Such issues, experiences and unethical practices, combined with inflation and other uncertainties of construction activity, continually impel clients to search for alternative methods that can ensure timely delivery with greater accountability.

Likewise, when new materials proliferate, and clients become more demanding, construction becomes complex, with tighter timelines, which architects struggle to meet. It leads to unpleasant grievances since architects rarely keep up with techniques such as project management, prefabrication, systems building and the like (Prak, 1984, p. 12). Certainly, Design-Build (see Section 3.4.5) is one such approach which promises hope, ensures greater accountability and incorporates penalties for non-compliance and late deliveries. However, even a Design-Build contract has drawbacks and lacunas. For example, to meet deadlines, onsite construction is often started before all the contract drawings are in place and verified for appropriateness (Class and Koehler, 1977). Because of this, clients often have to pay more for correcting designs or workmanship issues, which are unsatisfactory and unfinished due to time constraints.

2.4.4   Architects' code of conduct

In 1979, the RIBA Code of Professional Conduct was revised to include a significant set of reforms that allowed architects to approach potential clients directly, form practices as limited companies, engage in commercial activities such as contracting and real estate development and, most importantly, advertise themselves (Golzen, 1984). He further discusses that although architects agreed with these 'idealistic' reforms, they were doubtful about their legal enforcement. In 1980, Reyner Banham, in a speech at a RIBA conference, stated that most countries followed a traditional doctrine for legislation

and education and advocated a single route so as to exclude or even prohibit other approaches.

Likewise, in America, with a view to sustain the trust of the general public, the Justice Department withdrew the mandatory code of ethics as adopted by the American Institute of Architects, in the wake of serious lapses by architects and the resultant widespread public disaffection in 1979. Although by 1987 the AIA managed to reintroduce a new ethical code, the much-boasted core values of the profession were subject to ridicule during this decade, and its ethical standards were in shambles (Spector, 2001). Spector called this phenomenon a long-awaited response from society to the lack of professional commitment to services and unrealistic benchmarks that architectural professionals promised to achieve, such as the utilitarian philosophy of modernism.

Even today, one can claim that architects have not been able to reinstate the lost public trust or demonstrate strong evidence of fulfilling their ethical and moral responsibilities. One of the main reasons for the dismal scenario could be the lack of confidence of the intellectual community in the positive potential of modernism in the architectural world since its values have been largely rejected by communities all over the world (Watson, 2002). Moreover, in the present context, 'the client, armed with freely available information [internet, social-media], may not believe that the professional knows what is best' (Hughes and Hughes, 2013, p. 29).

Architects' ways of getting work have been rather mysterious and yet very simple. Mysterious, when every architecture practice has its own philosophy, motivations and strengths, according to which they develop their marketing skills and pitch to get more work; simple, when one good project leads to another, and a reputation is built through word of mouth. In his book, Golzen (1984) presents the views and opinions of many such practices to find answers to the question: 'How do architects get work?'. Although no central theme emerges from the book as an ideal way of getting more clients, many architectural practices agree that two-thirds of their workload are from repeat clients, while one third is from new clients who are generally referred by someone through word of mouth. Response from over twenty architectural practices from London suggests that many components contribute to getting new work, such as nursing a relationship with previous clients, demonstrating the financial viability of proposals, establishing a good rapport, going out of the way to please clients, etc. (Golzen, 1984; Carmichael, 2002). Even

though these responses were recorded three decades ago, they seem equally relevant in the present context, when clients are even more aware and demanding.

2.4.5   Architectural fees and their value

The opening lines of the RIBA Fee Management Guide for Architects are: 'the value of the product is not what it costs to provide or produce, it is the value the customer puts on it'. On the same page, there is another quote by Owen Luder: 'you are more likely to become involved in a legal dispute over your fees than any other issue in your practice' (Luder, 2012). The architectural theory is shaped in such a way that it reflects an idealistic portrait of the architects even if it contradicts with the views and concerns repeatedly voiced by clients. Although clients express genuine concerns, architects seem to present their views in a manner that shows how responsible they are. Some architects have even alleged that not only do clients provide inaccurate details of their requirements, they also sometimes stand in the way of producing good buildings. It implies that architects are not able to create value from the clients' viewpoint, as rightly argued by James Womack and Daniel Jones in the book *Lean Thinking*:

> Value can only be defined by the customer. It is only meaningful when expressed in terms of a specific product (a good or service, and often both at once) which meets the customer's needs at a specific price and a specific time. Value is created by the producer. From the customer's standpoint, this is why producers exist. (Womack and Jones, 1996, p. 311).

A recent study by the Center for Disease Control and Prevention in America reports that 'architecture and engineering professionals ranked fifth most likely to commit suicide, compared to those in other jobs' (McIntosh *et al.*, 2016). Similar sentiments were expressed in the book *Architecture: The Story of Practice*, where a sizeable number of general-level architects were disheartened by the obscurity of accomplishment and the intangibility of success (Cuff, 1991). According to David Celento (2007), cultural and methodological transformations are the primary reasons for this. First, architects have been struggling to cope with a product-infatuated society, as their skill set and expertise lay in tailor-made design services. Second, due to the emergence of new technologies offering radically new possibilities for designing and construction, architectural speculation remained largely confined to timid traditional methods (Celento, 2007). Less conventional professions, such as interior designers, energy and sustainability consultants, construction managers and engineers of all types, have brutally shoved their

way into territory which was once solely the domain of architects. Celento cites the case of a senior architect at Arup Associates, who had suggested that architects may eventually become unnecessary – except, perhaps, as exterior stylists. He further argues that architects' refusal to embrace technological innovations invites their extinction. Understandably, even today one can claim that established architects generally find these technologies overpowering and, as such, many are still reluctant to change their traditional working methods.

Christopher Alexander proposed an alternative model for practising architecture in his article 'Perspectives: Manifesto' (1991), which urges architects to perform all relevant roles themselves, such as client, contractor, artisan, designer, etc. He maintains that architectural practice is not an isolated act of producing buildings on paper; rather, every architect must engage in some sort of craft work in every building they design (ibid, pp. 108-112). He also suggests that for an architect, the building process should be like a religious practice, and architects should have absolute control over finances and act like a devoted leader and an artist who acknowledges teamwork and takes complete responsibility for every action on site.

It is still an advocated notion that architects can act as impartial arbitrators in case of a dispute between contractors and owners, as originally mandated in the *Standard Form of Agreement Between Owner and Architect* (AIA document B141). For example, when an owner employs an architect, it would be questionable whether the architect could be (expected to be) impartial and neutral in case of a dispute between the owner and a contractor (Rittel and Webber, 1973). However, Spector (2001) argues that in fact, an owner has every right to expect advocacy by the architect during the contract administration process since contractors are most of the time capable of voicing their concerns and do not look for either compassion or empathy from architects. Although, these radical new ideas pose a set of new ethical concerns, the current model also does not seem to be doing any good.

2.4.6   Architects' Fee Scales

Niels Luning Prak (1984, p. 11) noted that, in the future, there would be less work for architects, especially emerging ones. His dismal prediction appears to have actualised, as architects are facing economic as well as technological challenges that seem to have lent an air of uncertainty to the future of the profession itself. A state of ethical disarray

and dilemma in the profession is also evident even in the way architects charge their fees, hinting that they struggle to establish an ethical basis and logical justifications. Two-thirds of architects polled in a BD survey in 2012 demanded that RIBA bring back fee scales. The fee scale, expressed as a percentage of construction costs, was abolished in 1972, and previously was regulated in the UK by RIBA. It prescribed how much architects could charge for their professional services for a variety of building types. One could argue that bidding for architectural consultancy work has become competitive, though it was now free for all and more accessible, providing more options to clients. However, according to Richard Brindley, RIBA Executive Director of Professional Services, reinstating fee scales may not be the appropriate answer, since it encourages clients (in this case large corporate private developers and housing associations, etc.) to assume that they can negotiate fees further.

Goodman (1972) argues that 'to move this society to a sane use of its technology is a task of liberation obviously beyond the scope of any particular profession' (p. 249). In the context of the present study, one could still ask, 'are the issues today such that professions are no longer able to take the lead or to be the main players in these agendas?' (Hughes and Hughes, 2013, p. 35). Certainly, architects now feel that competitiveness has driven down the overall fees that they can charge their prospective clients and made it easy for other consultants and specialist contractors to take away much design work, which belongs to them.

For residential clients, these legislations and fee scales do not mean much but can only signal that they should avoid using architects. It is a popular belief among the general public that architects overcharge and impose their design ideas; many are still largely ignorant of the services that architects provide (see Section 2.3.5). Accordingly, it is more important for architects to be introspective than to figure out how much it cost them to provide a service and the amount profit they want to make' (Rogers, 2012). He argues that fee scales may not accurately reflect the complexity of a project, and rarely do they account for an individual client's aspirations and expectations. Most business sectors seem to operate using a model that suits their clients, the nature of their service and the commitment of their resources. At present, as many other critical issues already cripple the architectural profession, the reintroduction of fee scales will only add to existing high-entry barriers for emerging architects and will make it harder for the general public to hire an architect. Accordingly, it is important for architects to reflect upon their own

professional culture and fix the shortcomings by communicating and justifying their fees to their clients rather than charging based on a fixed fee scale. Some of the comments made by different architects on this online article 'Architects demand the return of fee scales' (Rogers, 2012), are as follows:

> Clients should remember "if you pay peanuts - you get monkeys". Architects tempted to work for minimal or no fees should remember 'loss leaders inevitably lead to losses' and if you start off with a low fee, it is very difficult if not impossible to increase fees on the next job for that clients. Owen Luder | 29 November 2012 11:05 am

> Clients are currently paying peanuts and are getting a highly skilled professional service, it is us monkeys that are lowering the price of our services through desperation and survival. I believe the only way to solve this is to set a minimum fee scale. Why would any architect argue against this? A minimum fee scale would protect the profession and the built environment. Quality should be central to this, we lower our fees, we lower our time, we lower our service. Minimum standard needs to be set. Lawrence Blake | 29 November 2012 11:43 am

> OK they want commercial - let's go commercial. In the dark ages when I first entered an architect office all PC sums added, 'Include 5% for the Architect'. Ian Sanders | 29 November 2012 4:40 pm

> To call fee scales "random percentages on a graph" is just ridiculous. Fee scales represent realistic, empirical, precisely evaluated estimates of the cost of delivering a professional level of service covering all costs with a standard margin. They exist in other professions and for architects around the world. This is particularly true for any "protected" profession as there is the requirement to assure standards, particularly in relation to the liabilities assumed… I genuinely believe that the lack of fee scales is one of the main reasons why the morale and sense of self-worth of architects in the UK is so miserable, compared to their European counterparts working in comparable market climates. Robert Slinger | 29 November 2012 5:13 pm

The sustainability of architectural practice and the profession is 'ultimately about balancing between two aspects: the utility and service provided to building users; and the long-term environmental, economic and societal performance of the built environment' (Aho, 2013, p. 111). Aho further alleges that the building industry's lack of progress towards sustainability has been blamed on its corporate short-sightedness and short-term profit-seeking (ibid.).

2.4.7 Professionalism and practice in times of change

A typical characteristic of a Demand-based economy is that consumers are only attracted to the products and services that they desire, and it is now almost impossible for companies to push products using conventional methods. Campbell (2013) explains that in a demand-based model of business, the needs of the growing number of potential customers create a *potential demand*, and its solution forms a market around the *current demand*, which satisfies those needs. 'Managing the demand horizon effectively provides the ability to understand where emerging product opportunities lie. When you know that, you have a much better chance to compete and establish leadership' (ibid., p. 29). The demand horizon analogy could help us to see, how to discover and tackle the unmet needs of users and clients in architecture.

Thus, it is imperative for architects to acknowledge that architectural profession is an integral part of ACEO industry and wider economic landscape, where even the most successful companies humbly offer tailor-made solutions that they believe will please their customers. With the changing economy, architects are encouraged to create new workflows that provide the tools to discern what their customers cannot express. Samuelson (1948) acutely points out in *Consumption Theory in Terms of Revealed* 'Preference' that an enigma exists: 'how are people to tell you what they have never seen before?' (Samuelson 1948, pp.243-253). Campbell (2013) also suggests that there are far better ways to discern, understand and respond to users' needs and that it is possible to have more confidence in services and products that were created. He argues that 'it cannot be willed into being. It can only be isolated, understood and cultivated' (ibid. p, 27). He further suggests that to find answers architects need to forego conventional ideas, ego, vision and determination in exchange for an objective and rational process for understanding, what users cannot express verbally.

2.4.8 Concluding argument

This section examined the role of professional institutions and how their policies shape professional practice and architectural education. The discussion of the fee scale also highlights the insecurity of architects and shows that they are not very good negotiators in justifying their fees. However, it is still unclear which notion architects subscribe when they say that clients are not able to compare and understand the quality and level of service with the quoted fee in their proposals. Do they undermine clients'

ability, or they intentionally do not want the clients to get empowered and take control of the projects? Practising architects have divided opinions about the Code of Conduct in architecture, which limits their options of getting work and new clients. Some architects view it as a promise for more opportunities and their autonomy over the profession; others look at it as something that incapacitates them in a competitive world by prohibiting them from offering other building-related services, such as graphic, interior and product design. After comparing architecture with other disciplines, it can be argued that there are two main reasons for the dismal scenario: first, the gap between academia and practice, and second, the attitude of architects, when they conveniently fail to reach beyond their existing small circles (Choi, 2016) and fail to listen to or learn from other disciplines.

2.5   DIGITAL TECHNOLOGIES AND THE ARCHITECT-CLIENT RELATIONSHIP

In the last two decades, there has been an exponential burst in the range of products, techniques and technology, such as electronic tools, devices, social media, online games, productivity applications and cloud computing etc. The influence of digital design and technology has had a profound impact on all disciplines, including architecture. Technological advancement and complex workflows have led to an increased amount of information and data. The extent of this influence on architectural practices is overwhelming; architects face new challenges and, at times, they lack a vision for the future and find themselves lost (Robinson *et al.*, 2010). According to the Royal Institute of British Architects (RIBA) survey, many architecture practices have no plans to expand their practice and are downsizing their offices to work as sole practitioners (Stevens and Williams, 2014).

In this final section, the focus of the review is to briefly look at advancements brought about by the integration of recent technologies into conventional workflows of architectural practice. It will show how the role of communication technology is central to improving the ACR. The review will explore clients' concerns about their architects, alongside the effects of technology in the conception, design, and delivery of architectural services. Ultimately, the critique will attempt to articulate that a collaborative approach facilitated by digital technologies might hold immense potential to reshape the ACR.

2.5.1   New technologies and their impact on architecture

Invention and innovation are the two main realms that symbolise and capture the development of human beings in the world. Invention is an original contribution in some form, which is previously unseen, whereas innovation is the further refinement of an existing idea, service or a product that makes it more meaningful through design and ease of adaptability. Therefore, to be innovative, architects must constantly look for new ways to adapt their services and products amongst their users and clients (Rahim, 2005). Moreover, to achieve this they must hone and upgrade their own tools and skillsets by embracing and learning about new technological advancements.

While many things may seem easily doable with the growing influence of new technologies and internet, it has nevertheless, become a challenging job for the architects

to satisfy the needs of customers or create buildings that are liked and accepted by the users. While clients and users inform themselves about those technologies and compare the products and services that architects offered by the architects. Whereas, besides promoting themselves on social media, mainstream architects have made little use of these technologies to upgrade their skill set to produce better buildings or improve the services they provide. Instead, they blame their non-adoption of technology and consequent shortcomings on other factors, such as, this is what clients asked for; budgetary constraints; and incompetence of contractors, etc. (Buchannan, 2012).

The past decade has seen the rapid development of technology and its applications in many aspects of designing buildings. With the help of computer simulations, parametric modelling, structural calculation and complex algorithms to design aspects of internal and external environmental conditions, architects could design and propose a robust structure. Using a collaborative environment, engineers, HVAC consultants and contractors could work simultaneously with the architects to enable precise and error-free construction, with the meticulous detailing of a building and life-cycle costs calculated at the outset. While there are many examples of fine architecture that pushes the boundaries of technological advancements. It can still be claimed with considerable evidence that modern architecture has reached its maturity and sophistication, even if it substantially lacks in user satisfaction and social relevance (Buchanan, 2012). However, he also notes that some recognition goes to the tactical advantages that such large practices command and the resources they invest in creating these masterpieces, which set an exemplary benchmark for other architects to follow (ibid.).

2.5.2 Other advancements

As reported by Amanda Lawrence, the rise of 3-D printing and its ability to duplicate buildings for the masses to accurate scale through new technologies was an inevitable reality. Fast-paced construction is now possible, as enabled by the sharing of visual data, information and procurement particulars (Lawrence, 2015). Rapid Prototyping, invented in 1986 by Charles W. Hull, has now evolved into swift fabrication, and it is largely inevitable that houses would be built using these technologies. Machines are even capable of printing 3D structures in a variety of materials, including plaster and metal. Such structures are not only replacing traditional construction practices but are also enabling intricate detailing and ornamentation, since 3D printing no longer has any

direct relation with labour cost. Apart from being sustainable, this technology has a much lower environmental impact and dramatically reduces in building waste during construction and renovation. Concerns, such as the cost of construction, material requirements, efficiency analysis and structural stability, are analysed during the design stage itself, offering clients complete peace of mind. Arguably the future of architects is questionable when people would themselves, design and build their homes using free online software, such as 3D home builder and Google Sketch-up, with intrepid 3D-printing contractors (Celento, 2007).

Complementing rapid prototyping, the parametric design allows anyone with basic knowledge of software to modify parameters of various elements within complex 3D models while maintaining a log of those changes and updating all associated operations within the model. Due to pre-visualisation prior to construction, parametric design and Building Information Modelling (BIM) diminish ambiguity, reduce errors and generate savings for clients. Moreover, such models are readily available for download from the internet, are free and exist in a variety of formats. Therefore, another significant threat that architects face comes from such savvy technicians and 3D animators, who essentially have no architectural qualification.

Nevertheless, marvelling at the traditional architectural process, Vladimir Bazjanac comments that unlike most industries which follow the 'design-test/verify-manufacture-deliver-warranty' script, architecture, without sophisticated pre-visualisation provided by BIM, was little more than a 'convince-build-pray modus operandi' (Bazjanac, 2004). He explains:

> The designers convince the client by demonstrating a few selected performance aspects (usually cost and image) he/she can understand, but the designers cannot guarantee that the building will work to the client's expectations; the builders build the building, and then everyone awaits to see how the building will work once it is occupied and in use. ...At best, everybody is eventually relieved (even if some feelings have been hurt in the process); at worst, almost everybody involved faces legal consequences. (Bazjanac, 2004)

As of now it can be argued that architects, in general, are struggling at various fronts, find it difficult to reposition themselves, and consequently, no longer able to connect with their clients on a meaningful level. In his essay "Less for Less Yet", Michael Benedikt writes:

> Architecture, as an industry, broadly conceived, has become less and less able to deliver a superior evolving and popularly engaging product that can compete with other more successful products…. And the less successfully architecture has competed with these diverse "growth industries", the less architects have been entrusted with time and money to perform work on a scale and with a quality that could perhaps turn things around. (Benedikt, 1999)

Architects have generally ignored such criticism and avoided reality; however, if they continue to do so, the entire architectural profession stands to suffer, or even cease to exist. According to the report Rethinking Construction (Egan, 1998), the building sector was unable to maintain pace with technological advancements and innovation. Today's consumers essentially lack an understanding of the effort it takes to create anything unique and creative, yet architects are still trained in a way that deviates from reality. Digital methodologies are enhancing distinct capacities to perform and generate processes that did not exist in conventional, paper-based methods (Oxman, 2008). According to Kieran and Timberlake (2003), BIM, mass customisation, parametric design, rapid prototyping, ubiquitous computing, web ordering, etc. has opened new avenues for architects. Thus, the interactive involvement of architects and clients in discussions of design requirements and solutions can significantly change the dynamics of ACR.

2.5.3 Communication and the architect-client relationship
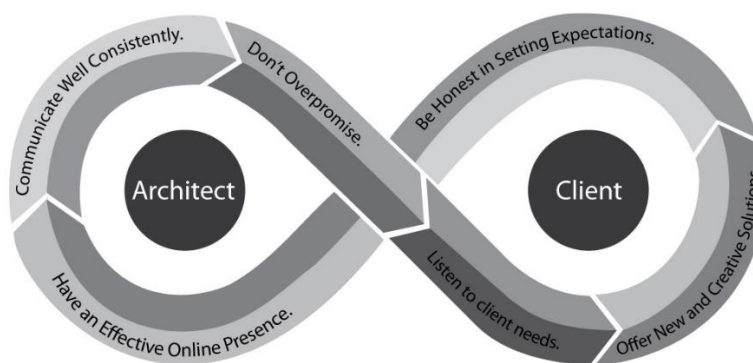

Figure 5   Elements of trust between architects and clients.

Source: Author

Communication is central to architecture and plays a vital role in establishing trust among architects and clients. Roxburgh (2003) examines how clients and designers use proprietary knowledge to either bridge or exploit the gap between these two cultures to

improve communication and trust. As protagonists, architects always do whatever they believe would communicate their intentions and concepts to clients (Bruggen, 1998). However, face-to-face conversations remained their favourite method to talk about design until recently, when multimedia presentations and visual representations of buildings became their favourite chosen approach. Shen (2011) and Yu, Shen and Chan (2005) articulate the reasons for the difficulties that arise due to poor communication in the ACR.

1. The client's viewpoint is not fully considered.
2. There is not enough communication between stakeholders.
3. Design requirements are not sufficiently managed.
4. The needs expressed by the clients often change.
5. There is a lack of feedback from the client.

Poor communication in terms of lack of articulation skills, misunderstanding and conflict can often be found at the heart of any problem that arises in an ACR (Coughlan and Macredie, 2002). It not only impacts the quality of design but also leads to the client's confusion and frustration. In other words, lack of knowledge, commitment and mutual understanding amongst project participants about relational communication, expectations and the design process can be blamed for most design failures (Lyytinen and Hirschheim, 1988). Moreover, communication is not simply about passing on information; it must be shared such that the person receiving it is able to make sense of it and achieve the intended outcome. While most projects start with very high expectations, during the project, the initial momentum is generally lost due to a lack of commitment between architect and client, which results in conflict. Traditionally, the design process was linear, with systematically defined stages, and communication was an independent action only performed after achieving a set target (see Figure 6).
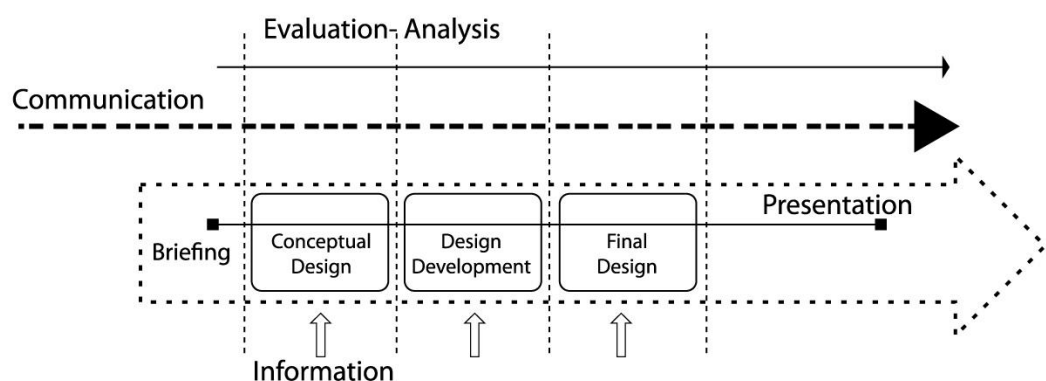

Figure 6   Linear design process

Source: Overview of the design process and design supportive tools (Weytjens et al., 2009)

<u>Role of communication:</u> Communication is the process in which information is exchanged between a sender and a receiver (Otter and Prins, 2002). This definition is consistent with 'sharing of meaning to reach a mutual understanding' (Otter and Emmitt, 2008), and a 'cognitive and social process by which messages are transmitted, and meaning is generated' (Maier *et al.*, 2008). It has been argued that both architects and clients undermine the interdependency of the design process on communication, and the arguments that surround its purpose and its understanding have often escaped critical analysis (Norouzi *et al.*, 2015). Regardless of its medium, Figure 7 reflects the main components and elements of communication, between architects and clients during the initial design stages. While both architects and clients possess information and knowledge, there remains a discrepancy between its usability and applicability, which is due to a lack of interpersonal and conversational skills that are needed to understand and use such information properly. Wittgenstein's language game theory is one illustration of this problem area (Lundequist, 1992, cited in Moum, 2008), which contends that tactical knowledge of the architectural design process is non-transferable and cannot be articulated (Griffith, Sawyer and Neale, 2003). Hence, when an architect sends their designs to a client, it is critical that clients are familiar with the encoded symbolic language. Anita Moum (2008), stresses that an architect should possess comprehensive understanding of architectural language games within not only a particular context, but also an ability to apply them in a meaningful and effective manner.
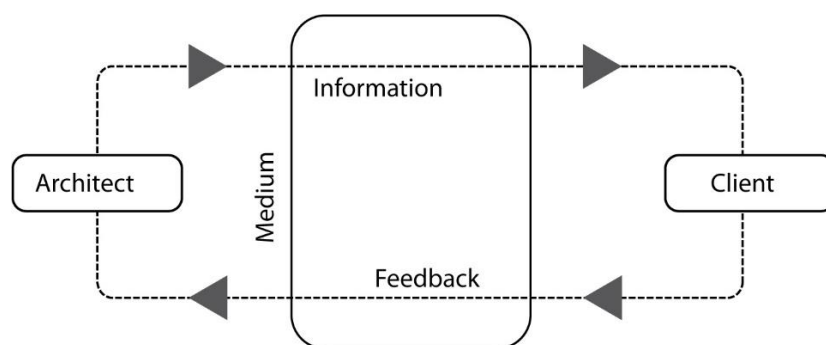
Figure 7   Communication between architect and client

Source: (Norouzi et al., 2015)

Communication models have evolved from the linear where, 'the speaker and the listener just listen or speak' (Lasswell, 1948); through the interactive conversation where, 'both the speaker and the listener take turns to speak and listen to each other' (Schramm, 1955), to the transactional (Barnlund, 1970). In the transactional model, both the speaker and listener can simultaneously send and receive information via smartphone, fax, email, video conference and real-time screen sharing, etc. Digital technology offers a range of new features, such as simulation, animation and virtualisation, which has changed the overall dynamic of verbal and written communication to make it more experiential. Over the last two decades, architects have acknowledged the potential of Computer-Aided Design (CAD), Information Communication Technology (ICT) and Virtual Reality (VR) technology because it supports them to develop, exchange and interact with design data electronically (Lawson and Loke, 1997). According to Frost and Warren (2000), instead of symbolic and abstracted design information representations, VR simulation reduces misunderstandings between individuals in design practice to a considerable extent. Integrating these IT-based virtual processes within the design process is key to collaborative workflows (Overby, 2008), and calls of fundamental changes in the traditional methods of running an architectural practice.

Users' interaction and recent technology: Recently, the use of digital technology has become more of a communication artefact than only a design tool. However, project planning and the lack of appropriate design language remain potential barriers to fruitful engagement with non-expert clients in the design process. It can, therefore, be argued that successful participation of users in a design process largely depends on the definition and appropriateness of the following facilitating characteristics (Lee, 2008). The process must enable:

1. Explicit and direct connections, which decreases the chance of misunderstanding or misinterpretation among participants.
2. Truthful expectations of project intent to reliably assess the exact functioning of proposed design including its spatial experience under different circumstances.
3. Assessment of the consequence of a design decision in a manner that is transparent and understandable without any specialised knowledge.

In the book *Architecture's New Media*, Kalay (2004) holds that the act of building design is too complex to be accomplished in isolation by architects alone. He argues that to achieve a successful outcome, there needs to be active participation among clients and architects, alongside effective coordination, communication and information sharing with

other stakeholders, such as consultants and contractors. Figure 8 highlights the role of communication as a critical stimulus in this collaborative activity.
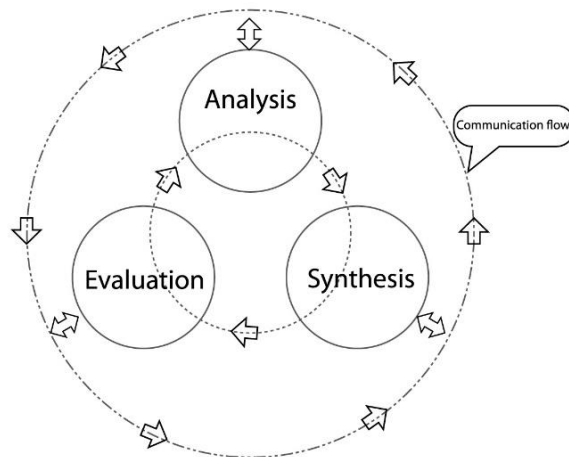

Figure 8   Model of collaborative design

Source: (Kalay, 2004)

Transmission or exchange of ideas, thoughts and information between two individuals is central to the idea of communication (Keyton and Zalabak, 2006). Typically, in a design process, an architect sends design information, and the client then decodes the message and responds to the architect as feedback, which allows them mutually to recognise the message with relevant meanings received and whether it has been understood or not. This involves an iterative communication process comprising three aspects (Figure 9): identifying needs through client meetings, generating ideas through brainstorming, and then representing those ideas or recommendations through a medium, such as presentation drawings or 3D visualisations (Norouzi *et al.*, 2015).
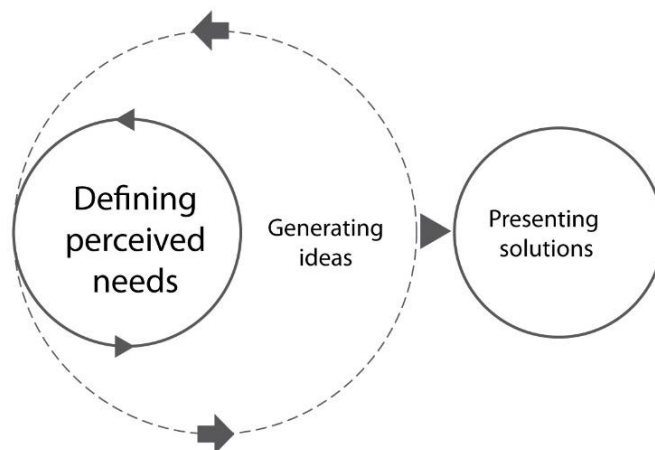

Figure 9   Communication activities in the design process
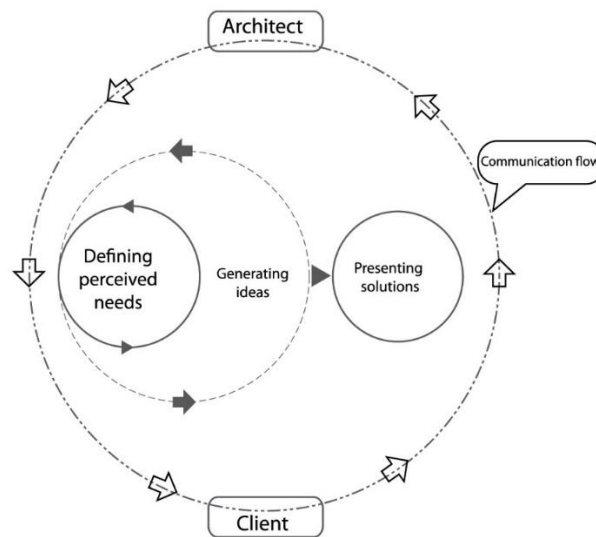
Source: (Graell-Colas, 2009).

Figure 10 Successful communication flow in the architect-client relationship

Source: (Graell-Colas, 2009)

From the above discussion, it can be concluded that there currently seems to be a mismatch between the usual communication styles and the design process. Too often architects have to switch between the roles of designer and communicator. While both the design process and the communication process occur simultaneously, they rarely contribute constructively to each other See Figure 10, which impedes progress overall and undermines the objectives of a project. Arguably, for a complete understanding of design, effective communication must take place simultaneously, enabling stakeholders to analyse, synthesise and evaluate the implications of choices they make as the project progresses. Norouzi *et al.* (2015) propose one such approach which can be devised by combining and overlapping the design and communication processes, as seen in Figure 11. In this model, perceived needs and client expectations play a pivotal role in all analysis, and evaluation of each stage is well positioned, where identifying problems and generating solutions is seen as a 'cyclic communicative exercise, which is established in the relationship between architect and client' (ibid, p. 116).
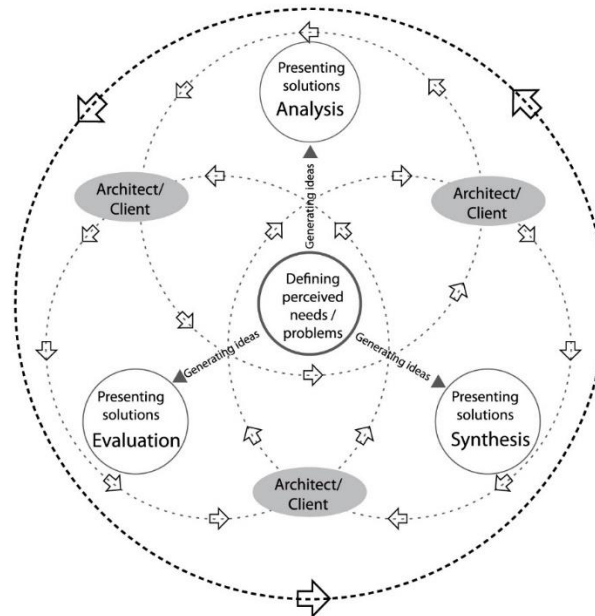
Figure 11 The design process: a novel approach

Source: (Norouzi et al., 2015)

As such, a collaborative approach based on digital technologies can be seen as a missing link in the ACR. For a better ACR, Shen (2011) recommends that clients be considered important and their contributions valued and that architects employ appropriate and easy to understand visualisation techniques. Thus, by selecting correct virtualisation principals, concepts and methods in communication and design processes, architects can motivate participants to build a meaningful relationship.

Communication and the architect-client relationship: Many studies suggest that successful ACR are shaped by positive behavioural attitudes and mutual respect from all participants (Long and Wilson, 2002; Tusa, 2002; Watson, 2002; Stater, 2010; Siva and London, 2011). According to RIBA, common complaints from clients about their architects are often rooted in misunderstanding and dissatisfaction (RIBA, 2007). Tzortzopoulos, Cooper, Chan and Kagioglou (2006) argue that most new clients do not know how to communicate their needs and do not understand design processes. As such, unless they make efforts to familiarise themselves with the architectural language of communication, many clients find themselves trapped in a strange situation, where they feel stressed and constrained (Siva and London, 2011). Moreover, communication among architects and clients is not intuitively driven, and clients education is essential so that they understand architectural language and their interests and attitudes can fall into line (Chen, 2004).

Communication also become unpleasant when architects do not consider, how appropriate the semantic, emotional and technical language they use is, to describe design aspects (Norouzi *et al.*, 2015). Roberto Pietroforte (1997) argues that effective communication relies on the attitude that the sender and receiver have towards each other. The emotional impact of the content of the message must also be well crafted to ensure a strong, stable and effective connection between a message's content and emotional impact (Liu, 2010). The structure of a message, content language and the choice of medium in which it is transmitted will determine its dissemination (Lunenburg, 2010). Hence, extreme care is required at every step of the communication process; one wrong move can affect the quality of communication and damage relations (Keyton, 2006). Combining technology and human management approaches can lead to effective workflows for practising architecture (Thomas, Tucker and Kelly, 1998). Architect-client communication can be improved by architects upgrading their technical toolkit, valuing clients more, and changing their outlook towards the society (Ponting and Aouad, 2004).

2.5.4 Concluding argument

In all the studies reviewed here, poor communication, using unfamiliar terminology and ignoring user needs are recognised as common complaints clients have about architects. This review has identified the most significant benefits of the internet and digital technology as a) making it easier to make design decisions during the initial stages of a project, and b) enabling clients to make sense of what they are presented with. The examples presented in this section provide evidence that, with few exceptions, mainstream architects have made little to no use of these technologies and resisted adopting modern workflows. The review has limited its scope to only broadly understanding the effects of technology in the conception, design, and delivery of architectural services and how they affect the ACR. The review indicates that there currently seems to be a mismatch between the communication and design processes. A collaborative approach based on digital technologies is seen as the missing link.

2.6   SUMMARY OF CHAPTER 2

The main goal of this chapter was to review the literature on the factors responsible for the state of ACR. The review started with two propositions: a) a design-centric attitude and lack of understanding of client needs have led to the marginalisation of architects; and b) digital technologies can help bridge this gap and improve ACR. At the end of each section, concluding arguments were presented to feed forward into the conceptual framework of this research. This chapter has elucidated on the premises and traced the reasons leading to deterioration of the architect-client relationships. Although many authors and architectural historians have tried to emphasise the way 'clients see architects', their recommendations have had a limited or no effect on the attitudes of architects towards clients; specifically, from the idea of the architects' design-centric attitude; insisting on being authority figures and applying their own standards to their performance.

Collectively, this review outlines a critical role for professional institutions, i.e. to shift their focus from authoritarianism and policing the boundaries of the profession to making it more democratic and making the benefits of the discipline accessible to the public. It has also elaborated on how institutions in the United Kingdom push their agenda to pursue social and financial protection of the profession, including having a mandatory code of conduct thereby assigning architects a monopoly. By comparing architecture with product-based industries, where the laws of demand and supply call for continuous innovation; and other service-oriented professions, this study has felt the need for architects to draws on the experiences from outside the architecture. Overall, the review of these studies shows that there are still several aspects of professional institutions, including how they contribute to the ACR, about which relatively little is known. The themes that have emerged in this chapter are as follows:

<u>Architects' role in society:</u> Looking at the historical development of architecture, the breakdown of the ACR due to institutionalisation and the changeover of the profession from service to business. The study considers whether architects' ignorance towards their social and ethical obligations, their inability to interact with the end users and their pretence as elite social reformers have contributed to this uneasy relationship.

<u>Architects' social status:</u> The role of media has been analysed to discover that enticing print and digital language attracts clients more than descriptive architectural drawings. The language and terminology barrier between architects and clients raise the question of why architects are not additionally trained to understand better the public's taste, which is a prerequisite of this profession. Considering qualified architects struggle with interpersonal skills and drift into isolation, why would clients not prefer other building professionals over the design-oriented architects?

<u>The position of clients and users:</u> The poor relationship is caused by the nature of design problems, and the architect-client gap has been comprehended in the light of architects' misinterpretation of the client's confidence and trust on them. Why are architects and clients not able to strike an optimum balance amid quality, cost and time? Why are architects unable to justify the value they add, and why can't the client understand it? Will architects' arrogance and clients' emotions, expectations and lack of awareness put the future of this profession on thin ice?

<u>Professional institutions and their policies:</u> Divided opinions were found among practising architects regarding the Code of Conduct. Looking into the aspect of fee structure, why have architects failed, yet again, to justify their worth and their fees? And when compared with other disciplines, why aren't there adequate efforts to reduce the gap between academia and practice? Why architects lag behind in engaging with, and learning from, other disciplines?

<u>Role of communication and digital technologies:</u> It was seen that mainstream architects have made little to no use of new technologies and have resisted adopting modern workflows. A mismatch between the communication and the design process has been identified. Even with ascending technologies and techniques, why is there a descending communication between stakeholders and why is a collaborative approach based on digital technologies still missing? Indeed, the pressing questions at the core of the trend that this chapter has addressed are, 'how and when did this happen'? Why do architects feel the involvement of the user/client is somehow irrelevant and unimportant to the design process?

Several observations made here suggest that architects' design-centric attitude, lack of interpersonal skills and peer orientation are a result of education and training. The other

aim of this study was the concerns of emerging architects and the lack of real-world client interaction in architectural education. As such, this chapter is still a limited appraisal, which only looks at the practise side of the architectural profession and emphasises clients' dissatisfaction with the practise side of the architectural profession. This leads to facing and exploring a separate set of questions about approaches to teaching architectural design and its features. The evidence presented in this chapter also suggests that the role of *Starchitects* can also be held partly responsible for the current state of affairs. The next chapter looks at the relevance of the points discussed above with respect to architectural education and how they align with the aspirations of emerging architects.

CHAPTER 3

THE EDUCATION AND TRAINING IN ARCHITECTURE

Architecture has been one of the primary tools for human civilisation to display its upward growth, progressive approach and creative attitude. Rachel Sara (2011), writes that development of education in architecture happened in three stages: the apprenticeship or pre-technocratic stage, the technocratic stage (Schön, 1987), and the 'post- technocratic' stage. Traditionally, architects were trained and educated through apprenticeship under adept masters. When institutions took over the task of teaching architects, i.e. the technocratic stage, the aspect of practical training was largely overlooked for the sake of theoretical and conceptual knowledge. Ever since post-technocratic' stage in the 1980s, institutions have been under tremendous pressure to introduce radical pedagogies which can enhance not only the learning experience but also to put acquired knowledge and professional competence for human welfare in a real-world setting. However, in recent years, architects have been more concerned about climate and environmental issues in the built environment. This shifted the focus of the profession to sustainability, energy efficiency and other ambitious agendas under the pretext of social responsibility and addition of human aspect to the buildings (Feireiss, Brillembourg and Klumpner, 2005).

This chapter examines the role of architectural education and how it has shaped the profession. It will be argued that as a result of the way architectural education has developed, the gap between architects and their clients has increased and the direct link between them has been broken. It will question the role of architects in present-day society and raise awareness about their concerns and the future of this profession. Key issues identified include a design-centric attitude, lack of practical skills during education, routes to employment, the future of small practices, the effect of power relations and hierarchies, the role of *crit* and outdated education systems. These have been examined by many scholars (Ackerman, 1969; Gans, 1977; Kostof, 1977; Prak, 1984; Banham, 1996; Spector, 2001; Hill, 2001; Feireiss, Brillembourg and Klumpner, 2005; Badanes, 2008; Salingaros and Alexander, 2008; Till, 2009; Salama, 2011).

The chapter is divided into five sections, each of which aims to build an argument in support of the aim of this study, i.e. how to address the concerns of clients and emerging architects. The chapter starts with the issues identified in the last chapter – architects' design-centric attitude, lack of interpersonal skills and peer orientation as a result of their education and training – which leads the focus of the review to a more specific examination of the architectural design studio and learning process of the students.

3.1 POSITIONS, VIEWS, AND CRITICISMS OF CONTEMPORARY ACADEMIA

3.1.1 Self-centred education and peer-oriented practice

Many scholars note that architecture as a profession has retreated into a self-exploratory and self-reflective world. Architects no longer design for their clients; rather, every attempt they make in their professional lives is aligned to impress their peers and compete with their contemporaries (Gans, 1977; Banham, 1996). Comparing the teaching studio to a tribal longhouse, Banham (1996), identifies it as a place that secludes students from outside intrusions, restricts their ability to design and discourages them from developing on their own terms (p. 295). Alleging the outdated rituals in the culture of studio-based learning, he compares it with societies on the margin, as these rituals can lead to the potential extinction of architecture as a discipline.

Paolo Freire has fiercely exposed the hierarchy of power and the internal workings of architecture colleges in his book *The Pedagogy of the Oppressed* (Freire, 2000) [1970]. He compares schools of architecture to banks, where tutors deposit data into students: the more data they are able to deposit, the better teachers they are, and students are simply there to submissively receive it. According to him, the whole architecture education system revolves around the simple principle that the teacher is the enlightened one, who possesses the knowledge and power, and the student must bow down to his superior position and intelligence and simply follow the rules without questioning his actions. Freire further expresses his concern about students' lack of preparedness for real-life situations, as they are taught in a make-believe reality, which is stagnant, predictable and totally detached from actuality. He maintains that even though architectural education preserves the academic codes of belief of Beaux-arts, the end product is often different from what is expected. According to him, the reason behind this failure lies with the teachers of architecture, who are teaching in a void, distanced from actual reality (ibid).

Architectural education indoctrinates the students in such a way, that they think only they are qualified to add value to the built environment through their designs, and that other people involved in the execution of the project must listen to them, submissively. This indoctrination affects the emerging architects' attitude in such a way that, once licensed, they only want to produce monumental work to express their own gentility. They plan every detail, in a manner that does not let anyone interact or interfere with their

masterwork (Rieger, 2002). Students are conditioned to adjust to such cultures, and these characteristics become a part of their personality.

In his book *Architecture Depends*, Jeremy Till categorises the *crit* (see Section 3.4.4) as the most notorious ritual, 'a strange act of tribal initiation that is played out in schools around the world' (Till, 2009). During *crit* (a process design review by a jury), the work of novice students is judged by highly critical and egotistical teachers. It leaves many students either scarred for life, or they develop an arrogant outlook as a defence mechanism, resulting in an atmosphere of narrow-mindedness, which breeds contempt rather than new thinking. Till (2009) claims that the main problem with the traditional education system is that it fails to distinguish radical thinking from radical making. According to him, 'as long as the output of the subsequent batches of students looks different from the previous batches, the schools tend to assume, and therefore project, that they are making progress and pushing the boundaries of new knowledge' (p. 13). Pointing to an example from the book *When Cathedrals Were White* by Le Corbusier, he emphasises that this attitude of institutions has never changed. In this book, Corbusier gives an account of his interaction with a professor of architecture at the School of Architecture at New York University, who displayed a close-minded attitude when he proudly announced that 'I am no longer a practicing architect, but I instruct my students in good taste and beauty!' (ibid). In Corbusier's view, such professors were jeopardising the future of the profession: 'they are against life; they represent memory, security and lethargy. In particular, they have killed architecture by operating in a vacuum . . . architecture has evaded life in place of being an expression of it' (Corbusier, 1947; cited in Till, 2008, p. 114).

Fundamentally, knowledge is reliant on the understanding of a person and the integration of information by its application. It is acquired by applying appropriate skills to achieve the desired outcome and by solving the problems or challenges that one is presented with, resulting in addition of value to the designs and buildings produced. Expressing his concerns about the way architecture is disconnected from the world and its overall place in the social context, Till (2009) concludes that it is difficult to understand why architects place more emphasis on the autonomy of practice and isolate themselves from the social relevance of their work. He argues, 'how could practice, with all its engagements with others, ever be considered as an independent activity? How could buildings, with all their occupation by others, ever be torn from their social context?' (p. 18). Hence, it can be argued that by operating in a hypothetical construct, which is void of practical knowledge and interpersonal skills, students become habituated to peer-

oriented cultures and essentially absorb these characteristics into their personalities. Likewise, it can be held that theoretical education can only impart training, skills, tools, information and, at the most, a qualification. It cannot necessarily guarantee success in the professional world or be substituted for knowledge, which can also be acquired in many other ways.

3.1.2 Assemblage and Hypocrisy

The work culture within established practices also contributes to the pressure that the principal architects have to face. While large offices have a clear division of labour, small and medium-sized practices struggle to make that distinction. Having gone to the same schools, holding the same degrees and sharing the same basic goals and concerns, the management and the labour force are indeed indistinguishable from one another in the traditional sense. Most of the employees continuously aspire to be principals or partners, since many hold qualifications almost equivalent to their bosses, and not only they consider their employment as a temporary stage in their career but are also willing to work for lower salaries (In *Progressive Architecture*, 1972, 1976). Although employers often complain about the lack of practical skills and have lofty expectations of trainee architects, they as well are equally aware that their employees are working with their firm only to gain experience before they can establish a venture of their own. In other words, both the employees and the employers are 'more preoccupied with architecture than by salaries and working hours' (Marquart and Montlibert, 1970, p. 384). This leads to a rather anomalous labour relationship in which, again, it is the client who pays the ultimate price.

Unique to architectural practices, this culture, very much prevalent even today, is not something new but another improvisation of the original master-apprentice model. It has been abused even by great masters, as cited by Prak (1984, p. 12). For instance, Corbusier paid his draftsmen for the competition project for the League of Nations with a dinner, a railway ticket and autographed copies of *Vers Une Architecture* (Roth 1973, p. 27). Interestingly, Frank Lloyd Wright, the famous American architect, also ran his office (and his household) for years with people who paid him, rather than the other way around (Tafel, 1979). The same attitude was endorsed by Robert A. Class, Director of the Management Division of the AIA, who said that unionisation of architectural employees won't be needed if the employers start recognising the importance of the intellectual and creative capacities of trained professionals over the mere productive capacity of warm bodies (Class and Koehler, 1977, p. 268).

To support their projects during concept presentations, to win the commissions and at award functions, architects often promote conceptual philosophies and make statements that are contradictory to what they practice in real life. In this context, Renzo Piano's 1998 Pritzker Prize Acceptance Speech is worth noting. He said, 'There is always temptation to impose one's own design, one's own way of thinking or, even worse, one's own style. I believe, instead, that a light approach is needed. Light, but without abandoning the stubbornness that enables you to put forward your own ideas whilst being permeable to the ideas of others' (Pritzker Prize speech, Piano, 1998). And contradicting to this is his ambitious Jean-Marie Tjibaou Culture Centre, which is debatably an imposition of Western ideals and alienated understanding upon the native people of the Kanak society. Erected in honour of the New Caledonian political leader, assassinated in 1989, the architects claimed that the Centre pays homage to Kanak culture and draws on local building traditions and expertise by intertwining the ancient and the modern (RPBW, 2017). The assessment criteria of the architects to incorporate regional and cultural styles are hence called into question. The buildings sometimes become an imposition of an architect's own ideologies, with no connection or consideration of socio-cultural factors; even if there is a connection, it is latent for common people at least.

Another famous example of when architects tried to frame things to suit their assemblage was the housing of Pessac, designed by Corbusier near the town of Bordeaux, in France. As reported in the *New York Times*, it changed beyond recognition (Huxtable 1981). Rather than accepting this as an architectural condemnation by the users, its analyst, architect Philippe Boudon, claimed that it was the genius and farsightedness of a visionary architect and that Corbusier's versatile open-plan layout enabled the users to make changes to suit their needs (Boudon *et al.*, 1979, pp. i–ii; Till, 2007, p. 133). It appears that in the competitive milieu and race to prove themselves as efficacious practitioners, architects tend to create social boundaries around themselves, practise secrecy and contentiousness, and establish hierarchies within their work environments.

3.1.3   Ignorance and Isolation

This section will try to distinguish the relevance of isolated architectural research happening in professional practice with that in academia. Published by RIBA as their first position paper on the architectural research, the first myth surrounding architectural research, according to Till (2005), is attributed to the twin notions of genius and autonomy, which led architects to claim that architecture was a unique discipline, to

which normal research characterisations could not be applied. Due to this misbelief, architecture becomes isolated from other scientific disciplines, and architects presume that it is not possible for normal people to understand how they work (Till, 2005, p. 2).

The second myth runs counter to the first that:

> …in order to establish itself as a credible and 'strong' epistemology, architecture must turn to other disciplines for authority…. In turning to others, architecture forgets what it might be in itself…. that architecture is not architecture, in editing the complexity of architecture thus describes it as something that it may not be. It is a myth fuelled by the funding mechanisms for research, with the various research councils defining acceptable areas through particular research paradigms, which simply do not fit the breadth of architecture. (ibid.)

The third myth debated by Till is that architectural knowledge is ultimately inherent in the built object and that since every building is unique and original, in its own regard, it must be accredited with the creation of new knowledge. Accordingly, 'the practitioners claimed that a building should itself be considered as a piece of research, since it was evident and present in its full glory on the site for everyone to look at' (ibid., p. 3).

The architectural historian Nikolaus Pevsner famously argued, 'A bicycle shed is a building; Lincoln Cathedral is a piece of architecture' (Pevsner 1991, p. 23). In other words, any enclosed space that is suitable to provide shelter from the elements is a 'building', and the term 'architecture' can only be applied to buildings with an aesthetic appeal. There has always been a disparity between what is considered architecture and what is considered a good design. The discipline is yet to arrive at a consensus on this issue, and throughout modern history, scholars, critics and practitioners often came up with their versions through manifestos and open letters (Conrads, 1971). Banham (1996) compares 'architecture' with 'a classic "black box" recognised by its output though unknown in its contents' (p. 293). He argues that even when it may lack in other aspects, such as functionality and special planning, 'architecture' is generally present in 'good design', and since both are quite compatible with each other, people can opt for one without the other (Banham 1996, p. 293). Nevertheless, good research cannot be assumed to lead to a good building and, correspondingly, a good building does not meet all the criteria of a good piece of research. Unless there is proper documentation, the construction of a building is not based on a systematic inquiry with the aim of generating communicable knowledge (Till 2008). The selfish interest to preserve their intellectual property leads to a

lack of personal motivation for its creators to share their innovation and new practical knowledge, secluding it from the potential research, which usually comes after innovation, in case of architecture.

According to Spector (2001), 'if knowledge and education made good architects, that did not necessarily mean that they would make good buildings. Since in practice, skills and knowledge of an architect were assessed based on the merits of the buildings constructed by them' (p. 36). Moreover, there are many examples of even well-known architects occasionally producing bad buildings, such as Mies van der Rohe's Farnsworth House in Plano, Illinois, Louis Khan's Richard Medical Centre in Philadelphia and even Frank Lloyd Wright's famous Guggenheim Museum in New York. These buildings and many more similar works could be cited as examples of the presence of disparity and contrast between the *use value* and the *aesthetic value*. Spector further argues that many defects in the buildings 'are the direct result of their virtues', such as modular and flexible buildings called for regular maintenance; airtight and energy efficient houses struggled to maintain acceptable indoor air quality and so on (ibid, pp. 91-93).

Given the viewpoint of (Banham, 1996; Hill, 2001; Spector, 2001; Till, 2005), architectural research would be considered an ideal domain for generating fruitful outcomes, when academic theory and architectural discourse respond to the actualities of the trade and industry, and when practice is able to generate well-documented communicable knowledge. Their performance in harmony with each other is vital for future generations of architects and students. Clearly, the client's needs, aspiration and budget drive innovation in architectural practice. But the question is, how can this experience be brought in to the design studio and shared with architectural students?

3.1.4 Architecture as an Art

In the modern times, design is not about the appearance of the objects, but it is a tool for planning and production. To bring about a change in the new era, it is essential for fresh graduates to go beyond the eye-catching sketches on paper. However, 'The profession is organised in fact in terms of architecture as a fine art, and not in terms of architecture as the design element of the production process for buildings' (Bowley, 1966, p. 437). Igea Troiani and Suzanne Ewing note that practising architects and educators are rarely introspective of their own practices and conventions. 'They are simply too busy practicing, whereas, the discipline of architecture encompasses and calls for evaluating

myriad praxes and practices of knowing and creating innovative solutions' (Troiani and Ewing, 2014, p. 151). They further explicate that architecture operates on a false philosophy that 'a static, stable, autonomous method of design and teaching exists, as does specific knowledge and expertise held by the architectural designer and thinker' (ibid.).

Likewise, Mark Linder (2005) alleges that when things are going well, architects close ranks and no longer look to other disciplines to justify or motivate their work (p. 12). He further argues that it is neglectful of the architects to close themselves within their own professional circles because the identity of architecture can only be developed in dialogue with other disciplines. Artistically ambitious architects deliberately keep their clients in dark when it comes to showing them the drawings. Their criticism is warded off and dealing with them is considered inconvenient. For example, a RIBA Report in 1962 notes that 'some offices took the view that the less their clients saw of the projected design the better, particularly if committees were involved; others made a point of showing plans but never elevations or perspective; others again plainly regarded the whole problem of client relations as an unavoidable nuisance' (RIBA 1962, p.166).

The architect's tendency to appraise and promote the artistic side of their job is an egotistical move aimed at reducing the scope of their work. Although the mounting complexity of the architecture of modern buildings allowed other building specialists to invade their territories (for example, structural, mechanical and electrical engineers are now designing large parts of complex projects), architects' preference for the aesthetic aspects of a building can also be held largely responsible. As far back as 1862, W. H. Leeds writes: 'Mathematics has perhaps been too much neglected by some of the architects of this country. The consequence has been the establishment of a new branch of art whose... professors are called Civil Engineers' (Jenkins 1961, cited in Prak, 1984, p. 13). Prak writes that the structural works, Heating Ventilation Air Conditioning (HVAC) and services consultations had been lost to other specialists within the building industry, while programming and project management were on their way out. However, looking at the current state of the profession, one can contend that nearly everything has been outsourced to the specialists and freelancers. As it is, many architecture firms in UK are struggling to run their offices, as reported in the recent RIBA study (Stevens, Williams and Green, 2015).

Aesthetic architects think more like visual artists rather than service providers. While there is nothing wrong in thinking like this, they often forget that, unlike an artist, who completes his work himself, an architect's work is mostly made to order and completed by a team of professionals ranging from building inspectors, contractors, subcontractors and suppliers, construction workers, planners, realtors, lawyers, and structural and mechanical engineers (Prak, 1984, p. 84). Evidently, only 15-20 per cent of the architects' time is spent on real design; the rest of the time they are dealing with other practical and logistical issues. Although, according to the research, most of them want to spend more time designing and less on meetings and supervision. Many architects advocate that 'in principle architecture is an extension of Fine Arts (not a branch of engineering, or real estate or of a more or less hazy sociology) and the role of architectural education is to enhance the artistic talent of an individual' (Kostof, 1977, p. 274). These views uphold and can be traced back to what Corbusier maintained in *Vers une architecture* (1923) – that the artistic goals of architecture hold more weight than its purpose of construction, understandability, comfort, usefulness and practical disposition. The brilliance of artistic creations lies in the ability to connect the intentions with the emotions (Corbusier, 1923).

In his book, Prak elaborates on the relations that prevail among the practical and the artistic architects. He argues that while 'artistic architects can confer instant status at a price', giving the example of the Seagram building designed by Mies Van de Rohe in New York, most of their work is an exercise in self-expression. Highlighting the differences between artistic and practical architects, he points out that 'practical architects treat their artistic colleagues with respect, artistic architects treat their practical counterparts with contempt. Practical architects often express a desire to become, or to be seen as artistic; the reverse never happens' (1984, p. 16).

3.1.5 Mentorship in architecture

Generally, architects seem to have become incapable of producing the cheap, plain buildings with a quiet, unobtrusive dignity that were once commonplace, in part perhaps because we no longer build with local materials and local craftsmen (Buchanan 2012). After the Second World War, master architects initiated and promoted buildings made with glass and steel as innovative and functional modern buildings. However, the same innovation seems to have plagued the mindset of *Starchitects*, who make extensive use of industrial materials in the guise of using 'cheap' and 'efficient' utilitarian constituents (ibid.). Rather than looking for inspiration from pragmatism and economics,

many cohorts find their motivations based on the artistic and aesthetic aspects in the works of their peers. Moreover, for their own interest, the architects continue to believe that in doing so, they are contributing to the central defining values of their profession but fail to acknowledge the fact that times have changed and that such charters are obsolete, demanding re-evaluation and repositioning.

There is no doubt that many of the finest buildings built by the architects, bestow upon them a higher status in the society (see Section 2.2). Walter Gropius wrote in 1919 that architecture was 'Indeed, the crystalline expression of the noblest thoughts of man, of his character, his humanity, his creed, his religion' (cited in Conrads, 2000, p. 43). As a matter of fact, the master architects have surely influenced many generations of architects. They tend to become egotistical, and the emerging architects evolve from their subjective writings to suit their assemblage. More than 40 years ago, Marie R. Haug (1972) argued that inaccessibility of knowledge to lay-people lay at the heart of professional position in architecture. Whereas nowadays the professionals are losing their authority through a process of de-professionalisation and development.

In view of such a background, it is worth noting that practical architects and other building professionals gained a competitive edge over aesthetic architects, who were unable to collaborate, produce a coordinated set of drawings and work within targeted budgets and timelines (RIBA, 1962; Goodman, 1972; Hughes and Hughes, 2013). Consequently, these qualities, when combined with interpersonal skills and aggressive marketing, give practical architects an upper hand. Certainly, with the advent of the internet and technology, more and more information is becoming accessible to clients, reducing the mystique of architects and subjecting them to a more critical appraisal of their knowledge.

3.2 *STARCHITECTS*: THE VISIBLE SIDE OF ARCHITECTURE

In the book *Informal City,* it is argued that architects are handicapped in seeing the informal aspects of urban life by their limited professional vocabulary for describing such aspects. They are bound by the walls of their theories, disconnecting them from critical real-world issues. 'The present-day city calls for a profound reorientation in the manner in which we study it: we believe in working at the intersections of the individual and the collective, the real and the virtual in a multiplicity of parallel engagements' (Feireiss, Brillembourg and Klumpner, 2005, p. 19). Reviewing the state of the architecture profession, author and critic Salingaros, in his book *Anti-Architecture and Deconstruction,* responds by saying that, confined by their customs to follow the 'cult of contemporarity', today's architects will not be able to construct a 'beautiful and humane' world, in spite of the new world being ready for it. (Salingaros & Alexander, 2008, p.8). Salingaros ferociously criticises the works of *Starchitects,* such as Frank Gehry, Peter Eisenman, Daniel Libeskind and Zaha Hadid, and makes powerful arguments in support of his theory; this book, therefore, becomes quite relevant within the scope and context of this research for exploring the ACR.

De-constructivist architecture: Mark Wigley describes de-constructivist architecture as 'the form' which has become contaminated; according to him, 'deconstruction gains all its force by challenging the very values of harmony, unity, stability and proposing instead a different view of structure' (Wigley and Johnson, 1998, p. 2). In other words, not their function, but the subjectivity and personal ego of the architects, is guiding the form of modern buildings, which completely disregard the usability of the spaces, including the user's needs. The typical approach of many deconstructive architects is first to disturb the form to suit their signature style and then assign a function to that form (Wigley, 2001). The most notorious example of this autonomy is the work of one of the New York Five, Peter Eisenman's House VI. At the time, Eisenman was immersed in structuralist readings of architecture, attempting to bend the internal rules and ordering principles of modernism (Till, 2008, p. 21).

The arguments made by Banham (1996), Linder (2005), Till (2009) and Salama (2011) indeed compel the reader to rethink and raise the question, 'how does architecture profession so successfully repel attempts at reforms?' (Salingaros & Alexander, 2008, p. 76). They suggest that the answer to questions like this could be understood if we look at architecture as a kind of cult, which has its own ethos and 'resists transformation into a

proper scientific discipline' (ibid.). Critiquing how architectural discourse has been conditioned and fed to the general public, including the students at various institutions, to support the traditional methods of practice, Salingaros & Alexander argue that it has now taken the form of a cult. They claim that student's innate responses are met with mental and physical humiliation, ripping off their confidence and the self-esteem during a *crit*, and effacing the referential attachment to a world-view exposes them to any kind of cult indoctrination. They further express concerns about the way architects are trained by academia and practice, which isolates them from the way normal people think. They allege that the scientific knowledge that emerging architects acquire nowadays leads to the destruction of the environment even more effectively (Salingaros and Alexander, 2008).

Established architectural practitioners and *Starchitects* strongly believe that their brand value and future interests are best secured in the traditional forms of practice, hence continue to promote their agenda through various media, such as print media, public lectures, award ceremonies, etc. (Salingaros & Alexander, 2008). *Starchitects*, who have a global presence, often tend to indoctrinate and condition their clients to see such works and buildings as signature landmarks for cities that establish a city's identity, help revitalise tourism and create a sense of belonging among residents (Kelbaugh, 2004; Salama, 2011). However, their implicit motivation is to promote themselves, their ideologiesand not nessasarily the public good (ibid.). A critical evaluation of the works of such architects reveals their hidden intentions in a reasonably simplified manner. Moreover, it has also been observed by many critics that local inhabitants often struggle to relate to such iconic buildings after an initial period of excitement (Buchanan, 2012). Perhaps the aesthetic form, structure and high-tech materials were prioritised over the local context, climate, materiality, functionality and post-occupancy operational cost of such buildings.

Works of *Starchitects*: This criticism is not limited to international *Starchitects*, and one can find countless examples of local *Starchitects* who display such characteristics in every part of the world. To support the claims made in the previous section, it is important to look at the works of a few other *Starchitects*, who made it to the public eye. The New Acropolis Museum, designed by Bernard Tschumi in Athens, or The Ara Pacis Museum, a striking structure designed by the famous Richard Mier, are other similar examples that display the arrogance of the architects. In 2008, the mayor of Rome, Gianni Alemanno,

said that the new structure i.e. The Ara Pacis Museum, which encases a 2,000-year-old sacrificial altar, 'will be removed' (BBC News, 2008). A September 2013 article in the *New York Times* disapprovingly questions the works of starchitect, Santiago Calatrava. Many of his projects have faced huge criticism from the masses in these cities. For example, the City of Arts and Sciences in Valencia, originally budgeted at 300 million euros (about £300 million), costed more than three times that, and city authorities still owe 700 million euros (about £670 million) on it, and yet it has several structural and maintenance issues, as reported by the *New York Times* (Daley, 2013). Daley (2013) further reports that Mr Calatrava was paid approximately 94 million euros (about £91 million) for his work. Mr Blanco, a member of the small opposition United Left party Valencia asks, 'How could that be when the opera house included 150 seats with obstructed views? Or when the science museum was initially built without fire escapes or elevators for the disabled? How can you make mistakes like that? He said that millions were spent to fix such errors and Mr Calatrava was paid even when he repaired his own mistakes' (ibid.).

Another example can be seen in Bilbao, where Calatrava designed a pedestrian bridge with a glass tile surface that allowed it to be lit from below, only to realise later that the city gets a lot of rain and occasional snow, and pedestrians kept falling on the slippery surface. To address this condition, city officials laid a huge rubber carpet across the bridge, as reported in the same article. However, Calatrava's response, also mentioned in the article, 'my goal is always to create something exceptional that enhances cities and enriches the lives of the people who live and work in them. It has been a privilege to work on these projects, all of which are completed to the highest standards' (Daley, 2013).

There are many other such examples of *Starchitects*, such as Jean Nouvel, Peter Eisenman, Frank Gehry and others. Their buildings parade arrogance and insensitivity on the part of the architects. They not only assume the moral responsibility of fixing the problems of the whole world through their design but also act as role models for emerging architects (Banham, 1996). For instance, Patrik Schumacher—the successor of the late Zaha Hadid at the helm of her firm—delivered his own 'urban policy manifesto' at the World Architecture Festival 2016, in Berlin, which included privatising public spaces, scrapping social housing projects and abolishing all government regulations on corporate developers. The architect claimed that these regulations were stifling creativity and progress and called for all land-use prescriptions and housing standards to be abolished, to make it easier for developers. However, almost a month later, the Zaha Hadid architects distanced themselves from his views by issuing an open letter stating,'Patrik

Schumacher's "urban policy manifesto" does not reflect Zaha Hadid Architects' past—and will not be our future' (Zaha Hadid Architects, 2016).

A few considerate architects who can comprehend and empathise with the overall scenario and the gloomy picture about the future of profession are often seen as helpless, dismayed and frustrated (Linder, 2005). As opined by Buchannan, many believe that postmodern discourse in architecture could be blamed for the current disarray and uncertainty that haunts the architectural profession. Awan (2011) argues that 'there was a general sense that mainstream architectural practice is not engaging enough with political and social contexts, no clear consensus as to how to create alternatives was formed' (p. 27). Buchannan regrets that 'Combined with the widespread lack of clarity about the relevance to future of an architectural approach, or even on the criteria of quality and lasting value, it is little wonder that many architects decide instead to engage in the frivolities of form and theory and pursue momentary fame and fortune' (Buchanan, 2012).

Concluding Argument

In Buchanan's words, all these examples have miserably failed to deliver what architecture promised to society. Postmodern discourse has preached the elements of pluralism, subjectivity and essential relativism, adding to the inadequacies of Modernist thinking of functionality, which allowed many architects to 'spawn their gentility' into the current architectural scenario (Rieger, 2002; Salingaros, 2008). Such buildings are only an arrogant style statement of the *Starchitects*, and are perceived as invasive by the public; in and around them one rarely feels a sense of security or belonging, and so they do not contribute to a sustainable future (Buchanan, 2012). Practice in this context may be understood as 'a matter of refining particular stylistic or technical tropes over time, and applying them to any given context without real concern for the particular' (Awan, Schneider and Till, 2011, p. 29). Even worse are the effects and lessons that they impart to emerging architects through different media, and through talks and conferences.

> In reality, the productions of a tiny minority of elite architects perpetuate the myth of the power of individual agency, and the glamour of their products masks the way that the vast majority of architectural production is in the thrall of economic and political forces. The individual agents may exist, but in such a minority that they are an ineffectual foil to the production of dross that emits from the overriding economic structure. All

that goes to promote spurious innovation without any credible maturity and verifiable theory. (ibid., p. 31)

Nevertheless, the irony of this profession is that the public only gets to see and hear about the masterpieces of these few *Starchitects*, based on which they form opinions about architects in general; this reflects the degree to which our judgment is conditioned aesthetically (Spector, 2001). And this conduct of the people, i.e. drawing conclusions about architects based on some specific buildings, certainly gives a lot of ideas about the overall moral outlook of the public; likewise, 'their admiration towards such buildings, though beautiful yet unworkable, questions one's ethics' (p. 93). As such, the architects are seen as self-centred beings, who are neither able to sympathise with the challenges faced by clients nor willing to take responsibility by stepping into their clients' shoes (Carmichael, 2002; Lago-Novás, 2014; Stevens, Williams and Green, 2014). The next section in this chapter is devoted to discussion.

3.3 STUDENTS AND EMERGING ARCHITECTS

Traditionally, architectural design was taught in schools mostly by architects, by discussing the examples of other great architects and often referring to the books written by architects themselves, or historians who are architects. This does not demarcate a clear boundary between the theoretical and practical aspects of their work. As argued by Prak (1984), 'a great deal of architectural design is a response or comment on works of others, and progress is measured from them' (p. 90). He maintains that many master architects, such as Le Corbusier, Robert Venturi, Charles Jencks, Kenneth Frampton and many more, supported their practice by notional writing. By adopting this approach, the architects juxtapose their works and buildings with venerable historical examples and tend to reinstate a similar impression while getting sufficient space and attention to legitimise their theory, 'get an aura of already being incorporated in the corpus of architectural history' and thus, upgrade their work by comparing it 'cheek by jowl' with established landmark buildings (ibid., p. 91).

As described by renowned social scientist Pierre Bourdieu, any form of training imposes permanent changes in behaviour, and artificial character of learning in the initial stages, which the trainees are aware of. But they become habitual after mastering the ease and fluency, and it becomes a second nature (Bourdieu, 1972, cited in Prak, 1984, p. 93). Being taught by visiting lecturers is another important factor that plays a significant role in the development of the thinking process of the emerging architects. Though this aims to impart training in practical aspects, schools look at these appointments as a way of boosting their reputation and attracting more students (Prak, 1984). Visiting architects also enjoy taking up such assignments and appointments, as they offer a platform to talk about their work in the light of…

> Who followed whom and how one generation learned from its predecessors Wright from Sullivan, Gropius and Mies from Behrens, Johnson from Mies, Venturi and Moore from Kahn, etc. The personal contributions of those men are emphasised. [Whereas], in other disciplines, such as, chemistry, physics, mathematics or psychology, the founding fathers and the outstanding practitioners are mentioned too, but the emphasis is on the gradual, logical development of knowledge. (Prak, 1984, p. 92)

Accordingly, it can be held that due to such a peer-oriented attitude, the student's beliefs are also nurtured and reinforced on the same lines, which is later reflected in their design

work and discussions. Many famous architecture schools are run by leading *Starchitects,* who, some might argue, have a more lasting influence as educators than as architects (Spiller and Clear, 2014). For example, Prak (1984) has described the effects of training that was provided by the School of Architecture at the Illinois Institute of Technology (IIT), on architectural students. Mies Van de Rohe set the program and philosophy at IIT, similarly, Charles Rennie Mackintosh at The Glasgow School of Art, Walter Gropius at Bauhaus Dessau, Louis Kahn at the Yale School of Architecture and the School of Design at the University of Pennsylvania, and Samuel Mockbee at Rural Studio at Auburn University. These are the great teachers and practising architects who create and guard the philosophical boundaries and schools of thought upon which the institutions operate and train their graduates (Cook & Klotz, 1975).

3.3.1   Concerns for emerging architects

In *Educating Architects,* Daniel Libeskind argues that if the architectural education at a university does not connect with society, then it is producing graduates who do not understand how to deal with their potential future clients, resulting in a lack of professionalism and poor communication skills, which negatively impact the profession (Libeskind, 1995). Most disciplines, such as planning, medicine and law, have practical laboratories to perform experiments and test theoretical knowledge on real case studies; why, in architecture, has the concept of such laboratories been replaced by mediocre workshops where students make their 3D models using skills that they are never going to use in their lives? (Brown, 2012). Another problem which contributes to the growing divide between academia and practice is the fact that the culture of debate and discussion is slowly disappearing from architectural campuses. Alastair Parvin contended, during the Friday lectures series organised at The Glasgow School of Art in 2014, that 'architecture schools should be "dissolved" unless they encourage students to openly debate on what is happening'. He maintained that 'escapism is amoral at best, immoral at worst' and that 'avoiding societal issues is morally wrong and detrimental to an architectural education' (Friday Lectures, 2014; Parvin, 2014a).

During the Friday lectures, the speakers reflected that the diversity of the profession provides exciting and numerous prospects after graduation. However, Neil Spiller, author of *Maverick Deviations,* asserted that architects have to reinvent themselves in the face of massive environmental change (Spiller 2014). He claimed, 'I left college uniquely unable to do most things as most students did at the time [and] luckily we didn't get any work

because I'm not sure, we would have known what to have done with it' (ibid.). Tracy Meller also made a similar claim: 'Instead of being a newbie out of college who didn't know what [she] was doing, I was the project architect who didn't know what [she] was doing' (Meller, 2014). Lucy Mori, an independent financial advisor to architects, proposed that there should be multiple routes to become an architect, with one final professional examination encompassing all those routes (Friday Lectures 2014).

With the transition from economic prosperity to austerity, the gaze of financial burden also shifted, with students bearing the brunt. 'Post-2012, architect students were facing the worst time with minimal chances of being able to repay their debts. Despite the growing nature of debt-laden education, there had been no dialogue on the ways to improve the prevailing situation' (Brown, 2012, p. 91). According to Jonathan Sergison, it is scandalous that 'students leave architecture universities after two degrees with no professional qualification; they leave with debt for life and a starting salary of £27,000 with poor progression prospects without completing Part 3'. He argues that 'financial barriers, when combined with socially irrelevant education, could jeopardise the entire profession which was already facing a rocky sea' (Sergison, 2013). In the article 'Are there too many architecture schools?', Sergison maintains that it is 'immoral for schools to be producing unemployable graduates' and suggests that reducing the number could encourage judicious use of resources, resulting in more effective management and lower fees, which at present was in excess of £100,000 (Sergison, 2013). As reported in a survey conducted by BD Online in 2013, 22 per cent of the architects and 44 per cent of the unqualified graduates were unemployed in Britain. Simon Alford, Chair of Design Review at the Commission for Architecture and the Built Environment (CABE), emphasises that 'It is particularly bad that architecture as a profession is not that well paid it is a disaster for the professionals and the individuals involved in it' (Klettner, 2013). The construction industry is indeed facing turbulent times.

The educational consequence

Architectural teaching is structured around the concept of competition and prepares graduates to fend for themselves in a manner that is aimed at developing specific skills to impress peers (Ivory, 2004; Forlati, Isopp and Piber, 2012). In a design studio, good design always means something that is unique, which pushes the boundaries of form and aesthetics (Banham, 1996; Hill, 2001; Carmichael, 2002; Till, 2009). End-users and real-world issues are rarely prioritised over the conceptual framework of

the great design, which is all that is required to score well. This briefly seems to sum up the situation that supports the development of the final output. Bob Borson (2016) argues that unless there is a critical engagement of real-world settings within the academic discourse and real clients for studio projects, architects may never be able to find answers to the question 'why do we create a good design?'

One could argue that there is often a conflict of interest in the manner in which all architectural studios are run. Some teachers also have their own role models, and thus tend to be subjective during design studio critique and frown upon student designs which contravene or do not concur with their own beliefs and ideologies (Prak, 1984, p. 101). Nevertheless, all architects have to undergo this essential training whether they like it or not, and over time they learn the dynamics of studio culture, which enables them to negotiate the middle path that invariably helps advance their career prospects (ibid.). Since students already know and get mentored by these masters, they are often quite familiar with what to expect and are not surprised by the fairly rigid organisational structure of their teaching and practice. Moreover, through their educational training, they gain substantial experience in finding an optimum balance regarding when to agree or otherwise (ibid.). Similarly, when they step out of the institution, architecture practice is their next important social institution where again similar beliefs are transmitted to emerging architects (Spiller and Clear, 2014).

The psychological consequence

While discussing James Ackerman's 'Imitation', in *Antiquity and Its Interpreters* (Payne, Kuttner and Smick, 2000), Amanda Lawrence (2015), argues that the influence of *Starchitects* and the masters of the modernist movement has contributed significantly to the crisis in contemporary architectural thinking. Thus, the originality of a design, which is first seen through the lens of influence, not only daunts the architects but also troubles them with the moral burden of its precedent (Lawrence, 2015). In response to an architect's fear of not being original, Paula Young Lee (1998) elucidates that influences and experiences are critical to human learning and innovation; they stimulate our imagination and are integral parts of our living environments. This is natural and common to all human beings; thus, it is not something that architects need to be frightened off. Herbert Gans (1977) argues that, in principle, all professions follow a peer-oriented path of progression. On the academic side of these professions, students are mostly trained to 'advance' the profession by placing their focus on originality and innovation as per the

academic standards, even when many students end up doing ordinary jobs without any scope to be innovative (Mattern, 2011; Billett, 2012). As noted in Chapter 2, even the professionals and experts are mainly motivated by gaining respect and endorsements from their seniors, competitors, and colleagues, and not by considering the needs/desires of their clients.

Starchitects are the role models both in academia and in practice; students often admire their signature buildings and try to reflect them in their studio assignments (Watson, 2002). Salingaros claims that 'an incredible power struggle has kept any innovative, forward-looking institution from teaching real architecture, usually by the threat of de-accreditation, and others who are able to withstand such pressures are simply taken over or closed by the modernist lobby' (Salingaros & Alexander, 2008, p. 86). Furthermore, he expresses concerns about the role of leading academic architectural institutions, which have 'adopted a philosophy and practice of anti-architecture […] and are teaching this to multiple generations of future architects. This problem persists in every part of the world, including the United Kingdom' (Salingaros & Alexander 2008, p. 97).

3.3.2   Traditional forms of practice

Most architects run their own architectural practices in the form of an architecture studio. These studios, like a design studio in an architecture school, have no well-defined working methods and generally tend to be the exceedingly creative and innovative in their approach. Led by a strong leader who has a particular flair and signature statement in their work, such studios attract clients who desire an unpredictable, bespoke dream project, and who have generous budgets (Forlati *et al.,* 2012).

An architecture office, on the other hand, is a practice that focuses on client satisfaction while maintaining professional standards of services, experience and reliability to ensure successful completion of projects. Clients of architectural offices generally look for specialisation in a particular building type, such as retail, hospitality or institution. Apart from being the most popular type of practice, with strong relationships with clients, the office structure ensures that their projects comply with legislation and are completed as planned, including minimum risks or delays (ibid).

The largest type of practice is an architecture business, which comprises many individuals, professional firms, and departments. Architecture businesses operate independently under one common name. Due to the versatility of resources and large infrastructure,

they are able to provide technical expertise and superior products that are essential to meet the requirements of large and complex projects at a relatively lower cost. Clients commission them for their structured working methods, irrespective of the vision of the architect (ibid).

Emerging architects who are attracted to a studio type of practice generally aspire to become proficient before starting their own practice. In contrast, those who join architectural offices are generally looking for long-term employment and the opportunity to enhance their own skills. Likewise, the architects inclined towards the technical aspects and optimisation of the building process often become part of an architectural business (ibid). However, for all such types of enterprises, it is vital to remember that the connection of new entrants to the clients or the users is customarily indirect. Accordingly, they are expected to follow the instructions of their superiors in the office. A recently published report on the project, *The Cultural Value of Architecture* (CVoA), sought to identify the value that architects are able to bring to their projects and their impact on the public. While the report suggests that there is a lack of clarity amongst the public about the role of an architect, leading to the marginalisation of the profession (Samuel *et al.*, 2014), it recommends that architects' classification should be reconsidered based on the kinds of projects that they undertake, i.e. social, commercial, cultural and technological. Moreover, it cannot be denied that such classification of professional practice will not have its own set of challenges and aspirations when it comes to dealing with client demands.

Technological advancement and digital technologies affect each one differently. For example, architectural businesses can conveniently adopt and invest in new software and devices to demonstrate the incorporation of cutting-edge technology in their projects. However, it is difficult for architectural offices to continually update new versions of software as they emerge. Whereas small studios do not find it fruitful to invest in such new applications and technologies, primarily because of the diverse nature of the projects that they undertake and their small scale of operation. Nevertheless, these types of practices constitute the professional landscape of architecture in which new graduates aim to find employment. The following section examines the aspects of their journey to the next phase of their professional lives.

Route to employment: Gaining a qualification in architecture is a long, arduous and daunting process which leaves many fresh graduates with an unclear future vision (Inns,

2007; Burr and Jones, 2010). Although it is rewarding at the end, one thing that is unique and unfortunate about this profession is that there is not a single well-established route to employment for the beginners (Stewart, 2016). 'The normal modus operandi for an architect is to add something physical to this world' (Awan, Schneider and Till, 2011, p. 31). The popular trend for gaining work is to establish the right networks and connections to find clients, to be market-aware and self-aware, and to play safely in the territories one is familiar with (Gegg and Sharp, 2006 RIBA). But learning even these basic social skills is challenging for beginners, since these are rarely taught in architecture school and are only acquired, if at all, during apprenticeships (see Section 3.3.1).
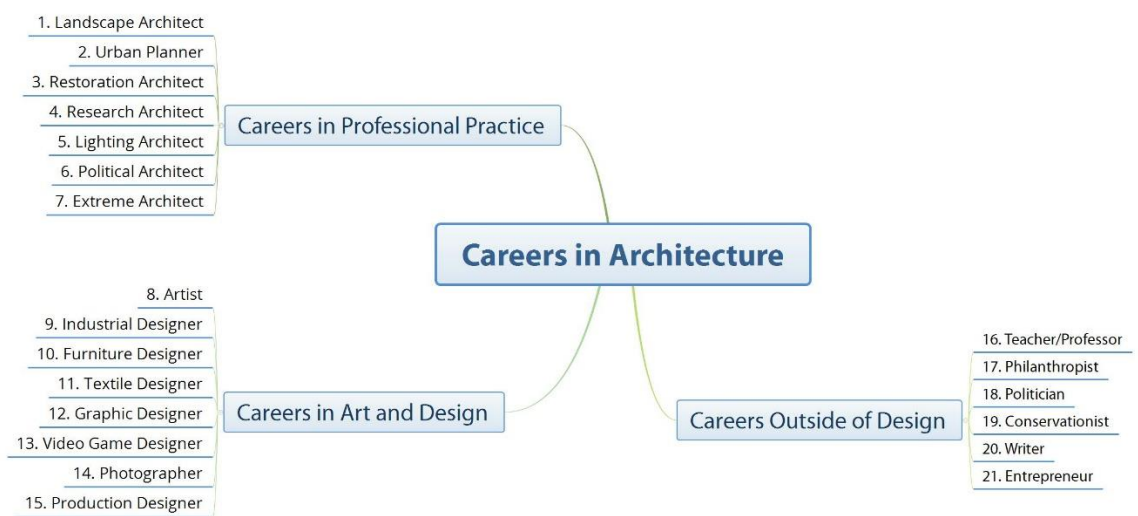
Figure 12   Careers in Architecture

Source: Author

In other words, at the onset of their professional careers, architects are encouraged to direct their efforts 'where success is most likely' (Carmichael, 2002, p. 12). Due to this mindset, emerging architects dedicate most of their time towards achieving success as soon as possible; therefore, critical and proper understanding of clients is generally developed much later in their professional lives (ibid.). Emerging architects generally use their employment contracts to experiment with novel ideas, shape their own portfolio and impress peers rather than providing service to their clients (Gans, 1977; Winch and Schneider, 1993; Banham, 1996). Sadly, even after becoming licensed professionals, their attitude remains essentially peer-oriented (Gans, 1977; Hill, 2001; Spector, 2001; Langevin, 2011).

Once established, small architectural practices tend to become very selective in the kind of work they undertake. Such practices believe that keeping existing clients is much easier

and more profitable than constantly attracting new ones (Buckingham, 2001). Carmichael (2002) describes four pathways under which small practices progress in their business, i.e., 'same services to existing clients, same services to new clients, new services to existing clients and new services to new clients' (p. 13). But nowhere is it emphasised that a good beginning of a successful architectural career starts by developing an understanding towards the clients. One can argue that emerging architects learn these skills when they work with established practice, but, realistically, they hardly get any chance to interact with clients during the initial years. Unlike doctors and many other professions, who establish connections and gain direct experience by interacting with their clients (read patients), emerging architects rarely get such chances within architectural offices, as they are there only as free labour, or 'CAD monkeys', and are exploited in the name of experience (Brown, 2012; Cooke, 2013).

Toshiko Mori urges the architects towards a practice model invigorated by 'creative appropriation of advances made in non-architectural areas' (Mori 2002). Although a collaborative culture and a persistent search for innovative practices are the only ways to achieve specialisation in a discipline, a notion popularised during the Modernist movement, many architects ignore this approach (Prak, 1984). 'However, without skilfully chosen and critically applied techniques for responsive problem setting, solving and decision-making, architecture would be at risk of becoming ineffective and irrelevant' (Troiani and Ewing, 2014, p. 153). For example, rapid prototyping was introduced in the mid-eighties and has become a thriving industry; nonetheless, architects have not been able to explore its potential fully (Buchanan, 2012). A piece of architecture is not an automated output of a formal practice, but a response to an understanding of the context and needs of its users (ibid.). According to Stan Allen, 'the most interesting practitioners [today] no longer ask what architecture is, or what it means, but what it can do' (Banham, 1996; Allen, 2008, p. xiv).

3.3.3 Transition to practice

Architects are assumed to be the 'masters'; however, when it comes to responding to the user needs, their actions tend to betray the hollowness of this assumption (Sariyildiz and Veer, 1998). Middle-class clients and small real-estate builders looking for cheaper alternatives to otherwise expensive architectural consultancy find their needs met by architectural technologists and other such freelance engineers (Robinson *et al.*, 2010). And this is the territory where other building-related products,

creators and contractors have been successful, not only in making their mark but also in marginalising architects. These professionals, although not qualified in architecture, are able to provide a variety of services which please such clients and normally prove much cheaper than architects.

Moreover, many variations emerge within broader category of architecture practice, such as humanitarian architecture, Design-Build, participatory design, exhibition and retail design, environmental design, project management, sustainability consultants, etc. Likewise specialisations, such as academia, building conservation, architectural technicians and 3D visualisation, also offer easy routes for the desirous beginners, occasionally bypassing the strong and sometimes silent hierarchies of architectural offices, extended apprentices, licensing regulations and long registration processes.

Despite associating with the ethical discourse of architectural theory, aesthetics and creativity, many beginners find their motivations to be purely monetary or fame-driven (Forlati, Isopp and Piber, 2012; Grubbauer and Steets, 2014). Others, who choose to work as freelancers or start their own architectural firms, often struggle to strike a balance between creative and practical aspects of running a business (Mattern, 2011; Fløistad, 2014). The majority of emerging architects are under the misconception that an ideal architectural practice exists, and are thus lured by novel alternative practices, such as those named above (Mitra, Lewis and Sanders, 2012). Consequently, they venture into them without having any specific training or specialisation in these fields. In fact, schools rarely take any initiatives in educating students in other areas such as conservation, project management and rapid prototyping (Celento, 2007).

'The experience of young architects indicates the way that things are going: for most design and planning offices, it is not easy to get, or keep, a foothold in the market' (Forlati, Isopp and Piber, 2012, p. 58). According to Forlati *et al.* (2012), although architects use various marketing techniques to generate business, architecture has quite a different pace than a predictable consumer-centric business. Similarly, the end-product was highly dependent on the role of external parties, such as material suppliers and sub-contractors involved in a project, whereas the client satisfaction was grounded on how architects incorporated their wishes and the way the architects handled the project (Carmichael, 2002; Cox, 2002).

3.3.4 Hierarchies in practice

'Architectural practices are notoriously difficult to manage' (Winch & Schneider, 1993, p. 934). They operate under intense pressure from both internal and external issues, such as ensuring workflow and cash flow into the office. Managing internal hierarchies and dealing with creative staff are other significant challenges faced by senior managers and team leaders. New entrants within these offices quickly adapt to the prevailing culture of the profession during their training period. As described by Orr and Gao (2013), work placements enable the trainee architects to become architects even when their expectations of 'what architects do in practice' are only remotely connected with real practice. However, they remain attracted to the job and so embrace the characteristics of an architect. During such placements, 'trainees are excited to learn new skills which enable a dialectic concept of quantitative change that eventually gets reflected as a quality with a feeling of accomplishment of becoming an architect' (Edwards, 2005, p. 50). Depending on the values, ethos and positioning of such practices, these trainee architects are trained by qualified architects, who are mindful of their own pedagogical role, which is also a traditional expectation of the architectural profession (Orr & Gao, 2013).

As demonstrated in a case study of a well-established practice, by Brown *et al.* (2010), reasonable differences in opinions were found amongst its staff members. While the director claimed that formal office structures and defined routines should be kept to a minimum, as they restrict creativity and interaction, junior staff members reported that a 'silent hierarchy' tacitly structured their creative work. A senior staff member stated the importance of fitting in. He said that in his course of working with almost everyone in the office, he primarily had to inform them of how things had been done in the past, rather than how things should be done. It was up to them to decide where they wanted to fit (Brown *et al.*, 2010). This is particularly true for large construction companies, including large architectural practices, which operate on organisational hierarchies where personal communication networks are virtually non-existent among team members (Cuff, 1991; Brown *et al.*, 2010).

Such corporate structures also affect the integrity of many architectural practices, since much of the work is outsourced to various consultants. The confidence of the principal architect depends on the level of experience of their team members. Consequently, new entrants are indoctrinated into conventional ways of doing things, which becomes a part of their personality. Thus, it can be argued that even if new entrants want to consider user

needs and contextual information, their design aspirations and ethical considerations get overlooked or even frustrated given the overall values and ethos of the practice. Besides, what students learn during such internships and how this work experience shapes their outlook, is fairly under-researched and often not well integrated with their institutional learning, leading to the question of whether architects are educated or are they trained? (Billett, Harteis and Gruber, 2010; Orr and Gao, 2013). Therefore, it is reasonable to conclude that the most crucial period in making an architect of a student, a period to assimilate what is learnt, and develop an opinion, is neither accounted for by the academia, nor by the practice that expects practical skills and knowledge from students.

3.3.5   How emerging architects relate to the client

The foundation of a successful building process is the strength of the idea generation, interpretation, distribution, coordination, management and storage of design information (Gray and Hughes, 2001; Emmitt and Gorse, 2003; Moum, 2008). Since many emerging architects lack many components of this experience, they are not able to effectively communicate with their clients about procurement processes and procedures, realism and planning for risk (Norouzi, Shabak, Rashid, *et al.*, 2015). They are not able to sense when, with the new clients, messages need reinforcing, original expectations be reviewed, and inevitable challenges should be made explicit (Carmichael, 2002). Due to such shortcomings on the architects' part, clients are not able to develop confidence in what an architect will do to guide them through difficult times (Chen, 2004; Siva and London, 2011).

As perviously noted about *A Guide to Successful Client Relationships*, many of Carmichael's arguments rely heavily on the way the architectural profession was traditionally shaped and do not offer practically useful insights for emerging architects (2002, p. 14). Her advice on how to get new clients indicates that generating new business, even for established practices, is a challenging proposition. For example, sections on 'client courtship'; 'right place, right time'; 'an ongoing process', etc. all suggest a tactical framework, for which architects are never trained; even if some practices attempt these tactical moves, the success rate is very low. This, however, seldom provides an answer to the questions and predicaments faced by emerging architects looking to get a foothold into the already shrinking niche market. Moreover, her interpretations overlook much of the role that technology could play in generating opportunities for both established and emerging architects.

The main weakness of Carmichael's (2002) study lies in its failure to firmly establish that architects are the ultimate losers if they do not act responsibly. It presents the views of both architects and clients in a very descriptive manner and does not engage in analysis of these views. So much of the client relationship depends on how architects set expectations, and by strategically focusing on clients, many client issues could be resolved even before they appear (Luder, 2012). It is critical for the success of a practice because a happy client is more likely to refer people for future projects.

This publication, and many others by RIBA in this series are important references in this study for two reasons. First, the responses of clients and architects, as quoted in these publications, provide a solid theoretical underpinning to develop hypotheses and research questions. This is discussed further in the methodology section of this thesis. Second, it would be interesting to compare and analyse the findings of this study with these existing RIBA publications.

3.3.6 Humanitarian architecture

Many scholars have proposed definitions for design. Herbert Simon described it as 'devising courses of action aimed at changing existing situations into preferred ones' (Simon, 1988). Alastair opined that design is 'the act of deliberately moving from an existing situation to a preferred one by professional designers or others applying design knowingly or unknowingly' (Fuad-Luke & Alastair, 2009). Humanitarian architecture can be labelled as a practice of art and design, aiming for the welfare and happiness of the inhabitants.

Humanitarian architecture has become a *buzzword* in recent years, with some suggesting it solves real-world problems, similar to humanitarian relief packages during natural disasters. Although it draws attention to the work and services done by the architectural professionals during tough times, it also questions the role of such practitioners and groups towards other unfortunate and underprivileged sectors of the built environment (James, 2012, p. 2). Moreover, the sub-practise of humanitarian architecture needs to prove itself and validate certain fundamental moralities upon which their philosophy has been based. That indeed would let us believe that humanitarian architecture is a new approach with innovative answers in store, or perhaps yet another form of social architecture (ibid.).

Many architects and designers find their motivations to pursue social good, through various social and print media, when they witness the survivors of disasters become homeless (Miller, 2012). Boasting about their design skillset young architects embark upon deluded societal agenda; their intentions quickly fall flat when they realise that indigenous knowledge of the ones, they intend to serve is far more advanced than what they had originally anticipated (ibid.). Moreover, the ones who are successful in their social missions, often focus on the solutions produced by industrialised methods that seek technical efficiency for rapid mass production (Davidson *et al.*, 2008). Furthermore, such solutions do not guarantee long-term acceptance by their users, since they do not respond to their social, emotional and practical needs (Miller, 2012). Undoubtedly in such situations, there is an urgent need to rehabilitate underprivileged masses in upgraded conditions, which should lead to their better health and wellbeing and ensure that the usability of the established service or product finds long-term acceptance.

Given that, slums must be observed and understood for their complexity and innovativeness by practitioners of humanitarian architecture: '[slums] are not hopeless, disorganised, spontaneous, and chaotic systems on the underbelly of society' (Davidson *et al.*, 2008). Similarly, the participatory design does not work at all times, particularly when dealing with often upset, unqualified or low-skilled workers in such communities. In these cases, it is necessary for an expert in the generative process of design and development to lead the project from the top-down (Salingaros, 2008).

The international non-profit organisation, Architecture for Humanity (AFH), attempted to redefine humanitarian architecture by outreaching underprivileged communities through an online platform and network of franchises all over the world. Likewise, Studio 804 is a non-profit organisation set up by Dan Rockhill, which runs a Design-Build studio for graduate students in the School of Architecture at the University of Kansas (www.studio804.com). Rockhill believes that architects should have sole autonomy and the practice refuses to work with or hear the needs of the client. Working on their own brief the practice boasts that each of their projects is a demonstration of fusion between modern architecture and advanced technologies. Nevertheless, many critics hold that the products of Studio 804, were not only high-tech impositions on the community but also were non-responsive to the needs of the users. As such, these projects were more concerned with the empowerment of its students rather than that of the community (James, 2012, p. 16).

There have been many disagreements about the role and works of organisations such as Architecture for Humanity (AFH) and Studio 804. Arguably, not every person who is trained or educated in architecture can practice humanitarian architecture to truly benefit residents of an affected built environment. More than practice, it is a form of agency, linking architecture to social action to enable change by being respectful and responsive to the cultures and customs of societies, with a long-term vision to empower the community (Awan, Schneider and Till, 2011). Thus, the experts not only need special training and skills but also need to follow an established code of ethics before claiming to be practitioners of humanitarian architecture. According to the book *The spatial agency*, very few architects qualify as true practitioners of humanitarian architecture, while others need to re-evaluate their situations wisely and help people fight alienation within their local contexts; only then can such a practice find its true resolution of : changing existing situations into preferred ones, through a deliberate action of design (Hertzberger, 1984; Simon, 1988; Awan, Schneider and Till, 2011).

3.3.7   The implication for emerging architects

The avant-garde aspiration of emerging architects to make the world a better place implies that *it is not a better place* and therefore their designs are going to make it better. Starting out optimistically believing in this *mantra*, architects encounter many barriers as they develop their practice and come to terms with other aspects of running a business. This tempers their hope but not their initial motivation for betterment (Awan, Schneider and Till, 2011, p. 37). The book *Spatial Agency: Other Ways of Doing Architecture*, highlights many other examples of individual architects and other practitioners doing service-oriented work for society (ibid.). However, it also notes that such architects constitute a very tiny proportion of the number that graduates every year when the sole purpose of this discipline was to serve the society. It's not that these individual or such isolated agencies are less credible or less ethical, but the fact that often their spirits get dampened and energies dissipate when they have to struggle to sustain themselves in a competitive environment. Consequently, many end up working in a commercial setup and are only able to work on a voluntary basis with such community design projects. Therefore, mere voluntary community service and the noble intentions of individual architects are not enough to meet professional obligation towards the society, and therefore a radical change is needed.

<u>Concluding arguments</u>

This section has expanded on the effects of the problems faced by architecture students and how they shape their ideologies. It has discussed how rigid hierarchies and regulations of higher education, combined with the peer-oriented attitude of educators, guide the academic curriculum. Consequently, it has highlighted the concerns of emerging architects, such as a lack of practical skills, debt-laden education and job insecurity. The review has offered important insights into the struggle faced by emerging architects, and how they become demoralised by the realities of the profession and negotiate the turbulent maze of silent hierarchies in practice. Two important themes appear from this review: a) there are no established routes of employment for emerging architects, and b) there is a lack of clarity amongst the public about the role of architects and the kind of projects they undertake.

3.4 LEARNING AND TEACHING IN ARCHITECTURE

The motivation of this section is to examine the variations in the teaching approaches in architecture schools. The classification of teaching models can shed light on the way architectural education curricula are designed, and whether they should be altered to address the concerns of emerging architects. This section is organised into seven subsections. It starts by pondering upon the position of universities (3.4.1); the role of education and describing popular models of teaching architectural design (3.4.2). However, detailed descriptions of conceptions of architectural design (tools, techniques and models), the design process and teaching styles are considered beyond the scope of this study. The next subsection (3.4.3) defines the roles and characteristics of architects and (3.3.4) aims at reiterating some of the basic issues in the traditional studio-based learning and its implications over other subjects, including the role of *crit*. The final subsections are devoted to the comprehensive understanding of the popular Design-Build model (3.4.5) and the Live-Project approach (3.4.6). These have been heavily encouraged by academics since the beginning of the 21st century as stimulating and intriguing methods of introducing real-world situations. The objective of this section is to identify and describe alternative models that have been proposed by scholars at various institutions. In contrast to the traditional model, most models emphasise the social concerns of society and advocate the introduction of realistic design problems.

3.4.1 Position of universities

Peter Buchanan (2012) suggests that it is time to rethink almost everything (including architecture) that touches our lives. There is a dearth of research-led practice in universities, creating a suffocating atmosphere for architectural practice. Buchanan, in the essay 'The Big Rethink', sustains that, dominated by the postmodern mindset, the history and theory departments of a university, houses and appoints most PhDs with vast knowledge only in specific fields. 'Besides, too often, studying for a PhD can ruin promising students, leaving them fit only for a career in architectural education' (ibid.). So even when their research might boost the ratings and funding of a university, they don't contribute much to the rest of architectural education. Buchanan (2012) notes that according to many professors, for a generalist subject such as architecture, its school doesn't belong to a university.

This view was further endorsed by Professor Gordon Murray, who, during the Scottish government conference, pointed out that since all fixed positions in universities are often granted to those with a PhD, the qualification promotes academics who are detached from the demands of the profession (Pathways and Gateways, 2013). Bartlett's tutor, Justin C K Lau, however, believes that university-level research and practice should always have an intrinsic relationship. It is this research that the architects use to push forward and promote their design. David Gloster, head of RIBA Education, believes that a classroom is the best place to filter raw information and extract usable knowledge within a discipline. However, he maintains that 'there is a fundamental lack of risk-taking by schools in speculating on the fundamental nature of architecture' (The Big Debate: Friday Lectures 2014). Likewise, in the article 'Alternative Routes for Architecture', Will Hunter questions whether 'the well-established institutions, with their risk-averse bureaucracies, do provide at all the right environment to impart the commercial and creative opportunism that are the hallmark of emerging architectural practices' (Hunter, 2012, p. 88).

A counter argument presented by Salama (2014) – that architecture schools must always be located within the university. According to him, if the professionals associated with the universities or the visiting lecturers are not willing to adapt their experiences to the established pedagogical models, they end up bringing all sorts of treacherous customs to academia that the profession struggles with, and thus continue to produce the same type of business-oriented practitioners. Overall, it can be held that the increasing complexity of buildings, changing social demands and unsteady economic scenarios seem to be influencing the direction of the architectural profession. There is an ongoing debate about the relevance of formal education and the role of the universities as a platform for impacting architectural knowledge, bringing the old master-apprentice model into consideration. Although multimedia presentations and smart board technology have improved the delivery of content, it is still very challenging for educators to provide discipline-specific examples, especially in architecture and engineering modules, while delivering generic content lectures.

3.4.2   The role of architectural education

Donald Schön, in his book *The Design Studio,* proposes that studio-based learning encourages students to become reflective practitioners and teaches them how to engage in the process of continuous learning (Schön, 1985). Moreover, changing social demands

and unstable economic scenarios have always forced academics and scholars to devise innovative approaches that are more effective and focused. 'Experimental learning' in design studio has been the most popular approach of educating students in all schools of architecture. This trend first developed during the late 1960s, when several new models were advanced, based on two separate phases of the design process, namely analysis and synthesis. The main criticism of this approach was that students were not able to complete their projects on time and lacked the skills to translate the results from the analytical phase to a synthesising design solution (Salama, 1995).

The Social-Media debate between *The Architects Journal,* Editor, Rory Olcayto and Hari Phillips, Director of Bell Phillips Architects, drew the attention of many, where Hari argued that while many new graduates had strong conceptual and theoretical understanding, they struggled with the practical aspects of professional practice. Olcayto reacted by observing that 'universities did not exist merely to provide practices like his with cheap labour'(Olcayto, cited by Mclachlan, 2015). Interestingly, the duo decided to continue their debate within the live setting of the summer show at the Bartlett by examining the graduating students' designs. According to Phillips, nowadays most students graduate with hefty student loans ranging from £30,000 - £50,000, which, he opined, was a heavy price to pay for acquiring intellectual development and theoretical knowledge. He also questioned the relevance of academic knowledge at the cost of practical skills. However, he felt that 'It is a shame to entertain the thought that perhaps high-minded conceptual work is becoming an indulgence in the global marketplace' (Hari Phillips, cited by Mclachlan, 2015). For him, it comes down to economics: 'University degrees are a huge investment, so you need to think very hard about how employable you are at the end of it' (ibid.).

This debate not only highlights the different expectations that the academia and practice have from the students, but also elaborates on the big issue of lack of cooperation between them. In fact, large practices continuously face skill shortages and are always looking for fresh graduates who can work under tight deadlines and share their workload. On the other hand, aspiring graduates seem to be exploding with energy to prepare designs and produce great concepts (Gans, 1977; Banham, 1996; Hill, 2001; Spector, 2001; Till, 2009). This mismatch of expectations, according to many critics, has been one of the core issues that has jolted the profession for many decades.

3.4.3 The Roles and Characteristics of Architects

The field of architecture encompasses a multitude of roles which are built around the types of projects architects undertake, the value systems they follow and the attitudes that they develop (Salama, 1995). In the article 'Listening To Architecture', James Ackerman (1969) labels architects as egoistic and pragmatic. Straus and Doyle (1978) hold that the architect's creative problem-solving skills to design a workable environment make them critical enablers of the process; Burgess *et al.* (1981) identifies one of the roles of architects as facilitators. Ledewitz (1983), who considers architects as a resource for the community, suggests their other two roles; architects as technical assistance givers and architects as advocates. To justify his augments, Ledewitz distinguishes this role from traditional practitioners by saying that the 'technical assistance giver tries to be responsive to the poor by being accessible and affordable to low-income communities...[where clients] can state and articulate their objectives and can identify their problems independently' (cited in Salama, 1995, p. 26); whereas an advocate is concerned more with the political context of the community group.

The Model of Architect's Role	Attitudes	Characteristics
Egoist *Elitist-Inactive*	Attitude of denial Respond to social values only superficially No involvement in identifying problems	Paternalistic Role: to create abstract forms based on subjective feelings
Pragmatist *Scientist-Inactive*	Totally accept social values as they are No involvement in identifying the problems	Entrepreneurial Role: to manipulate and create forms based on accepting the values of others
Facilitator *Humanist-Interactive*	Conduct research Personally respond to social values through the understanding of socio-behavioural contexts Involvement in the process of problem definition	Interpreter Role: to manipulate spaces to accommodate related human activities. Aims at creating a process that enables people to solve their own problems.

Technical Assistance Giver	Responsive to the powerless and poor by being accessible and affordable	Rationally deals with physical elements Ignores the factors that are difficult to deal with
Scientist-Reactive	no involvement in identifying the community's needs	
Advocate	Serves the political interests of the community	Political representative Role: to develop an alternative to a public plan that asserts local interests over the broader public purpose
Bureaucrat-Active	Involved in the process of problem definition	

Table 1   Attitudes and characteristics of architects

An architect's role in terms of attitudes and characteristics (Salama, 1995).

Jakobson (1970) proposes different categories of ideologies that describe a typology of designers and planners (see table), based on his 'personal value judgements and arbitrary polarisations' (p. 270). He also notes a traditional conflict between System-Scientist Designers and advocates of participatory democracy in design planning; a growing divide between the 'liberal reformer' in search of social justice and the 'utopian designer' who fights for an idealistic society; and the struggle between 'the bureaucrat' who values administrative efficiency and the 'holistic philosopher' who passionately guards what is good and bad in terms of ethics and morality (Cited in Salama, 1995).

Many scholars conclude that the models of architects' roles are essentially shaped by the socio-cultural setting in which they operate (Schon, 1982; Salama, 1995a). The division of six traits into two groups, 'the elitist' and 'the popular', as proposed by Jakobson (1970), can be seen in Figure 13 below. Ledewitz (1983) and Sanoff (1992) feel that architects develop undue anxiety regarding social issues, where design decision are often made by a few but affect many. It is this attitude of the architects that has led to the development of discipline as an essentially peer-oriented domain of elites, while ignoring other important aspects of architecture, such as programming, feasibility analysis, running an office, construction management, financial analysis, building operations, maintenance, etc. (Akin, 1983).

Brown (2012) holds that educators are obliged to consider its teaching and research both in terms of its contributions to architectural and academic knowledge, and 'to varying

degrees, generally occupied with two or sometimes all three aspects of the triumvirate of teaching, practice and research' (p. 16). However, this unique combination of interests could be rare. The role played by professional institutions in establishing the concept of Continuing Professional Development (CPD) in architecture is worth noting here. The standard RIBA-validated path to architectural practice necessitates alternation of periods of academic study and professional work experience and formally recording practical experience, which continues after graduation and the completion of one's formal academic studies with a professional obligation to commit to a formalised programme of CPD.

Ideological Concern	Professional Attitude	Goal of Planning	Method of Planning	Validating Measure	Method of Implementation
Utopian	Dogmatic missionary	Ideal society	Deterministic design	Uniqueness of idea	Convincing proselytising
Scientist	Scientific absolutist	Predictable society	Technological forecasting	Measurable facts	Scientific professionalism
Humanist	Humanist philosophical	Better society	Intellectual conjuncture	Logic of purpose	Educational dialogue
Bureaucrat	Cautious traditional	Orderly society	Adaptive integration	Conformity to norms	Policy initiation
Activist	Classic liberal	New society	Interpretive advocacy	Urgency of cause	Political activism
Liberal	Democratic reformist	Just society	Deliberative rationalisation	Majority vote	Democratic process

Table 2   Basic ideologies for architects, urban designers and planners

Source: (Jakobson, 1970).
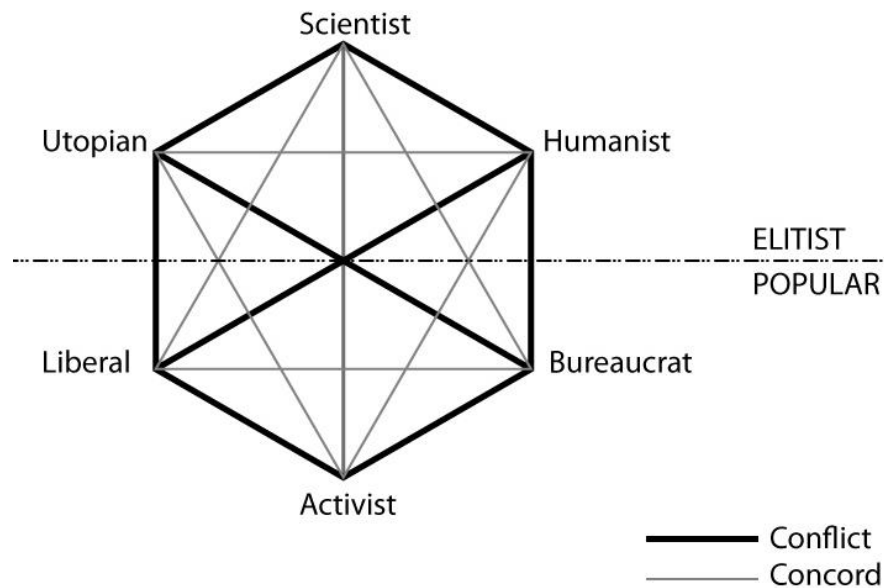
Figure 13   Different ideologies operational in architecture

Source: (Jakobson, 1970)

3.4.4   Popular models of teaching architecture

Many scholars have proposed different models for teaching approaches in design studios. Salama (1995) identifies and analyses ten models in detail, which are considered briefly in the following table. While these models require tweaking and adjustments to accommodate the specific requirements and cultural settings of design projects, most have undergone significant changes from the time they were originally proposed. Thus, it has been argued that the design process is situated between analysing a problem and devising solutions. The prominent elements of a design process can be understood as problem identification, brief formulation, hypothesis generation, validating solutions, making choices and producing proposals (Salama, 1995a). Each educational model has its own merit in bringing motivation and relevant skills to the design studio. One could also argue that there are fundamental differences among architectural educators, where each instructor invents a bespoke approach for teaching students the use of different models. Confronted with different approaches in a studio environment, students often find themselves overwhelmed with diverse opinions on their work.

The Models / Teaching Format	Authors / Institution
The Case Problem Model / Design Studio format	Alexi Marmot and Martin Symes (1985) / Bartlett School of Architecture, UK
The Analogical Model / Design Studio format	Gordon Simmons (1978) / University of Cincinnati, USA
The Participatory Model / Design Studio format	Henry Sanoff (1968) / North Carolina State University, USA
The Pattern Language Model/ Design Studio format	Howard Davis (1982) / University of Oregon, USA
The Concept Test Model / Design Studio format	Stefani Ledewitz (1985) / Carnegie Mellon University, USA
The Double Layer Model / Design Studio format	Gabriella Goldschmidt (1983) / Technion School of Architecture, Israel
The Energy Conscious Model / Design Studio and seminar	Raymond Cole (1975) / University of British Columbia, Canada
The Exploratory Model / Seminar Classes format	Julia Robinson and Stephen weeks (1983) / University of Minnesota, USA
The Interactional Model / Design Studio format	Mark Gelernter (1988) / University of Colorado, USA

Table 3 Popular models of teaching Architecture

Source: (Salama, 1995)

Given the scope of this research, only the models that have a direct connection to the concerns of emerging architects and ultimately the ACR, are discussed in detail. In the following sections, the traditional teaching approach used in architectural design studios is compared with the Live-Project or Design-Build model.

<u>Traditional approach- The Design Studio:</u> The formal education of architects first appeared in Europe with the establishment of The Ecole des Beaux-Arts, the first school of architecture, in Paris in 1819. As the Americans who studied there started returning to America, architects began to organise themselves into a professional body, and older methods of training began to be replaced (Kostoff, 2000). Ever since then, the design studio has been considered the heart of architectural education, with 'learning by doing' advocated as its prime strength. Young students are trained through these studios to explore the design process and their creative abilities through several hypothetical problems. As cited in the Windsor Forum, 'The student [produces a design] with guidance and then gets critical feedback on what has been done. Then the student does it again and again, with subtle or great differences, and again receives critical feedback. Each effort is a learning experience, an increase in knowledge, in knowing how and what to do, in the ability to develop self-criticism and self-motivation' (Hurtt, 2004, p. 263). Motivating young minds in design studios is identified as a channel to constructivism (Eigbeonan, 2013), and the complexity of a design problem is dependent upon the learning objectives and skill set of the students (Pugnale and Parigi, 2012). The design studio facilitates creativity through workshops, study trips, timed-problems, casual studio programmes, competitions, etc., either individually or collectively, which are led by a studio director (Ramaraj and Nagammal, 2017).

Celik and Aydinli (2007) argue that 'design issues are ill-defined, nonlinear, ambiguous and paradigmatic having complexities and contradictions structured within a network relation that require puzzling and puzzle-solving activity' (p. 49). Many studies reveal that unreasonable creativity and subjective knowledge have dominated architectural design studios (Ramaraj and Nagammal, 2017). According to Percy (2004), much more emphasis is placed on preparing the students for the *crit*, i.e. presentation and model-making skills, than teaching them critical reflection and argument. Although framing design brief and timely *crit* are crucial as they set the student out on a process of discovery (p. 35), completing an assignment should not aim at testing knowledge but rather guiding learning and development (Orr, Yorke and Blair, 2014). Moreover, the second problem Percy (2004), notes is in the function of assessment and evaluation of student's work during the *crit*. According to her, throughout the stages of training, students remain perturbed by the moment of assessment (Percy, 2004). Therefore, the role of instructors, including their relationship with students, is instrumental for meaningful learning (Eli,

2013). The next section elaborates on the nature and position of the *crit* in the process of students' learning and how it affects and shapes critical thinking.

<u>The crit:</u> The crit is understood as a process of design review or critique by a jury. It is a pedagogical approach used extensively to evaluate student's work in the schools for art and design. While the crit was first performed during the Beaux-arts architectural education system, by the mid-twentieth century, substantial cultural and traditional support for the present model of the design crit was recognised (Anthony, 1991). According to Christine McCarthy (2011), one of the two core motivations of educators is to exhibit traditional power relationships, where the critics are vested with power and the student is placed in a vulnerable position. The second is the desire to train students in how to present their work in front of prospective clients in architectural practice. According to Davies and Reid (2000), in a public critique, student work is addressed by the teacher in front of a group. They doubt the efficiency of this method in developing a student's conception of both learning and design. They question the relevance of this teacher-centric set-up to the professional environment and its ability to imitate a real-world professional scenario. Many students find the experience of a traditional crit intimidating, whereas others think of it as a time-intensive activity which displays an asymmetry of power between staff and students. Some also feel that learning is incapacitated due to the heightened atmosphere of the crit, as tutors stress professional acculturation over academic scholarship (Anthony, 1991).

<u>Components of the crit:</u> John Healy (2016) outlines the components of the *crit* and summarises other external factors that affect a successful *crit*. Table 4 and Table 5 below offer an opportunity to understand the dynamics that define the peer-student relationship in a design studio.

<u>Factors affecting a successful crit:</u> During the implementation of the *crit*, it is important to be aware of other broader concerns, such as scaffolding of learning (interpersonal and presentation skills), the role of ego, the impact of the tutor and technological considerations (Healy, 2016).

Components of the crit			
Timing	**Interim crit** - Allows a student to develop and improve within a project cycle.	**Final crit** - Opportunity to gather feedback on completed work.	
Participants	**Individual**- More opportunity for personal feedback.	**Group**- Shared feedback with less individual anxiety.	
Formality	**Formal**- Increased anxiety and difficulty in remembering feedback.	**Informal**- Improved student engagement with critique and feedback.	
Audience	**Peers**- Opportunity to reflect on their own work and the work of their peers.	**Tutors**- Opportunity to pass on tacit knowledge in a master-apprentice model.	**Guests**- Can bring a new perspective and insight to students. Should be briefed prior to the crit .
Purpose	**Formative**- Provides regular opportunities to give feedback to students.	**Summative**- Can be difficult for students to understand how the assessment works in the context of the crit .	
Feedback	**Process-focused**- Allows students to develop improved work habits.	**Product-focused**- Can be narrow and related only to the current proposed design.	
Duration	5 mins- May be too short to allow meaningful feedback.	10-20 mins- Allows meaningful feedback within a reasonable timeframe.	50 mins- May be too long to maintain focus.
Location	**Desk crit** -Student feels most comfortable receiving feedback.	**Pin-up**- Can cause layout issues with distance to speaker.	**Review/Jury**- much more formal atmosphere.

Table 4   Components of the Crit

Source: (Healy, 2016).

External factors affecting a successful crit

Scaffolding	**None-** Students expected to learn as they go.	**Presentation Skills-** Classes on presentation skills can help students communicate their design intent.	**Argument-** Students receive training on argument, especially as it relates to professional practice, in order to position and defend their work.
Ego	**Student Ego-** Some confidence required when defending the work and not getting offended by the critique.	**Tutor/Guest Ego-** Egos to be held in check in order to support the learner through relevant feedback.	
Tutors	**Inducted into Process-**Tutors all agree on what is being assessed and key criteria prior to a crit .	**No induction-** Tutors attend crit without first discussing what should be expected at a given stage.	
Technology	**Traditional crit -** None or minimal technology is used as part of the crit .	**Blended crit -** Use of online resources and VLE's as part of the crit process can encourage student participation and feedback.	

Table 5   External factors affecting a successful *crit*

Source: (Healey, 2016)

In the words of Jeremy Till (2009), 'The [architectural] *crit* places into a pressure cooker a combination of potentially explosive ingredients; students catatonic with tiredness and fear, tutors [mainly male] charged on power, and an adversarial arena in which actions are as much about showing off as they are about education' (p. 8). Although some students find *crit* in its current form invigorating, the majority find it counterproductive due to the repetitive nature of presentations. According to many studies (Percy, 2004; Chadwick and Crotch, 2006; Blair, 2007; Healy, 2016), this misunderstanding of criticism occurs due to

the ephemeral nature of conversation, the often sleep-deprived state of students, the stress of presenting in public in front of invited critics and showmanship between critics (at the expense of students) "(McCarthy, 2011, p. 5).

<u>New models of crit:</u> In her study, Bernadette Blair (2007) concludes that the student-tutor relationship in a large *crit* environment negatively influences the learning and validity of the formative assessment. These confrontational experiences lead students to defend their actions more than reflect on the learning process. According to her, students are motivated to attend the *crit* not only because they benefit from the feedback they get on their own work from their tutors and peers, but also because they get to see each other's work. She argues that the intimate, non-threatening environment of seminar groups provides more learning and professional relevance for students and teachers, helping them better reflect on the learning process.

Similarly, the objective of the study by McCarthy (2011) was to test new forms of the *crit* (see Table 6), driven by a desire to explore new ways of evaluating student work that would address issues such as power struggles between the design critic and the student, efficient use of time and staff resources, formative and summative assessments involving active learning techniques and engaging students in the presentation of the work of their peers.

Crit Types	Format	Time	Engagement
The Performance Review crit	One-on-one interaction and marking	Same as traditional crit, but with incorporated marking	Students are given the opportunity to ask questions about the marking
The Judging Panel crit	Peer-evaluation and design criticism of work	Reduced time as multiple crit s occur simultaneously	Staff are not involved in the discussions and administer the 'crit' rather than participating in it
The Open Marking Session	Fly-on-the-wall marking	Formative marking and reduced time overall taken for critiquing.	Staff quickly organise the work in rough grade order from E to A+ and mark the work, discussing why the work should get a specific mark, and debating any disagreement, loudly enough for all students to hear.

The Blogging crit	Blogging software used to enable students to comment on each other's work	Can be done remotely	Uses the Blackboard student portal as a medium for students to crit other students' work, and for a second group of students to mark the student criticism using pre-set marking schedule/criteria.
The Speed crit	Short presentations coupled with repetitions to enable students to analyse and refine presentations	Under a minute, prioritised peer feedback	Staff are not involved in the discussions and administer rather than participate in the 'crit'.

Table 6   New forms of the crit

Source: (McCarthy, 2011, p. 5).

The *crit* has the potential to be a valuable approach for education, provided it adapts to modern approaches of learning and teaching, as well as evolving technology (Healy, 2016). Many researchers claim that most of these new methods (listed in the table) are valid ways of student learning compared to the traditional *crit* format (McCarthy, 2011). McCarthy further argues that new *crit* types can be devised using new communication technology, which would not only enhance the learning process but would also be less intimidating for students. 'These new crit types have different relationships to the marking process, but what is more distinctive about them and contrasts with the traditional *crit*, is that they are explicit about whether they are formative or summative assessment' (McCarthy, 2011, p. 25). According to Barber (2011) online *crit* platform, an approach of blended learning provides an asynchronous discussion and a computer-mediated environment, where more inclusive *crit* can take place.

In conclusion, it can be argued that the traditional process of design criticism requires a complete overhaul, and it must benefit from active technologies by incorporating them in student assessment and the feedback process. This will enable independent learning and will benefit both students and tutors (Percy, 2004; Souleles, 2013). The role of emerging technologies in the architectural landscape and their relevance in the architectural learning process is further discussed in Section 3.5.

3.4.5 The Design-Build model

In Subsection 3.3.6, humanitarian architecture was discussed from the perspective of Live-Project model and its benefits for clients/communities including its implication for emerging architects. In this section, the Design-Build model is discussed from an academic perspective and in a pedagogical context.

The Design-Build approach is a type of pre-arrangement in which one party undertakes the responsibility of design, construction and completion of a building project, normally targeting at reducing the project cost. It is also seen as an alternative to the conventional tripartite contract between clients, architects and contractors, in which the accountability of each party remains questionable (Canizaro, 2012). Professional institutions adopt this approach with an aim to develop students' practical skills by introducing learning-by-doing. Arguably, this approach has presented an understandable substitute for the existing theoretical framework of knowledge, such as studio-based or technology-oriented passive digital learning. This is particularly effective, at least in the field of art and design, where experiential learning is considered an important part of professional progression (Kolb and Fry, 1975; Wallis, 2007).

The earliest examples of such educational courses can be found in the 19th century in England, when John Ruskin made efforts to engage students in the Ferry Hinksey road building project in southwest Oxford (Ellmann, 1988). While Bauhaus remained the first Design-Build program of the twentieth century (Lonnman, 2010), the model was also promoted by R. Buckminster Fuller and Charles Moore at Yale University during the 1960s (Hayes, 2007). This trend continued during post-modern times, for example in Steve Badane's Neighbourhood studio at the University of Washington, which focused on the importance of teamwork and encouraged students to accept that they may not be good at everything (Badanes, 2008; Sokol, 2008). The Rural Studio at Auburn University gained popularity under the direction and vision of the late Samuel Mockbee and remains one of the leading Design-Build programs.

According to Wallis (2007), there were more than a hundred such programs run by architectural schools worldwide a decade ago. Sustainability was one of the core concepts around which most program courses, such as improving building performance, use of locally available materials and recycling, are developed. Wallis (2010) describes that since the pedagogical progression of the Design-Build methodology is based on

collaborative work, students are asked to develop proposals individually; the best scheme is built as a part of group activity and is evaluated accordingly. As such, these projects focus on community development with flexible mandates, such as communal buildings, parks and recreational structures, but do not incorporate either the elements, issue or necessity of a real project.

Nevertheless, many of these programs were often looked upon as mere vocational courses in construction and struggled to find acceptance among many faculty members, who argued that Design-Build studios challenge students insufficiently and therefore cannot be a substitute for the traditional design studio (Canizaro, 2012). Jason Pearson (2002, p. 7) holds that Design-Build programs are inferior to design school curricula and rarely cohesive with broader university programs. Many educators also believe that Design-Build programs fail to provide exemplary know-how of design, lack a lasting social impact and appropriate student ideas for real projects without compensation (Canizaro, 2012). The following section will look at the role of Live-Project as a substitute for a traditional studio setting and how it helps students understand the ACR.

3.4.6   Positioning of Live-Projects

Schön (1987) argues that the development of professional education can be demonstrated in three stages: the apprenticeship or pre-technocratic stage; the technocratic stage, when academic institutions took over the task; and the post-technocratic stage, which accentuated the usability of acquired knowledge and professional competence in a real-world setting for the benefit of community (Schön, 1987; Bines and Watson, 1992). Learning from Live-Project, as an educational model, builds upon the approaches developed by Schön's (1987) post-technocratic model of professional education, Kolb and Fry's (1975) experiential learning model, Wink's model of transformative pedagogy (2005) and Ramsden's (2003) deep and surface approaches to learning. In this approach, learning happens through transformation, where all involved parties invest equal stakes and share responsibility equally (Wink, 2005). Kolb and Fry (1975) argue that professional skills can be best developed through experiential learning, reflecting upon what is learned and simultaneous introspection over multiple iterations. 'The Live-Project can then be seen as a form of experiential learning, positioned within a post-technocratic model of education' (Sara 2011, p. 19).

Ramsden (2003) suggests that the process of learning can also be understood by studying the relationship between the learner and the material being learned. He argues that learning essentially happens at two distinct levels: superficial/ surface learning and in-depth learning. Superficial learning or learning for assessment can been characterised as an external imposition; the only motive is the completion of the task by focusing on descriptive information, and the learner fails to distinguish principles from examples. Therefore, it has been argued that 'the structure of Live-Projects allows students to see the overall structure of the task and facilitate an in-depth understanding of the client needs and their significance' (Sara 2011, p. 20).

Live-Projects and the student

The experiential education that a Live-Project entails cannot be replicated in normative architectural education (Brown, 2012). Many scholars argue that students have been found to be more motivated during Live-Projects due to the increased level of engagement with people from outside the design studio (Furco, 1996; Wink, 2005; Salama and Wilkinson, 2007; Sara, 2011; Salheen, Abdellatifen and Keleg, 2014). While delivering a rich learning experience, Live-Projects also enable students to understand academic and non-academic value systems and negotiate their own position between the priorities of theory and practice. In his research, Brown (2012) finds that while 'normative architectural education is considered to promote design at the expense of other architectural skills….The Live-Project was described in terms of supporting an increased awareness of and engagement with the multiple roles of the architect and the "management of architecture"' (Brown, 2012, p. 224). However, due to the complexity and pace of construction, Live-Projects can sometimes overwhelm students, and they may need a close mentoring relationship with their tutor. Brown further adds that 'some respondents felt individual design skills were neglected by the Live-Project's focus on collaborative work and construction'.
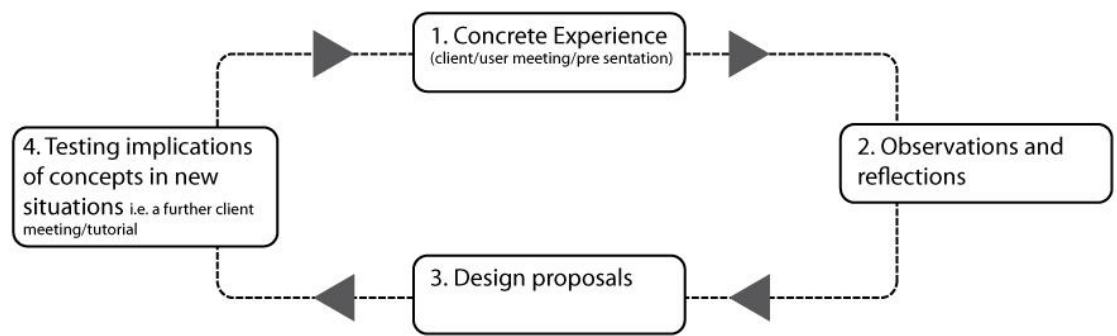
Figure 14   The live project experiential learning model,

Source: Kolb and Fry (1975)

Figure 14 shows the positioning of Live-Project within the post-technocratic model of education where this model of experiential learning 'assumes a more equal relationship between educators and other members of the professional community' (Bines, 1992, p.131). This repetitive cycle begins with 1) collating strong personal experiences, which are then 2) reflected upon through observational analysis. These reflections are then 3) transposed into abstract concepts and generalised solutions that are 4) tested in new situations contributing to further personal concrete experiences of the learners (Sara, 2011).

The Live-Project and the educator

At the outset, a Live-Project as a part of the academic curriculum communicates the potential to reduce the gap between the theory and practice of architecture. It offers opportunities for architectural educators to experiment with different pedagogies and to reflect on and critique them in hindsight. While some critics disagree, many find the constraints and limitations imposed by Live-Projects as the key characteristics that provoke design thinking among students. This distinguishes the Live-Projects over the traditional teaching approaches, which not only makes them popular amongst students but also challenges the dynamics of the peer-student relationship that prevail during a *crit*. The tutor is obligated to take more responsibility to facilitate and manage the aspirations of students and clients. This, according to some educators, is a major barrier to ensuring the success of the Live-Project, since 'the architectural needs of the client and the pedagogical needs of the students can vary to a large extent. The longevity and sustainability of any Live-Project programme, constructed or not, may depend on the

amount of time, academic resource and institutional support that can be assigned to it' (Brown, 2012, p. 247). Hence, due to the lack of financial support, the complexity of project management, health and safety, and extremely demanding nature, most Live-Projects often turn out to be simpler, temporary structures such as gazebos in parks, animal sheds and community engagement initiatives.

The Live-Project and the client

First, it would not be wrong to say that Live-Projects in architectural education depend upon the self-initiative of educators, who first spot an opportunity and then develop it into a Live-Project. If they are passionate, they find ways to motivate departments and students; however, 'the difficulties associated with developing pedagogies for highly opportunistic and situated teaching should not be underestimated' (Brown, 2012, p. 265). However, this does not mean that institutions do not love the idea of Live-Projects. In fact, institutions strongly support the concept of Live-Projects because it helps them secure their interest with business and policymakers and raise their profile. For example, one respondent, (cited in Brown, 2012, p. 261), explains the position of the institution as follows:

> We're very keen on connection to community, whatever that means, on connection to 'the world'… I think it's also about raising the profile of the school through those means and the publicity of Live-Projects, indirectly. But it's kind of reflective of the ethos. And it's seen as being reflective of the ethos of the school and therefore it's very effective as a kind of sign as well and that is a benefit to the school. So, in other words, being interested in the social, environmental and political context of architecture is seen to be reflected in the fact that we do Live-Projects.

On the other side, the materialisation of a Live-Project primarily depends on the willingness and interest of the client. Unlike the professional ACR, it is a non-commercial voluntary arrangement, which involves a greater amount of risk. Likewise, the end product can be significantly different from the originally anticipated outcome, i.e. the '[client] may not receive anything useful out of the process' (ibid). Accordingly, it can lead to an absolute disappointment, if it fails to meet the expectations of all stakeholders and 'open a can of worms within client groups' (ibid). Since most Live-Projects are located and function within philosophy of social architecture, the students often land up working with non-profit agencies, third sector enterprises and public groups clients. It is claimed that 'by not being charged for the services they receive, a Live-Project client may actually

enjoy a stronger relationship to students and educators than in an equivalent "professional" relationship' (Brown, 2012, p. 266). Moreover, it also saves the educators from the hassle of dealing with ethical issues relating to mainstream architectural practices and other building professionals (described in Chapter 2). However, on the other side, one can contend that experience with such client groups might not be considered valuable by students since there is no real client with definite project requirements or a realistic budget.

The absence of a real client, 'somebody who's potentially going to take on those ideas in Live-Projects leads to a more dismissive attitude among students that can hamper the outcome' (ibid, p. 258). As pointed out by Brown, 'the "less live" a Live-Project feels, the more likely students will treat the client as teacher. The architectural educator's mediation of the client-student relationship is vital for ensuring that students do not simply substitute the educator for the client, treating him or her as a source of unquestionable knowledge' (ibid.). As observed by Brown (2012), architecture schools do not actively seek clients. They rely solely on client groups to approach them through the network of tutors and visiting faculty to prevent any conflict of interest or misunderstanding of intentions. Although this can be regarded as an effective mechanism for connecting and grounding the school's research activity in the real-world setting outside academia, it might not be as beneficial for each student's individual learning. Sara (2011) argues that for the success of any Live-Project, the following points must be considered when selecting clients:

1. Direct relevance of the projects to the students' future professions;
2. Inclusion of a public service element;
3. Openness of the client to new radical ideas;
4. Willingness to participate in the assessment process.

Concluding arguments

The above discussion suggests that the positioning of architectural colleges within the overall framework of universities has a detrimental impact on the academic curriculum of design studios. The first subsection debates different views of senior management in terms of the qualifications of appointed faculty to boost the research ratings and funding of schools, and their viewpoints about the learning process. In the second subsection, the critique then focuses on the role of architectural education and how the traditional method of experimental learning is favoured over radical teaching approaches. After learning about the different role models and their characteristics in the Section 3.4.3, it can be contended that in a design studio, an egoist or elitist role model is

more popular. Since it is promoted heavily, its hype manifests a feeling of pride and arrogance among the students. Although educators who favour a humanist and social approach can help establish the values of social responsibility and users' needs, they often struggle to introduce relevant elements in the studio or find it hard to integrate this with the broader objectives of the curriculum.

This leads to a different series of inquiries about the implication of the teachings of architectural design based on the egoistic model, which glamorises the profession and removes it from the reach of the common people. It elaborates on the dominant nature of tutors over students including their subjective feedback, which contributes negatively to the overall development of students' understanding, comprehension of the design problems and critical reflection. This is followed by an investigation of *crit* by understanding the different components and factors responsible for its success. This section shows how the *crit* has become a power struggle because of its skewed delivery methods and non-collaborative learning environment.

The objective of this section was also to expand on different models of teaching architectural design. In the last subsection, popular alternatives for studio-based learning have been considered: Design-Build model and the Live-Project approach. Overall, the researcher concludes that while there are significant problems with the traditional design studio approach, the Live-Project and Design-Build model cannot be considered ideal and perfect approaches. Several reasons, which apply to both Design-Build and Live-Projects, have been found for this conclusion:

1. More demanding: Both alternatives are more demanding, requiring a close mentoring relationship between tutor and students.
2. Unreal scenarios: No real client with definite project requirements or realistic budgets.
3. Lack of resources: Lack of time, academic resources and institutional support.
4. Ethical practices: Bypass many practical and ethical issues faced by emerging architects.
5. Personal development: Lack of focus on students' individual design skills.
6. Expectations: Lack clarity about the client's expectations and the pedagogical needs of students.
7. Results: Unpredictable outcomes for students and clients.

3.5   DIGITAL TECHNOLOGIES AND ARCHITECTURE EDUCATION

Many studies have been conducted to evaluate the effectiveness of communication technology and the internet, particularly Social-Media in higher learning (Ellison, Steinfield and Lampe, 2007; Mike, Seaman and Tinti-Kane, 2011; Seaman and Tinti-Kane, 2013; Dia, Hassan and Chong, 2015; Anderson, 2016; Foster and Yaoyuneyong, 2016; Forster *et al.*, 2017). Social-Media networks, such as LinkedIn, Facebook and Twitter, have been found to be valuable for knowledge transfer and as a support tool for the development of higher-level cognitive skills (reflection, metacognition). Some studies suggest that introvert students and students from conservative cultural backgrounds expect to benefit more from the use of social media. However, there is still a lack of clarity on what exactly Social-Media is, and how it differs from 'the seemingly-interchangeable related concepts of Web 2.0 and User Generated Content' (Kaplan and Haenlein, 2010).

Web 2.0 and User Generated Content (UGC) are methods by which developers and end users utilise and interact with the World Wide Web. 'Open Diary' is recognised as the first social networking site to create a sense of community among its users (Kaplan and Haenlein, 2010). The first worldwide discussion system that allowed internet users to post public messages, called 'the Usenet', was developed by Tom Truscott and Jim Ellis from Duke University in 1979. However, it was not until 2004, when Facebook was launched, that the term 'social media,' came into existence and began to attain the prominence it has today. It made content creation on the internet more participatory and collaborative (e.g. blogs, wikis, Quora, etc.), leading to an upgrade from the static content of Web 1.0 to a more informational, interactive and functional content of Web 2.0.

User Generated Content (UGC) is a term used to describe the various forms of media content that are publicly available and created by end users on Social-Media (Kaplan and Haenlein, 2010). To be classified under (UGC), the Organisation for Economic Cooperation and Development (OECD, 2007) states that content should be hosted on the internet in such a way that it is accessible to its target audience, should be creative and original (not a copy of existing content), and must be created outside of professional routines and practices. Based on this clarification, Kaplan and Haenlein (2010) suggest the following definition:

> Social-Media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content. (p. 61)

According to a study by Nicole B. Ellison, Charles Steinfeld and Cliff Lampe (2007) there exists a strong and direct relationship between the use of Facebook and the maintenance of social capital resources accumulated through relationships among people (Coleman, 1988). Bourdieu and Wacquant (1992) define social capital as 'the sum of the resources, actual or virtual, that accrue to an individual or a group by possessing a durable network of more or less institutionalised relationships of mutual acquaintance and recognition' (p. 14).

On the importance of social media, Ellison, Steinfield and Lampe (2007) agree that it helps in bridging social capital and improves psychological well-being and confidence. Ellison *et al.* (2007) also argue that it helps graduates maintain relationships when they move from one offline community to another (e.g. high school to college; graduates to alumni), which could have strong payoffs concerning jobs, internships and other opportunities. In a way, it is a support tool for developing advanced cognitive skills, which is particularly beneficial to students from conservative backgrounds. Although Social Networking Sites (SNSs) have become an essential part of students' daily lives, many students do not identify any direct link between their online activities and institutional learning (Dia, Hassan and Chong, 2015).

In 2013, a major survey, *Social-Media for Teaching and Learning*, was conducted by Pearson Learning Solutions (Seaman and Tinti-Kane, 2013). The objective of the survey was to investigate whether faculty was aware of social media, whether they used it in any aspect of their lives and whether they believed it had value in their teaching. Their findings suggest that faculty are much more willing to embrace Social-Media in their personal lives than to use it for professional or teaching purposes. According to the results, personal use of Social-Media among faculty has continued to rise, and professional use (outside of teaching) has also shown significant escalation, whereas its use for academic and teaching purposes has been very slow, with faculty appearing rather apprehensive (Seaman and Tinti-Kane, 2013). Even when they realise the potential it has and the difference it can make to their teaching, concerns about privacy (maintaining the class as a private space for free and open discussion), online security and the integrity of students' submissions, etc. pose as barriers to implementing Social-Media and technology in their teaching (Seaman and Tinti-Kane, 2013). Moreover, they feel that those who are not part of the cohort should not have access to the content, and they should not be able to view or comment on class discussions.

The survey also reports on the mixed expectations of both faculty and students. Students felt that the use of technology had improved their communication with faculty and enabled them to establish contact outside of the regular classroom and office hours. On the other hand, a majority of the faculty reported that these digital communication technologies were more distracting and off-putting than helpful to students. They voiced that, apart from being major contributors to their extended working hours, due to the expectation of quick feedback, these technologies led to increased levels of stress in their personal lives and made teaching more difficult (Seaman and Tinti-Kane, 2013). However, the following section presents a different viewpoint.

3.5.1 Emerging digital technologies and learning applications

The use of electronic tools, systems, mobile devices and resources that generate, store or process data are the emerging digital technologies, and the current researchers feel that these can reorganise and bridge the widening gap in the traditional educational system. Although, there has been no direct application of these technologies and methods to resolve the problems faced in the academic world of architecture; their effectiveness is mere speculation, but it would be unfair to reject new models without even trying them. A key contributor to the tenacious rejection, more evident in the architectural terrain, is the gradual disconnection from the culture of debates and discussions of architectural campuses. Alastair Parvin cautioned that 'avoiding societal issues is morally wrong and detrimental to architectural education' (Parvin, 2012).

'Through the history of education, the class or educational group has more often than not been organised for reasons that have nothing to do with learners' needs' (Moore, 1989, p. 4). According to Moore, popular terms used to describe the learning process (in this case distant learning), like distance, independence and interaction, are used very casually, without any specific sub-meanings, which affects interpretation and communication. He proposes that the acquisition of knowledge in any education happens at three distinct levels, which he calls 'learner-content', 'learner-instructor' and 'learner-learner' interactions (Moore, 1989). Learner-content interaction is a fundamental characteristic without which education cannot happen. It has been defined as 'internal didactic conversation' where learners 'talk to themselves' and develop understanding about the subject (Holmberg 1986). Learner-instructor interaction helps in absorbing content. Delivered by a subject expert, this interaction seeks to stimulate and maintain students' interest, including self-direction and motivation. However, learner-learner interaction has

been regarded as the most valuable segment, where learning happens through interaction with learners in one-to-one sessions or in group settings, generally in the absence of an instructor (Moore, 1989).

3.5.2   Learning process

'Apathetic students, illiterate graduates, incompetent teaching, impersonal campuses-so rolls the drum-fire of criticism of higher education' (Chickering and Gamson, 1987). In large lecture groups, students feel that information is thrown at them and they do not have the opportunity to engage with the lecturer or to provide feedback on the content of the lecture itself (B. Evans, 2013). The quality of educational coursework and lectures is only determined at the end of the term by asking students to fill in a module evaluation feedback form. Biggs (2003), describes the 'lecture and tutorial' model as one in which the lecture is 'expounding and packaging' and the tutorial is 'clarifying and extending'. In this monologist kind of education, instead of learning through direct engagement, collaboration and sharing, scholars often passively listen and selectively memorise with the sole objective of passing exams.

> Learning is not a spectator sport. Students do not learn much just by sitting in classes listening to teachers, memorising prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences and apply it to their daily lives. They must make what they learn part of themselves. (Biggs, 2003)

Moore (1989) proposes that educational communication is based on three types of interactions: student-student, student-content, and student-teacher interactions.
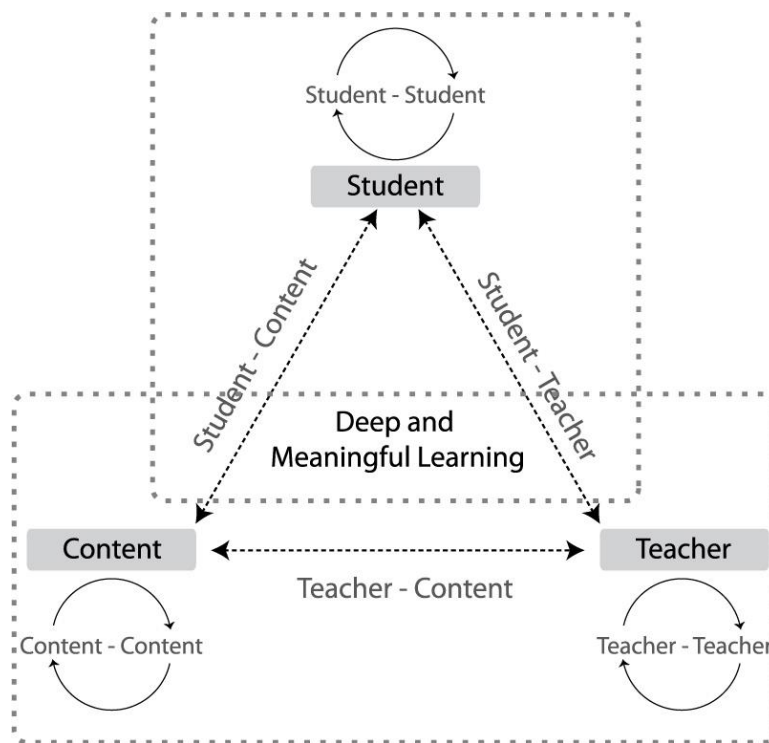
Figure 15   Types of Learning interactions

Source: (Anderson, 2016)

Anderson and Garrison (1998) suggest that three other types of interactions are at play during a learning process: 'teacher-content, teacher-teacher and content-content – but continued to focus on the ones most relevant to a learning-centric view, those that involved students' (Anderson, 2016, p. 36). However, for a learning-centric view, Anderson (2016) argues that the three types of student interactions originally proposed by Moore (1989) were more or less equal, and high-quality learning experience can be produced by improving the quality of any one type of interaction. Accordingly, he proposes the 'learning equivalence theory', which suggests the reduction or even elimination of the other two without significantly affecting the outcomes and the attitudes of the learner. This would 'rationalise expenditures in one area yet allow for time and money savings in the other two' (p. 36). He further speculates that although more than one of these modes would not be as 'cost- or time-effective', they would provide 'a more satisfying educational experience' than the less interactive learning sequences (Anderson, 2003). Bernard *et al.* (2009) established a set of protocols to conduct a meta-analysis through ANOVA and endorsed 'equivalence theory' and concluded that they 'found strong support for the Anderson's hypothesis about achievement and less support for his hypothesis concerning attitudes' (p. 1265).

3.5.3   Assessment and feedback

'Learning is enhanced when it is more like a team effort than a solo race' (Chickering and Gamson, 1987). Formal assessment tasks, feedback sessions and application of this feedback in subsequent assignments are the main tools used in the measurement of knowledge and skills gained by a student (Hattie and Timperley, 2007; Carless *et al.*, 2011; C. Evans, 2013; Scott, 2017). The integrity of the work produced by students using Social-Media and other online applications are often cited as a major downside of technology by academics.

The design studio has always been a prevalent method for educating architectural students and has proved to be better than traditional lectures. But in a design studio, studio-based learning encourages students to become reflective practitioners and teaches them how to engage in the process of continuous learning (Schön, 1985). Feedback given during *crit* or critique of the work, in architecture is often perceived by educators as the most important part of the learning process, whereas students tend to disagree (Brown, 2007; Carless *et al.*, 2011). *Crit* is the only way of engaging with mentors and peers at an architecture school. However, Hannah Vowels argues that the *crit* may no longer be the most relevant method of engagement or assessment and is anachronistic and inappropriate to today's technocratic society. In the book *Changing Architectural Education: Towards a New Professionalism* (Nicol and Pilling, 2000, p. 264), the authors argue that the process of *crit* as an individual assessment has lost its value and should, therefore, be re-evaluated and realigned to address the changing needs of the profession.

According to Scott (2017), academic feedback is often limited to corrections highlighting disciplinary knowledge gaps (i.e. a 'What you need to do' model) and often undermines the role that comments and observations might play in students' improvement. With respect to architectural studios, feedback can be placed within a social constructivist conception of learning in which students undertake self-assessment of the work and play a proactive role and seek criticism from peers and tutors, with an aim to construct advanced cognitive skills (Palinscar, 1998). Carless *et al.* (2011) view such a process as conversational rather than descriptive or a monologue, resulting in continuous progression through repeated engagement, which must happen at both informal and formal levels, to enable students to take timely action to meet the requirements of subsequent assessments (Evans, 2013). They further agree that this type of feedback process is more sustainable and facilitates the development of students' intrinsic abilities

to self-assess, thereby enhancing their capacity for lifelong learning. Riordan and Loacker (2009, p. 181) believe that ineffective teaching, that is, by engaging the students in self-assessment throughout their studies, the students learn from the teachers and evolve to be independent learners, and the teacher is not needed eventually.

It is also important to remember that for feedback to be effective, it must be provided in a timely fashion, to enable students to take timely action to meet the requirements of subsequent assessments (Evans, 2013). In the past, many studies have reported that students engagement and follow-up with the feedback process is poor and they do not even care to collect it (Hyland, 1998; Hounsell, 2003; Sinclair and Cleland, 2007). However, in a recent study by Scott (2017), at a university in the UK, maintains that students found their feedback to be valuable and that it improved the quality of their work and enhanced their understanding and self-confidence. Based on the model of self-directed learning, where the input of the tutor is minimal, the students themselves determined the curriculum and identified the content for the module. Although carried out with final-year BSc Zoology and BSc Marine and Freshwater Biology students, Scott (2017) writes that this model of learning can be generalised to other disciplines as well.

In another example, students at the College of Engineering, Swansea University, led by their module leader, Ben Evans, designed a project to tackle some of these issues (B. Evans, 2013). The project aimed to develop a sense of engagement in learning using discipline-specific examples and real-time discussion and feedback. Based on the 'Seven Principles of Good Practise' (See below, Chickering and Gamson, 1987) and their grand meta-principle of 'active learning', the study involved the formation of an online community, which could extend beyond lecture slots and office hours. It was also anticipated that this Twitter-based 'community of practice' (Wenger, McDermott and Snyder, 2002) would ease stress levels, reduce overloaded office hours and lessen repetitive emails by sharing common questions and responses in the online community (B. Evans, 2013).

1. Encourages contact between students and faculty.
2. Develops reciprocity and cooperation among students.
3. Encourages active learning.
4. Gives prompt feedback.
5. Emphasises time on task.
6. Communicates high expectations.
7. Respects diverse talents and ways of learning.

The module that they selected for this experiment was Scientific and Engineering Skills (a large cohort of 550 students). The researchers wanted to evaluate how successful delivering the module using Twitter was in terms of disseminating content, and real-time engagement speeding up the feedback process (B. Evans, 2013). The table below shows the change in the attitude of participating students before and after the completion of the study. According to Evans, this method of teaching can be easily transferred to other modules and disciplines across colleges and universities to enhance the learning and teaching experience. It was concluded that this project increased lecture attendance and assignment submission rates and reduced module-related email traffic and student office visits. Not only did it improve student feedback, but the lecturers also got to know their students better (B. Evans, 2013).

Pre-intervention	Post-intervention
• **Not relevant for medical engineering** • **Not enough feedback on assignments** • **Do not understand why this is relevant** • **Unengaging, tedious and boring** • **Not enough involvement** • **Lecturers needed to involve students instead of just standing at the front**	• Module was really stimulating • The lecturer did a good job of making boring topics not quite so boring • Lots of applications videos great for revision and enjoyed following the lecturer on Twitter • Great to find out about the BLOODHOUND project and follow the lecture

Table 7   Use of Twitter for delivery of module and feedback process
Source: (Evans, 2013)

Endorsing the views of Riordan and Loacker (2009), Carless *et al.* (2011) propose that an effective feedback process must enhance a student's self-evaluation, which benefits from a dialogic interaction. They recommend a technology-facilitated peer and lecturer critique wherever applicable, arguing that this encourages student autonomy and reflective interaction for monitoring and evaluating their own learning. They also suggest that most sustainable 'feedback practices were usually embedded within' multiple stage assignments, e.g., oral presentation/design reviews, including an interactive peer critique

framework followed by group work and/or reflective writing tasks 'when they facilitate iterative development of self-regulation skills over an extended period of time' (ibid., p. 405). However, there seem to be considerable barriers in achieving these outcomes, due to ever-growing demands and stress levels affecting the academic life of the teachers. Mainstream faculty are unlikely to have the mindset, skills and motivation to spearhead the development of self-regulative activities consistent with sustainable feedback (Carless *et al.*, 2011). Other barriers are the lack of incentives offered by the frameworks at the institutional and departmental level and endeavours that are time-consuming and distracting from the delivery of disciplinary content.

3.5.4 Emerging concepts and popular theories

Joerns and Leinhardt argue that 'the visionary promises and concerns that many current educators claim as a novel, actually have a past, one whose themes signal both continuities and ruptures' (2006, p. 568). According to them, three segments or pathways define the use, applicability and development of the role of technology in education. These are the presentational view, the performance-tutoring view and the epistemic-engagement view. First, the presentation of the content ensures that it is accessible to the learner, where multimedia technology helps in the delivery of this content while enhancing the impact of cognitive learning. Second, the performance-tutoring view looks at the behavioural aspects of the learning process and helps in reinforcing the content through discussion and feedback. Finally, the epistemic-engagement pathway is central to holistic learning, and it is in this segment that recent technologies have predominantly been operative (Joerns and Leinhardt, cited in Anderson, 2016).

Social constructivism: The epistemic-engagement view of learning is fuelled by the philosophy of constructivism (individual and collective understandings) and builds upon the learner's propensity for curiosity, discovery, sharing and understanding of the skilful use of tools (Joerns and Leinhardt, 2006). A social constructivist view upholds that active engagement with the subject through sustained dialogue and different outlooks is critical for effective learning. In other words, architectural education involves the contextual nature of learning and happens most effectively 'when the task and context are authentic and hold meaning for the learners' (Anderson, 2016, p. 38). These situations or design problems force the learner to challenge prescribed notions to develop bespoke and effective solutions by becoming immersed in the situations or contexts.

Complexity theory: While constructivist theory works at an individual level, complexity theory helps to appreciate the dynamics that operate on a classroom, cohort, departmental or even institutional level. Scholars and innovators working at this level make sure that individual efforts are guided towards the achievement of a collective goal, maintaining a progressive and growing outlook. According to the book *Innovator's Dilemma: When new technologies cause great firms to fail*, this theory helps to explain unexpected results when disruptive technologies are deployed into tried and tested traditional methods (Christensen, 1997). However, Terry Anderson argues that upgrading traditional learning theories and offering technology-enhanced learning actively contributes to and respects the learning process. According to Anderson (2016), more recent theories 'which have deliberately exploited the affordances of this new context for teaching and learning' (p. 40) must be examined before they are deemed useful and applicable.

Heutagogy is a concept of self-directed learning proposed by Hase and Kenyon (2000), which gives extended control to learners, enabling them to regulate and guide the process on their own. In the context of recent developments and socioeconomic contexts, heutagogical method, which is led by the self-motivation of the learner, has been considered as an essential method. As noted in *Heutagogy*, 'heutagogy looks to the future in which knowing how to learn will be a fundamental skill, given the pace of innovation and the changing structure of communities and workplaces' (Hase and Kenyon, 2000, para. 6). The education system must move beyond instructing and testing for competencies and should promote a scholarship of capacity building and facilitation. It must move from an instructional system to an exploratory system that utilises online tools and information, where a novice can learn and develop understanding in every new and unfamiliar context (ibid.).

Net-aware theories of learning: With the advent of the internet in education and scholarship, the way we learn things have indeed evolved and has become affordable. The internet is not only a powerful yet low-cost communication tool through which epistemic-engagement visions of learning are instantiated, but also a platform for creating, accessing and sharing content in multiple formats (Anderson and Whitelock, 2004). However, the third radical affordance argued by Anderson is that the internet has offered an active and autonomous voice to scholars and researchers, who assimilate and

engage with content to make it relevant, useful and suitable for dissemination and add value to visions of educational technology practice and research (ibid.).

<u>Connectivism</u> is a relatively recent theory which is centred on learning by connecting with others through internet technologies. The developer of this model, George Siemens, argues that 'competence [is gained] from forming connections' and the 'capacity to know more is more critical than what is currently known' (Siemens, 2005). These technologies include Web browsers, email, wikis, online discussion forums, social networks, YouTube, and any other tool which enables users to learn and share information with other people. Siemens argues that education happens when learners discover and build connections between machines, peers and experts within the learning network. As such, learning expands new knowledge connections, and artefacts are created through the dynamic forces that are operating on the network. Learners and creators play interchangeable roles, guard the intellectual boundaries of the discipline, and increase the social capital and pool of expertise beyond the barriers of formal education systems. In the book *A Network Pedagogy*, Stephen Downes rightly argues that learning is effective in groups where a conversation is undertaken between the learner and other members of the community. 'This conversation, in the Web 2.0 era, consists not only of words but of images, video, multimedia and more' (Downes, 2006, para. 4).

<u>Threshold concepts:</u> Academic scholars and educators have been struggling to integrate emerging technologies and new pedagogies into their curricula. The popularity of the concept of 'disruptive technologies' introduced by Christensen (1997) are the contributing factors to this dilemma. 'Although the notion that everything new is disruptive has resulted in the overuse of the term, and the value of the theory for productive use has been questioned (Lepore, 2014), …there is little doubt that many of Christensen's descriptions resonate with the educational sector' (Lepore, 2014, cited in Anderson, 2016, p. 45). However, the mindset of adopting change is probably the main cause, as defined by Meyer and Land (2005, pp. 373–374) as 'Threshold concepts' that explains why new concepts and emerging technologies are perceived as troublesome. Educators and academics are often afraid of trying out new methods and technologies. Anderson describes this as a fear of natural rejection that educators go through when confronted with new technology and its application. Susannah McGowen (2012, p. 25) identifies two such thresholds that confront an educator: one is their denial to consider it

integral and presuming it to be just supplementary, and the second is their resistance to experiment with the new technology in their classroom.

Meyer and Land (2005) identify four characteristics of threshold concepts that act as barriers, which can only be overcome by developing a deeper understanding of ways to integrate old and new theories. Educators need to focus on the following:

1. Transformational: Adoption of emerging technologies demands that educators be facilitators of learning, rather than sources of information.
2. Integration: New adopters doubt the trustworthiness of new theories of learning which are based on emerging technologies and practices.
3. Irreversible: Relearning to teach effectively with emerging technologies is another significant challenge that educators face, forcing them to abandon obsolete practices.
4. Troublesome: Emerging technologies workflows call for the upgrade of outdated infrastructure and demand substantial investment from institutions.

Even though educators argue that pedagogy alone defines the quality of learning, Anderson (2009) contends that

> It is only in a complex dance between technologies and pedagogies that quality education emerges. The technology sets the beat and the timing. The pedagogy defines the moves. Both the design and the technology morph in response to developments or changes in theory and technological affordances. Further, the creative energy and context created by the participants also affect the dance. As any change occurs, the dance is thrown out of synchronisation, and all parties adjust their activities and their plans to return to the creative flow of the dance.

Concluding argument

In the preceding section, architectural education has been compared with other emerging pedagogies, such as distance learning, for which emerging technology is found to be the most beneficial. It has explained the potential that digital technologies offer in reshaping the teaching and learning process by making it more engaging and meaningful. The discussion above has provided robust arguments advocating that student engagement in assessments, reviews and feedback are critical for holistic teaching and lifelong learning. The examples discussed above articulate the knowledge gap that exists in the advanced cognitive learning process, and the following are the main themes emerging from this review:

1. Giving students independence in deciding how they will learn helps them become more competent in Social-Media use. Educators must empower students

to find new ways of acquiring knowledge and building individual Personal Learning Environments (PLEs).

2. Combining heutagogical, or self-determined learning, combined with the internet and Social-Media as a platform for creating, accessing and sharing content in multiple formats, educators can design a holistic, learner-centred learning environment where students have flexibility in decision-making while still working toward specific learning objectives.

3. Concerns about the privacy, security and integrity of student work can also be addressed to a considerable extent using collaborative and continuous assessment delivered through online engagements.

This section clearly outlines core emerging technologies in the architectural landscape, their relevance in the architectural learning process and the benefits derived by other disciplines. The review accentuates how technology-based educational communication can enhance student-student, student-content and student-teacher interactions. Lastly, it has described recent theories that support the arguments made by the author. The value of theory in the development of new knowledge is summed up by Kurt Lewin's (1951) famous quote, "there is nothing so practical as a good theory" (p. 169).

3.6   SUMMARY OF CHAPTER 3

This chapter has provided an insight into the evolution of different teaching approaches in architectural education and how architects are taught in a traditional studio environment. It has discussed the role *Starchitects* play in shaping the ambitions of emerging architects, including how they promote the profession in the eyes of the public and its consequence. The peer-oriented work culture imbibes a feeling of such competitiveness that every new architect only wants to aim for glamorous and bigger commissions. It has shown that, ever since the training of architects was endowed upon professional institutions, the disassociation between the client needs and architect's design has become stronger. It has debated the traditional method of assessment and feedback through the process of *crit* and indicated that new models of educational training using modern technology might prove beneficial. Section 3.4.6, has questioned the positioning of Live-Projects in non-profit agencies, third sector enterprises and public groups and how it lacks real-world private residential client experience for students. It has presented emerging concepts and theories of learning and discussed how recent technology is reshaping old-style 'lecture and tutorial' approach that is 'expounding and packaging', to a more self-directed learning which is 'clarifying and extending'.

The main goal of this chapter was to review the literature on the factors that were responsible for the marginalisation of the architects and uncertain future of the profession. Informed by the findings from chapter 2, the review in chapter 3 started with two hypotheses: a) Emerging architects are facing significant challenges, such as debt-laden education, job insecurity, lack of practical skills, self-centred work culture etc.; and b) There is an immediate need to introduce real-world client interaction in architectural education. At the end of each section, a concluding argument has been presented that helps in advancing the conceptual framework of this research and defines the scope of the study. The key themes from this chapter have been classified into five categories and are outlined below:

<u>Self-centric perspective</u>: The architecture education has been found impaired with peer-orientation, socially disconnected set ideologies and the misbelief of treating the building itself as a piece of research. The predominant artistic sentiments and self-exploration distance the architects from being a service provider. The reforms and interdisciplinary approaches have been repelled, and the new practical knowledge has

remained tactic and unshared. The notion of genius and autonomy makes the architects primarily inclined to designing rather than towards interactions and supervisions.

Overrated influence of the *Starchitects*: A critical evaluation of the works of several architects has been done. The guiding form of postmodern buildings has been identified as not the function but the subjectivity and the personal ego of the architects. How can the glamour in their work surpass their disregard for the usability of the spaces, including the user needs? Is it just the indoctrination and conditioning of their clients or have they even shaped the thought process of the emerging architects by promoting the traditional forms of practice? Why have they failed to have a clear demarcation in the theoretical and practical aspects of their work?

The Riff of the emerging architects: The various paths that shape the thought process of the students and emerging architects have been explored. Does the debt-laden education justify itself in the absence of its social relevance, basic social skills and a well-defined route to employment? And once there, the pursuit to experiment novice ideas and to shape their own portfolio keeps the service to the clients at the back seat. The pre-eminence of the peer orientation has been found deep-rooted in the student's belief, even after they become licensed practitioners.

Processes, models and approaches to teaching: The tutors have been found to be dominating yet failing to provide discipline-specific examples, and lacking teaching skills with critical reflection and comprehension of the design problems. Although the prime choice of many educators, the design studio fails to prioritise end users and real-world issues. Traditional *crit* intimidates the students, incapacitates the learning and makes it counterproductive. The focus of the Design-Build project is student empowerment more than the community. Live-Projects lack real clients, definite problems and realistic budgets and ignore the individual design skills. Their extremely demanding nature, the complexity of project management, unmet expectations of students and stakeholders and health and safety results in unexpected outcomes frivolous and temporary structures.

Enhanced learning by digital technologies: The calibre of the student's engagements in assessments, reviews, and feedback for holistic teaching and lifelong learning abilities have been stated. Technology-based educational communication can enhance student- student, student-content, and student-teacher interactions. The

emerging digital technologies have the potential to reshape the teaching and learning process and make it more engaging and meaningful.

In conclusion, the key themes identified in Chapter 2 and 3 have emphasised the lack of a collaborative approach in the architectural discipline. It has also been established, in the last chapter that the aspect of ACR, specifically from the viewpoint of clients, is under-researched. The phase of making an architect of a student; a time when the person is moulded, is not adequately endorsed either by education or by the practice that expect both practical skills and sound knowledge. The practitioners are busy practising! They do not have time to communicate their practical and tactical knowledge, whereas the academicians rarely have a direct link with practice, with the exception of visiting practising architects who are neither interested nor consulted in academic matters. Also, challenges faced by academicians in adopting new and emerging technologies were assessed for articulating key inquiries. The outcome of this review informs this study about the need to modernise the teaching methods, redefine peer-student relationships and bring real-world client interaction to the design studio to better address the concerns of emerging architects as well as the expectations of clients.

CHAPTER 4

APPROACH TO INVESTIGATION

A need for multiple methods for investigation and data collection was felt after comprehending the exhaustive literature review and the diversity of topics covered in it. As such, 'no consensus exists on the nature of architectural research because multiple interpretations are used in practice, education and academia' (Weijer, Cleempoel and Heynen, 2014, p. 17). Many scholars (Frayling, 1993; Archer, 1995; Horváth, 2004) argue that architecture has its own unique way of innovation, and design materialises most of it. Therefore, research 'by' or 'through' design has become a buzzword, used in professional, educational, and research environments (ibid.).

Traditionally in architecture, it has been the 'design and build' process that contributed to new knowledge and the component of its research was limited to 'societal questions on how to live, dwell, and work' (ibid). However, with the advent of new technologies, many things have changed, and it has forced the architects to evolve and incorporate an element of research into their professional practices. Institutional research however remained confined to academic circles only, primarily because it has always been moderated through universities that stimulated the architecture departments towards research that could improve their rankings. Traditionally academics adapted research frameworks from other disciplines for social sciences such as sociology, art history, anthropology etc. However, it was discovered that the popular method of measuring research output through indexes and ISI citations was inadequate to measure the design output. Thus, research through design became a popular choice for architects and artist and is considered substantive research if it is publicly disseminated and peer-reviewed by means of exhibitions, installations, or professional publications' (Frayling, 1993). In the UK, the concept of research 'by' and 'through' design became popular only in the 90s when polytechnics were upgraded to the ranks of universities and were required to report on the research output (Biggs and Büchler, 2007, pp. 62–69).

Although research through design affirmed the boundaries of the profession and guarded its identity, it also raised serious questions about the assessment of such works

by the architectural educators since 'research merit is gained with publication in a limited selection of peer-reviewed, scientific journals' (Hoeven, 2011). Academics also admitted that the inconsistent investigative approaches in architecture are hard to standardise and generalise; hence difficult to integrate with conventional research methodologies that exist in social sciences (Groat and Wang, 2013). This became one of the prominent reason for the gap and occasional argument between theory and practice of architecture. Architectural scholars, who produce new theoretical knowledge, are assessed by the practicing architects through critique and evaluation from the 'outside' (e.g., in architectural history), rather than from the 'inside' of architecture (Heynen, 2006). They contend that the research, carried out by the methods adapted from social sciences, is not as meaningful as research 'in' architecture, rather it is research 'about' architecture. However, this gap can be minimised if the researchers take part in the design process, deal with real-world case studies; and reasonably get involved in professional practice.

Accordingly, many professional organisations have endorsed the 'practice-based research' in architecture as a missing link between the architects and the society. During the past three decades it became highly popular when presented as architectural research- where real-world questions in their strong special contexts were answered through design- by the practicing architects (Weijer, Cleempoel and Heynen, 2014). The memorandum of the Royal Institute of British Architects (RIBA) on architectural research states that meaningful research can only be accomplished when practice and theory work hand-in-hand; where profession offers data on design processes that are analysed within academia (Till, 2005). Likewise, the American Institute of Architects (AIA) describes research as data collection by 'design investigation and speculation, observation and reflection' (AIA Research Primer 2009). Whereas, for the Australian Institute for Architects, it is 'a framework for understanding using a design methodology' (Australian Institute of Architects, 2017).

The propositions made in this thesis suggest that ACR is an under-theorised area, which mandates a qualitative analysis through the lens of social constructivism. This research deals with 'users' for whom 'architects' are supposed to design better buildings and the first question that required answering was - are architects equipped to do that? In other words, are architects able to separate 'intellectual value' from the 'materialistic value' of the building they design? If so, are they able to communicate this difference to the clients? In his book, *The Nature of Order*, Christopher Alexander expressed that, to

effectively deal with architectural problems, architects first have to deal with 'the impossibility of rationally discussing value in today's public discourse' and attributing that 'value' is simply personal opinion, and architecture can only be a matter of technology, ideology or arbitrary will' (Kalb, 2014, p. 95). This perspective of 'subjectivity' that got introduced during the post-modernist discourse in the late 70s, changed the dynamics of the traditional ACR. The postmodern style, which defies the basic principles of symmetry, rhythm and balance, according to the renowned historian Russell Kirk 'is an architecture of servitude and boredom: servitude, because order is based purely on the will of the stronger, and boredom, because arbitrary order presents nothing of human interest' (Kirk, 1982).

4.1 DESIGNING THE RESEARCH

The observations made above have informed the methodological choices made in this thesis. The working framework was constructed using a combination of approaches, such as qualitative survey, semi-structured interviews, e-Delphi technique and online focus group discussions under the comprehensive umbrella of the case study method. By using these methods, the empirical research attempted to solicit the opinions and judgements based on the lived experiences of the respondents to build-consensus around the key issues that are important to the architects and clients. A critique was then formed about their relationships and its relevance for educating prospective architects was evaluated. The subjects of the thesis, therefore, are not only the architects and clients but also emerging architects, digital technology and education and practice in architecture as these are understood through the lens of ACR. However, it purposefully considers clients with a modest budget as the most significant stakeholder in private residential projects. Contrary to what might be felt by the reader, this thesis does not adopt a position of advocacy for the clients; rather it attempts to articulate their viewpoint to identify the missing links and gaps in the education of prospective architects.

According to RK Yin, 'case study method is most appropriate to investigate a contemporary phenomenon –especially when the boundaries between phenomenon and context are not clearly evident' (Yin, 2009, p. 18). As illustrated in Figure 16 'Whether single or multiple, [one] also can choose to keep your case holistic or to have embedded subcases within an overall holistic case. The resulting two-by-two matrix leads to four different case study designs' (Yin, 2012, p. 7). He further suggests that case study research assumes that context and other complex conditions of the case(s) (e.g. financial, social and emotional) are equally important and integral for developing critical understandings about the case(s). 'The multiple-case design is usually more difficult to implement than a single- case design, but the ensuing data can provide greater confidence in your findings' (Yin, 2012). It enables data collection in a natural setting and pushes the research to a wide range of topics that cover multiple variables, hence allowing multiple data sources and pieces of evidence to contribute to the findings.
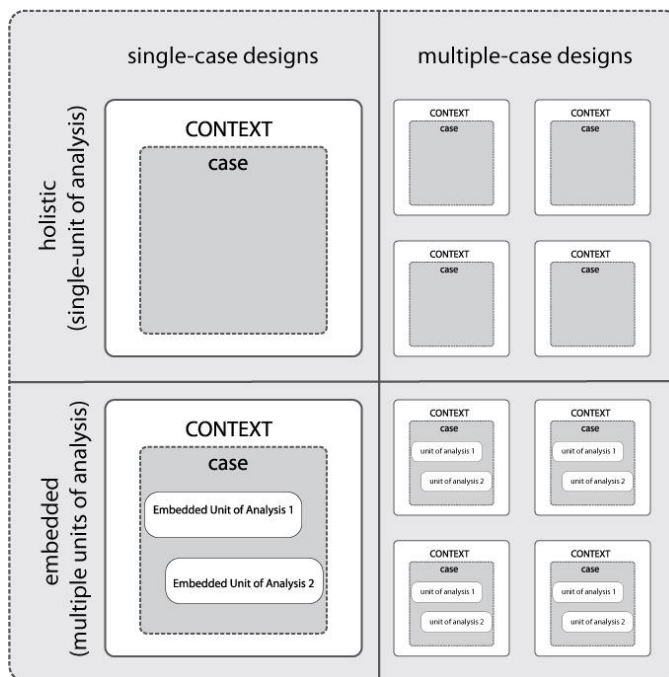
Figure 16 Basic Types of Designs for Case Studies

Source: (Yin, 2012, p. 7)
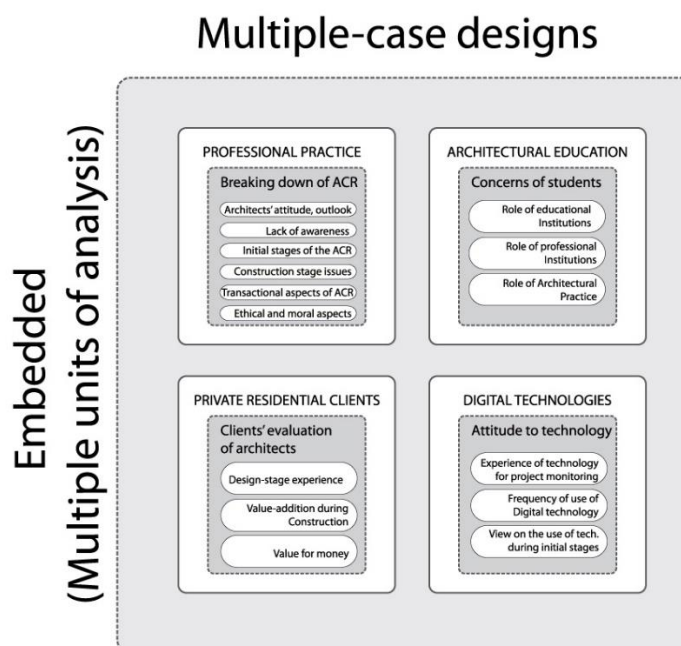
Figure 17 Multiple case-studies with embedded units of analysis

Source: Author

In this study, ACR acts as the overall context under which four cases have been designed with embedded multiple units of analysis, see Figure 17 above. Traditional

research frameworks operated on verification or falsification of hypotheses while maintaining the autonomy of the theoretical and observational language (Guba and Lincoln, 1994). Therefore, the epistemological framework of this study assumed a 'transactional and subjectivist' view, where the researcher and the research were interactively linked, and the 'findings' were created as the study progressed (see Table 8). In ontological terms, it adopted an attitude of a 'relativist' where propositions made in the study were not 'tested for more or less "truth", in any absolute sense, but simply on how up-to-date and/or distinguished they are. Constructions are alterable, as are their associated realities'(ibid., 1994, p. 111).

Issue	Critical Theory	Constructivism
Inquiry aim	Critique and transformation; restitution and emancipation	Understanding; reconstruction
Nature of knowledge	Structural/ historical insights	Individual reconstruction coalescing around consensus
Knowledge accumulation	Historical revisionism; generalisation by similarity	More informed and sophisticated reconstructions
Quality Criteria	Historical situatedness; erosion of ignorance; action stimulus	Trustworthiness and authenticity
Values	Included – formative	
Ethics	Intrinsic; moral tilt towards revelation	Intrinsic; process tilt towards revelation
Voice	'Transformative intellectual' as advocate and activist	'Passionate participant' as facilitator of multi voice reconstruction
Training	Resocialisation; qualitative and quantitative; history; values of altruism and empowerment	
Hegemony	Seeking recognition and input	

Table 8   Critical theory and constructivism.

Source: Guba and Lincoln, 1994, p. 111

To support the research objectives and to fully comprehend the current state of academic research in this field the researcher reviewed several distinct bodies of literature. By adopting 'inductive reasoning' approach and studying a number of individual cases the researcher attempted to propose a conceptual framework. Mouly (1978), suggests that

'with sufficient data, even if one does not have a preconceived idea of their significance or meaning, nevertheless important relationships and laws would be discovered by the alert observer' (Cited in Cohen *et al.*, 2007, p. 6). In the same manner, if one is looking for answers from all architects about how they respond to their clients, one can never establish, with complete confidence, the proposition that architecture is a service-oriented profession. Whereas, it is easier to falsify this proposition, by looking for answers from the clients (Popper, 1968). As such, it is the aim of this study to determine the extent of falsification in the ACR and to characterise it.

Every case in this study had its own set of propositions which were examined through the lens of trustworthiness and authenticity and compared against the respondent's experience, profile and demographics. A cross-case analysis was not necessarily required to answer the research questions of this study or to arrive at a cross-case conclusion. A theoretical framework was used to define methodological steps; develop research questions and propositions; selecting cases and designing case studies and outlining data collection strategies. This framework has been particularly useful in defining data analysis strategies, reflecting and relating back to the observations made during the literature review. However, the theoretical propositions made during the initial stages of this research were by no means considered as rigid boundaries but are mainly used to create a simple set of relationships such as 'a [hypothetical] story about why acts, events, structures, and thoughts occur' (Sutton and Staw, 1995, p. 378).

The case-study method permitted the researcher to accommodate minor changes and deviations from the original perspective to a more pragmatic outlook after conducting pilot studies and initial data collection. For Charmaz (2006), everything you learn within a defined research framework can serve as raw data and it is up to the researcher to find quality content, based on their emerging interests and its relevance for interpretation. Barney G. Glaser (2002) says that 'All is data'. The data collection in this project was a three-tier approach, based on the themes identified in the literature. First was an online survey; second, the semi-structured interviews; however, other sources of data collection also included a variant of the following, depending on the suitability and relevance to the cases.

1. Interviews (e.g., open-ended conversations with peers)
2. Archival records (e.g., statistical information from RIBA, ARB, AIA)
3. Documents (e.g., print and online articles, letters and e-mails, reports)

4. Social-Media discussions (e.g., professional groups on LinkedIn, Facebook and Twitter)
5. Physical artefacts (e.g., computer downloads of the information available in the public domain; job boards, planning application list etc.).

4.2 PHASE ONE – ONLINE SURVEY

Typically, a questionnaire can be paper-based or digital. The cost-effectiveness and distribution time make the online survey more convenient. Although the exponential development in communication tools, smartphones and digital technology today has improved functionality, interface and revolutionised the way our society operates, traditional formats of surveys were found to be rigid by the respondents, hence contributed towards negative response rates. Further, the lack of skip logic made them even more time-consuming and difficult to articulate. Today, the respondents can participate in real-time debates and opinion polls even on the move using hand-held mobile devices. 'Based on a meta-analysis of 45 studies examining differences in the response rate between web surveys and other survey modes, it is estimated that the response rate in the web survey on average is approximately 11% lower than that of other survey modes' (Manfreda *et al.*, 2008; Fan and Yan, 2009, p. 132). However, another study found that surveys with lower response rates (near 20%) yielded more accurate measurements than did surveys with higher response rates (near 60 or 70%) (Visser *et al.*, 1996).

James Brown argued that despite this, there remained the significant concern of hampered usable results by a low participation rate, regardless of whether they were administered by post or online' (Brown, 2012). Cohen *et al.* (2007, p. 230) lists some risks that are associated with an online survey and their possible solutions. These have been examined and considered and appropriate the action was taken by the researcher to mitigate these risks (See Appendix - 1).

4.2.1 Developing the Questionnaire:

The literature review guided the ontological framework of the questionnaire, centred on the proposition made during the initial stage of this research. Questions were formed based on, 'What is the form and nature of the architecture-client relationship and what can be known about it that might benefit the emerging architects and prospective students?'. As such a series of possible questions were framed separately under two heads – for clients and for architects. Since a specific context and background was required for answering some of the questions, a scenario or a brief introduction to the theme, of around 300 words, was developed. The number of questions came up to 90, leading the

researcher to develop two separate surveys for architects and clients, hence reducing the number of questions in each category.

But this led to challenges such as separate piloting of each questionnaire, different dispensation strategy, added workload, disoriented coordination and a disparity in results etc. However, the most disparaging drawback of this approach was the failure to compare the responses of the clients and architects, as they read the different outline for the same questions. This affected the reliability and trustworthiness of the data and the potential of a critical discussion. There was also a need to keep the language concise, formal and neutral, yet the questions needed to be straight and provoking enough to prompt the respondents to select a suitable answer based on their experience rather than choosing a neutral or no answer at all.

Based on these new parameters and observations a questionnaire was designed using Google forms. It had ten statements for the scenario with five questions in each scenario. The respondent was expected to select either agree/disagree or neither agree/nor disagree. Other survey applications were also consulted such as Qualtrics, Survey Monkey, Survey Gizmo and Smart survey.

4.2.2　First piloting and testing

The questionnaire was first piloted among peers and supervisors in the researcher's department. Four participants filled the survey and provided verbal feedback. With almost 30 minutes to complete the questionnaire, it was reported to be very time-consuming. A need for multiple choices for many questions, the ones that required open-ended answers, was felt, as the dichotomous (yes/no) option was inadequate for them. Filling the form anonymously was also solicited by the participants for more honest responses. Other observations were made on the length of the scenario statements, quality of the questions and use of a neutral language. It was found that the questions could be understood, even without the scenario statements.

A Likert rating scale (named after its deviser, Rensis Likert 1932) was deemed most appropriate for consistent responses to the questions measuring the attitude, inclination and opinions of the respondents. A five-point Likert scale was chosen, with options ranging from 'Strongly disagree' to 'Strongly agree'. A 'Neutral' in the centre offered the required liberty to the respondents for expressing their unbiased opinion. But this option

also remains the biggest source of dispute, as it does not indicate a clear choice of the respondents (Edwards and Smith, 2016). Originally it was designed to discourage false responses (Bishop, 1987), or to force the indifferent people to select a binary option and helping them to select 'no opinion' instead (Johns, 2005; Krosnick *et al.*, 2002).

 However, many studies have also reported that adding a neutral option increases the chance its selection, even when the respondents actually have an opinion on the issue (Bishop, 1987; Krosnick *et al.*, 2002; Johns, 2005; Nowlis *et al.*, 2010). According to Krosnick *et al.*, (2002) and Johns (2005), the respondents are required to lay efforts to understand the question, recall associated facts and memories, form a judgement and reflect it back on the Likert scale. According to Nowlis *et al.* (2008), a neutral option is selected to avert from expressing negative feelings linked with their conflicting views on an issue. Whereas Krosnick *et al.* (2002), attributes this to the reluctance of the respondents to voice a socially undesirable opinion. The removal of the neutral option helps the expression of true feelings of the respondents on the subject (Garland, 1991). But as was learned from a respondent during one of the first pilots, that the binary choices discouraged him from completing the questionnaire, it was decided to include the 'Neutral' option in this survey, and the language was enhanced to be explicit, prompting a decisive response.

<u>Restructuring:</u> The feedback of the first pilot resulted in a major restructuring. A new questionnaire was developed using the skip-logic function of Google forms. The project information sheet on the landing page highlighted three main parts. The first section consisted of a word of thanks, the information regarding the approval of research and ethics committee, expected time to complete the survey and assured privacy. The second section emphasised on the research subject and the purpose of the survey while the third section sought the informed consent of the participants. Using the skip-logic functionality, if the respondents chose 'No', they were taken to the last page with the link to the website providing more information about this study that might change their mind to participate. But once the respondents selected 'Yes' and agreed to be a part of the study, they were taken to the page two on the next screen. Page two had three demographic questions that helped in establishing the category of the respondent (see figure 18, 19, 20). Although, the survey was anonymous and the phrase 'architect-client relationship' held the same meaning everywhere, establishing the category was helpful for analysis purposes.

1. Do you live or work in the United Kingdom.

180 responses
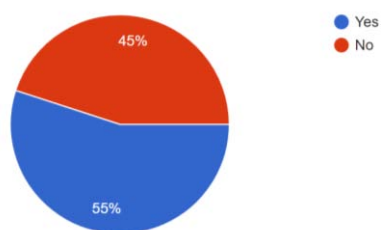
Figure 18   Live or work in The United Kingdom

Source: Author

2. If you are working or have worked in the building industry, please indicate your years of experience.

180 responses
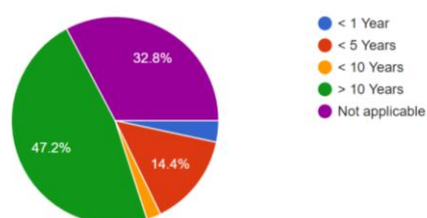
Figure 19   Experience in Building industry

Source: Author

3. I want to complete this survey as a

180 responses
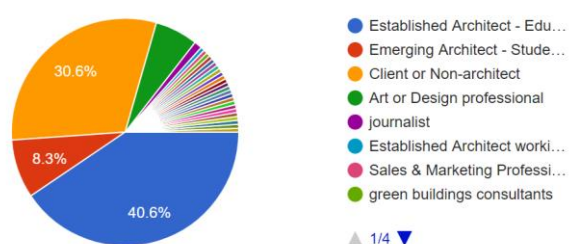
Figure 20   Occupation of the respondents

Source: Author

The first question helped in contextualising the findings. The second question helped in developing confidence about respondent's comments and responses. Whereas, the third question was assisted by the application of skip-logic that eliminated the unrelated questions, auto-customised further skipping of irrelevant sections and saved time-based

on the respondent's profile and experience. The respondent's response was not recorded unless the respondent completed the current page and pressed next /submit.

4.2.3 The online survey – the final shape (See appendix-3)

The survey started with a welcome note, a brief set of instructions and some key definitions (Appendix 1.
Definitions) for contextualisation and general understanding of the scope of the project and what the researcher meant when he used them.

First 6 questions, based on the Likert scale, were common for all participants. They provided evidence for and against the propositions that were made in the literature and helped to contextualise the architect-client relations in the present context. Next 3 questions in the architect's section were 'ranked or ordinal questions' (e.g. level of importance) which helped in prioritising the critical issues that affect architectural education and professional practice. This section highlighted popular debates on theory and practice, concerning the future of emerging architects. The next 3 questions, in the client's section, were 'closed-ended dichotomous', mostly aiming to gather basic/general information and a better understanding of 'how clients see architects', including their motivations and experiences with architects. Skip-logic was used in clients' section after question 6 that asked the clients if they ever used the services of an architect. A 'No' meant to end the survey and take respondents to the last page, whereas a 'Yes' took them to 'Your experience' section.

The last 3 questions, again common for both the architects and clients, helped to evaluate their attitude and engagements towards recent digital tools and communication technologies. After completing all questions, the respondents were taken to the last page where the researcher had expressed his gratitude and had left his contact details for the respondents, in case they wanted more information about this project. Also reminding the respondents that although not mandatory, leaving their email id would be helpful for authentication purposes.

The survey was once again tested in its final shape, this time with the PhD students at a conference - PhD-by-design that was held in Sheffield on 3-4 April 2017 (See Section 4.4.2). In total, 10 respondents took the survey in paper form, which was later transferred to online form by the researcher. Analysis of the responses showed some emerging

patterns that asserted the language of the questions, their answerability and confirmed the functionality of the skip logic.

4.2.4 Conducting the online survey

Among the multiple methods available for floating and promoting the survey, the professional and institutional networks were considered as the best way to achieve maximum coverage. Considering the likelihood of formally approaching the professional institutions and other public bodies, an official introduction letter was appended to the online invitation. This letter was accompanied by the project information sheet, consent form and the link to the online survey, and a request for the concerned person to put in a word of recommendation and circulate to all the members of the staff. In some cases, permission to post the online survey directly on the Social-Media pages of such organisations was sought. Additionally, personalised emails were sent to academics, students, practitioners in the building industry and the clients. The table below outlines the names of the institutions, whose members were requested to participate.

Audience Category	Number of emails sent	Email type
Royal Incorporation of Architects in Scotland (RIAS)	807	Request to participate
Students from researcher's own department	95	-do-
Glasgow City Council Planning Application	784	-do-
PhD students at the PhD by Design conference	48	-do-
Association of Consultant Approved Inspectors (ACAI)	81	-do-
Chartered Institution of Building Services Engineers (CIBSE)	44	-do-
Chartered Institute of Architectural Technologists	1	Request to share with members
Architecture Institution in the UK	42	Request to share with the students and staff

1

Architecture Institution in America	128	-do-
Architecture Institution in Europe	45	-do-
Total emails invites sent	2074	

Table 9   Names of the institutions contacted for survey; sample and no of invites sent
Source: Author

The website, *callforparticipants.com*, providing free online service for the academic researchers to promote their research and recruit study participants, was first used to float the survey (see Figure 21). The request to participate was also shared in many closed professional groups on LinkedIn— Architects (172,000 members); Interior Architecture (144,000 members); Building Design (22000 members) — and peers were requested to participate. Researcher's own professional network also proved helpful in spreading the message across. Architects and Clients were also contacted by email, based on the information, through weekly list of planning applications from local councils, online databases of professional and institutional organisations.
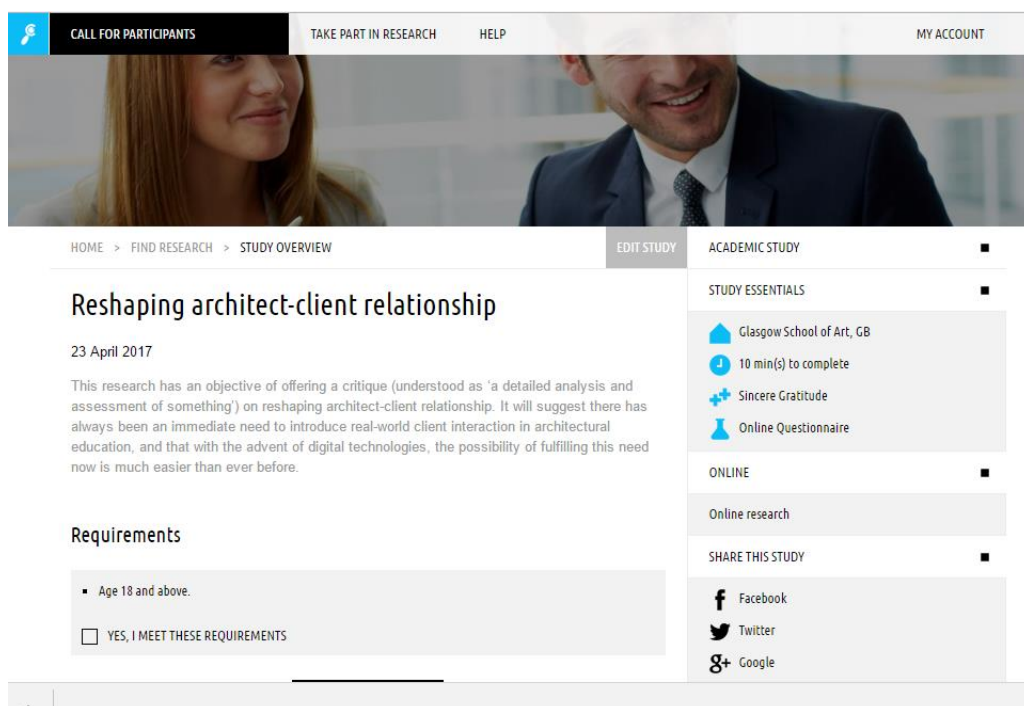
Figure 21   Screenshot of Call for participant's website

Source: Author

4.3 PHASE TWO – SEMI-STRUCTURED INTERVIEWS

The grounded theory may be defined as: 'the discovery of theory from data systematically obtained from social research' (Glaser and Strauss, 1967, p. 2). Interview, as a research technique, is very helpful in collecting insightful data into an issue that has not been extensively explored and in formulating a 'grounded theory'. Charmaz (2005), suggests that grounded theory is 'both a method of enquiry and ... the product of inquiry' (p. 507). It builds itself 'upon its constructivist elements rather than its objectivist language' of early practitioners and does not require any validation from other suitability of pedagogical theories. It tends to rely more on the 'in-depth nature of an intensive interview eliciting each participant's interpretation of his or her experience' (Charmaz, 2006, p. 25).

The online survey was initially designed to stimulate responses to form an opinion, yet it was essential to carry out fieldwork in the form of personalised interviews to explore the issues in detail. Semi-structured interviews were conducted and used to gather feedback on the empirical findings, response validation and consensus-building around the themes. Although the face-to-face interviews were costlier and time-consuming, they helped in a deeper understanding of the issues and encouraged more participants to sign up. These interviews displayed the seriousness of the researcher and gave him a chance to observe and evaluate non-descriptive communication. They led to a more natural setting, facilitated an element of trust and clarity and prevented misunderstanding of the questions. Cohen *et al.* (2007) outline different techniques for conducting these interviews were evaluated and had been considered in the study (see Appendix 5 Interview techniques.).

After consultation with the supervisory team, the 'Standardised open-ended interview' technique was chosen for the semi-structured interviews with architects and clients. The topic was introduced through an information sheet with an attached consent form. Based on the online survey, a separate set of questions for the clients and architects guided the interview. The sample population was identified through: RIBA publications, *Building Design* online magazine, Construction Industry Council - CIC Members, Glasgow city councils planning list.

4.3.1 <u>Recruiting participants:</u>

The sample size and saturation of qualitative data are still debatable, and no consensus has been achieved on this issue. As such, it is largely dependent on the time and the level of the study. According to Mark Mason (2010), a lack of understanding regarding the sample size and saturation among the PhD students and their supervisors exists. He maintained that 'just to be on the safe side' and to make their data defensible, PhD students do a comparatively large number of interviews. Morse warns that no published guidelines or test of adequacy exist to estimate the required sample size for saturation, and even when it is achieved, proving it, and explicit description remains a challenge in many cases (Morse, 1995; Bowen, 2008). Therefore, 'the scope and nature of the study alone, cannot be used to determine the sample size, the nature of the topic, the quality of the data, the study design etc. are equally important' (Morse, 2000, p. 4).

4.3.2 <u>Sample size and saturation</u>

According to Kathy Charmaz (2006), saturation of the collected data in a qualitative study is largely guided by the aims and the hypotheses of the project. She suggests that a study with 'modest claim' can achieve saturation quicker than a more ambitious study with complex objectives (p. 114). Ritchie *et al.* (2003, p. 84), argue that there are several factors that can affect the sample size and saturation in a qualitative study: 'the heterogeneity of the population; the number of selection criteria; the extent to which 'nesting' of criteria is needed; groups of special interest that require intensive study; multiple samples within one study; types of data collection methods used; and the budget and resources available'. In the case of Semi-structured interviews, Guest *et al.* (2006) claimed that as little as 12 respondents can achieve theoretical saturation. Jette, Grover and Keck (2003) suggested that previous experience of the researcher with respect to the topic and objectives of the study can reduce the sample size needed in a study. Whereas Lee, Woo and Mackenzie (2002), concluded that studies using multiple methods of data collection require fewer participants, compared to studies that use multiple (in-depth) interviews with the same participant (e.g. longitudinal or panel studies).

The Semi-structured interviews for this study had two broad categories of the participants: architects and clients, but other building professionals, contractors, emerging architects and academics were also considered on a case to case basis. 15 architects, 10 clients and 5 other professionals were assumed to be a suitable sample.

4.3.3 <u>Eligibility criteria – Architects (practitioners and educators)</u>

Between the cities of Glasgow and Edinburgh, it was easy to identify 15-20 potential architects, both from academia and practice. However, their suitability and interest in the subject of this study were still questionable. Interview participants were also identified through references by supervisors, professional contacts and other staff at GSA, such as architecture dept., career services, enterprise office and Historic Environment Scotland (HES, where the researcher was doing an internship). Architects were also contacted by email through a list of planning applications at Glasgow City Council (comprehensive weekly list available online for public information).

A list of potential respondents was made, and their suitability was researched through publicly available curriculum vitae (from school websites, LinkedIn, etc.). For architectural educators, it was mostly available through institutional websites. All the Heads of the Department at architectural schools in Scotland were sent the email invites to participate in the study, but if they were unable to do so, they were requested to nominate another suitable and interested faculty member at their institution. Attention was paid to the following conditions:

1. Whether the respondent had published academic research about the ACR, architectural education or professional practice?
2. Whether the architectural educators had running architecture practice?
3. Whether the respondent was accessible within the resources of this research?
4. Whether there was more than one respondent in the same city?
5. Practicing architects were given more preference, and considering the cost-effectiveness and travel time, more than one respondent in the same city was sought.

4.3.4 <u>Eligibility criteria – Clients and non-architects</u>

The researcher identified around 15-20 properties that had undergone recent renovations and retrofitting works in the local area, easily accessible to him on foot. The original proposal was to contact these neighbourhood clients through 'door to door' method. This would have enabled the gathering of other useful information about the site, the scale of the project and design details and would have also helped in seeking proper consent for the interview and to take pictures to contextualise specific examples wherever necessary. However, the research and ethics committee did not approve this method, but it could see the benefits and contribution of this grounded approach. Hence,

the committee advised the researcher to first contact the owners of the identified property through post or by email.

Upon further exploration on establishing contact with clients, the researcher came across a local neighbourhood Social-Media group on Nextdoor. (https://nextdoor.co.uk/) where he requested people to sign up for the interview. Personalised messages were also sent along with the detailed information sheet to people who were deemed suitable for an interview. This included people who had been involved in some kind of building-related activity, for which they should have ideally contacted an architect but preferred to post their inquiry on this group on 'Nextdoor', asking for recommendations and references.

4.3.5 Building the interview schedule:

An email containing the information sheet of the project, consent form for the interview and a link to the online survey (Survey) was sent to the participants, giving them a reasonable amount of understanding of the research project, before they agreed for the semi-structured interview. A detailed schedule was made beforehand and the participants were approached region wise, based on the anticipated meeting points. For the convenience of the out stationed participants, Skype options were also considered, but were not used.

The interviews were conducted from mid-June till early September. In total, over 100 invites were sent specifically for semi-structured interviews with the identified respondents. The first set of invites, nineteen individual emails, was sent out on 18th June and the last set was sent out in the first week of September, to those who had shown an interest in the study but were away for holidays. This was in addition to the invites that were sent out to 5 architectures schools in Scotland, requesting to share the Survey and refer concerned people who might be interested in the study, for example, professional tutors and visiting faculty. The invite was laid out in a very brief yet explicit manner and intrigued many respondents' prompting them to participate in the survey where they learned more about the topics explored by the researcher (See Appendix 2. Invitation letter for participation in study). It provided all the required information for the respondents, such as the links for online survey, selecting date and time for interview and the WordPress Project website.

Doodle poll was used to find a suitable time slot for interviews using a monthly calendar. The link to the poll was emailed to 15-20 potential respondents at a time. Three one-hour time slots; 11 am, 1 pm and 3 pm were offered. Since it was considered more respectful to travel to the respondent's choice of place; Tuesdays and Thursdays were marked for interviews in Glasgow, Mondays and Wednesdays were blocked for Edinburgh whereas Friday was earmarked for other cities. A separate email confirmation was sent to those who participated in the poll, thanking them and reconfirming their preferred location for the interview. Interested respondents replied to the consent expressing their motivation and participated in the Doodle Poll.

4.3.6   Piloting the interviews:

Before sending out the final invites to the identified respondents, three pilot interviews were conducted with peers and colleagues, during the first week of June 2017, to ascertain any blind spots or other technical issues. Attention was paid to: improve the wording, identify sensitive areas and problems and gain feedback on length/timing/coverage/ease of completion etc. (Cohen, Manion and Morrison, 2007). Although recorded, but not transcribed, these interviews were not included in this study. Three important things were learned through these trial interactions:

1. To reduce interference in recording due to the noise in the public places, careful selection of the place of the interview is important.
2. There is a risk of the respondent deviating from the subject in an unstructured conversation. This hampers a productive outcome and the extended conversation also becomes difficult to transcribe and analyse.
3. To save time during the actual interview, the respondents should be familiarised with the research topic and the scope of the study, by participating in the survey and reading the information sheet beforehand.

4.3.7   Conducting the Interviews

The interviewers are required to be respectful and appreciative of the respondent's participation in a conversational semi-structured interview. They are required to take timely action wherever necessary, to dig deep through cross-questioning and play a proactive role to maintain the interest of the respondents by affirmation and understanding. The interaction between the interviewer and the participant is critical to procure meaningful collected data and a successful outcome. As such qualitative conversational interviews allow a researcher to learn from respondents' 'lived

experiences' rather than 'described experiences'. It facilitates a progressive and a steady focus on the subject without making it monotonous and boring for the interviewee. 'Interviewers must remain attuned to how participants perceive them' (Charmaz, 2006, p. 27). The significance of this was observed quite early by the researcher.

While fixing interview dates and time, the respondents often expressed their stand on the hypothesis of this study, for example, one response was 'This is very important, and I am happy to take part'. This gave indications about the direction of the interview and helped the researcher to prepare. It will not be wrong to accept that even before the interviews were conducted, the 'grounded theory' with respect to this study had started taking shape, at least in the mind of the researcher. Out of a sample size of 100 people who were contacted for the interview, 25 clients were approached through Nextdoor Social-Media group. In total 45 people replied to the invitation letter out of which 36 expressed interest to participate whereas 9 felt the lack of the required expertise in this subject.

So to keep the discussion on track, the online survey was used as a guide, and the format was explained to the respondents. They were asked to comment on and answer the questions and later on elaborate the reason for their choices. Questions from the online survey were carefully selected so that they have a clear objective and an identified purpose to fit in the participant's experience, making them relevant to the scope of this study. The estimated duration of the interview was 30 minutes, with no specified upper limit, which was mostly driven by the interest of the respondent. However, the questions were omitted if respondents repeated themselves or if the interview took an exceptionally long time than anticipated and followed the following structure

Background information	*Introduction, questions about respondent's experience of ACR, architectural education and practice.*
Consent form signature	Paper-based form confirming the respondent's voluntary participation and use of anonymised quotes for academic purposed.
Questions (1-6) common	Articulating questions and engaging in a critical discussion on the points of agreement or disagreement.
Questions (7-9) customised	Respondent's profile (architect or client) specific questions and critical discussion on the points of agreement or disagreement.
Questions (10-12) common	Critical discussion on familiarity, use and potential of digital technologies in academia and practice

Proposed conceptual framework	Community-based live-project to enable interaction between student and clients supervised by the tutor.
Concluding questions	Word of thanks, the next steps of the research and future correspondence with the respondent.

Table 10 Format of the semi-structured interviews

Source: Author

4.3.8 Compilation of interviews

By the end of the interview phase in mid-September, 26 interviews were conducted, which also included a focus group discussion with architects and clients (see Section 4.4.2 and 4.4.3). This sample included 13 architects, 9 clients and 4 other professionals. Out of the 13 architects, 5 were practising whereas the other 8 were involved in architectural education with at least 5 years of experience. Similarly, 8 were private residential clients who had availed services of architects in some capacity or the other and 1 was a property lawyer for clients. The other 4 respondents included 2 interior designers, 1 sustainability consultant and 1 enterprise and employability manager of a university. All the interviews were recorded on a Motorola Smartphone using an inbuilt recording app and were immediately uploaded on Google drive account that was specifically created for the purpose of this study. With an average interview of 50 minutes, the shortest; 21 minutes and the longest a little over 90, there was more than 21 hrs of recording. From conception to completion of the interview phase a total of 10 people withdrew. The primary reason for this drop was identified as the summer vacations and then the subsequent rush of the new academic year. Although the researcher sent a reminder to all the respondents to reschedule, only 2 were successful. One might argue that there should have been more client interviews, but it was considered impractical to continue rescheduling beyond mid-September.

One respondent suggested that the researcher should come prepared, he said:

> One matter that you may wish to consider in outline, which is some form of mentorship or guidance for students as they navigate the client and appointment maze. Unsupervised commercial relationships with students may not be a good idea…I would suggest that the feeling of being paid or not paid for work well done or not well done is a critical learning

outcome. Also, the profession itself will not support you if you are seen to be delivering the facilitation of 'cheap labour', which may remove work prospects for some practitioners who work principally in smaller scale projects. …. I shall now go back to your Doodle and set up a time. If you could have a think about these things in advance, which would be my own principal concerns, our meeting might be of greater assistance to you. AR_GG

4.4 OTHER METHODS OF DATA COLLECTION

A series of other methods were also identified during the literature review, these have been deployed during specific situations based on the nature of the examination, ease of applicability and time-cost benefit. Cohen *et al.*, in their book, *Research Methods in Education*, provide a detailed discussion of all such methods that were considered by the researcher (See Appendix 4.

Advantages and disadvantages of other methods).

Online survey and semi-structured interviews were the primary tools for data collection in this study. The focus group discussions, written accounts or tests; nominal preference-ordering method, observational /ethnographic research etc. were not considered very practical here, hence rarely used as data collection tools. However, some of these methods were found useful to complement the qualitative data collected through primary sources, for example, to get a world-view on some strand of this research. Moreover, since the researcher was also looking at the gap between education and practice of architecture, real-time online discussions and other techniques described above were considered of significant value to this study. During the ethical approval stage, the researcher strongly advocated that collecting data from online debates and Social-Media allows to investigate 'revealed preferences' over the 'stated preferences' and reinforces the empirical findings; build an element of trust and ensures the authenticity of the research. The researcher had set up a dedicated email address (architect.client.relationship****ail.com), Social-Media handles (architect4user), and a WordPress blog with the name of (architect****.wordpress.com) and also used platforms like Quora.

4.4.1 Online forums

Quora is an online forum that acts as a virtual platform for progressive discussion, where professionals contend their viewpoint and build consensus around the theme of the question. The researcher used it to ask a series of questions (see Figure 22) and have a critical discussion with the people who answered these questions. This also helped in reaching out to architects and clients from various parts of the world and incorporate

their outlook on the subject.
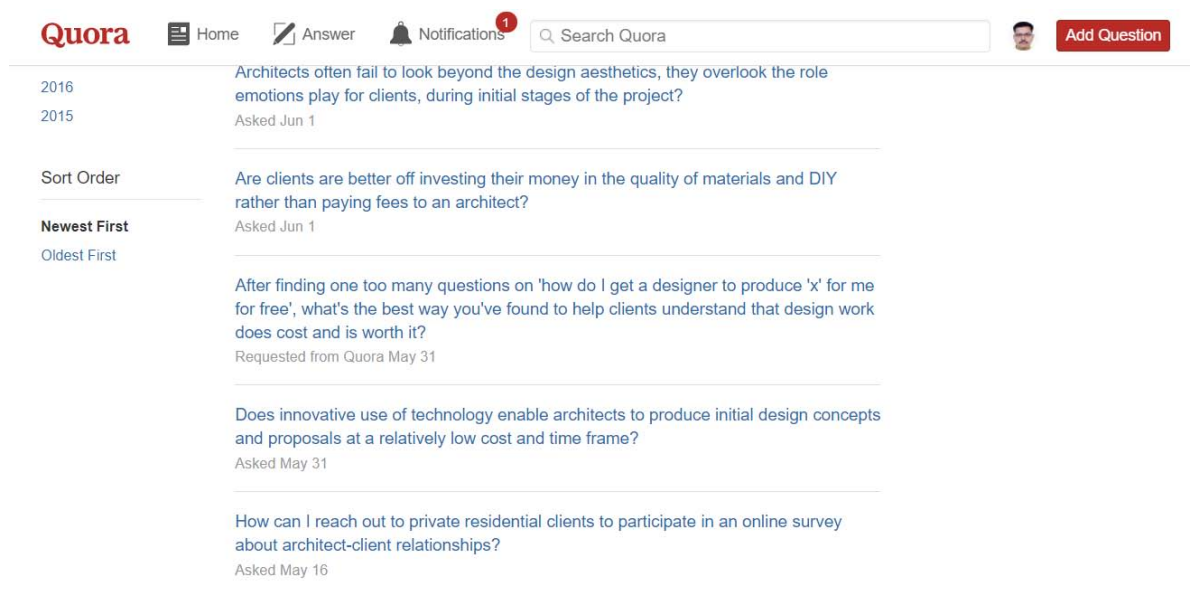
Figure 22   Questions posted on Quora – an online forum

Source: Author

<u>E-Delphi techniques:</u> The Delphi technique is a broadly used and well-accepted method for gathering qualitative data when all the respondents are from the same discipline (Dalkey and Helmer, 1963; Linstone and Turoff, 1976; Cole, Donohoe and Stellefson, 2013; Leng *et al.*, 2013). It is particularly helpful in the consensus-building process and 'aim to achieve a convergence of opinion on a specific real-world issue' (Hsu and Sandford, 2007). It is implemented using a series of 3 rounds in which every participant works through a set of questions which is returned to the moderator/researcher. At the end of each round, the moderator reveals the outcome, reflecting on the position of the whole group and that of the researcher (ibid). This debate of comments and opinions inform each participant of what others say and their reasons for those opinions. This repetitive feedback process allows and encourages the participants to reassess their initial responses and judgments in the previous rounds based on the comments and feedback provided by other participants. However, Hsu and Sandford (2007) also noted that subject selection, time frames for conducting and completing 3 rounds, finding suitable locations, financial constraints, low response rates, and unintentional guiding response from the respondent group are the downsides and must be considered before embarking such projects.

Therefore, Delphi was not considered a suitable data collection process for this study, even when the researcher was hoping to build consensus around the propositions and hypotheses that were developed during literature review. However, modern E-Delphi, technique administered via the Internet, has been used in this study to communicate the research outcome, conclusions and impact assessment with peers. This method has helped the researcher 'to systematically combine expert opinions, receive feedback and arrive at an informed group consensus on the proposed conceptual framework' (Linstone and Turoff, 1975).

4.4.2 Interactive Workshops

With more than 50 delegates and experts from the field of architecture and design, attended a conference – PhD-by-design in Sheffield on 3-4 April 2017. This gave an opportunity to the researcher to test the progress of his work and pilot the potential online survey. Hence the researcher conducted a workshop, with the themes of an online survey as the topics for discussion, using the Delphi technique format. This meant that at the time of signing up for the workshop, a short survey was to be filled by the participants, the results of which were to be revealed at the start of the workshop. Unfortunately, not many people signed up for this workshop, given the limited time and the difficult choice from the versatile topics laid out for the delegates (other simultaneous workshops). Although, 5 people still attended my workshop, including one of the keynote speakers and a senior academic, but the planned format of the Delphi technique could no longer be followed. The original format of the workshop was quickly improvised, and the session was conducted using focus group discussion format and feedback of the participants was recorded. All the responses were transcribed and analysed by the researcher after the workshop. This discussion led to some substantial changes in the online survey. (See Figure 23)

Figure 23   Pilot of the survey during a workshop

Source: Author

4.4.3   The Essential Relationship | Architecture Fringe 2017

Organised as a part of the Architecture Fringe 2017 festival in Edinburgh on 6th of July, it was a facilitated networking event for clients and architects to step into each other's shoes. This 2-hour focus group discussion was attended by 25 local architects and clients, who were divided into two groups and were asked to comment on what they thought of the other. The event specifically looked at 'how empathy plays a part in fostering an effective two-way communication that is vital to strong, respectful client-architect collaboration' (Architecture Fringe, 2017). The researcher attended this event as a participant observer and spoke about his work. The partakers were informed, and a written permission from the organisers to use the discussion data for this research was secured. (See Figure 24 and Figure 25)
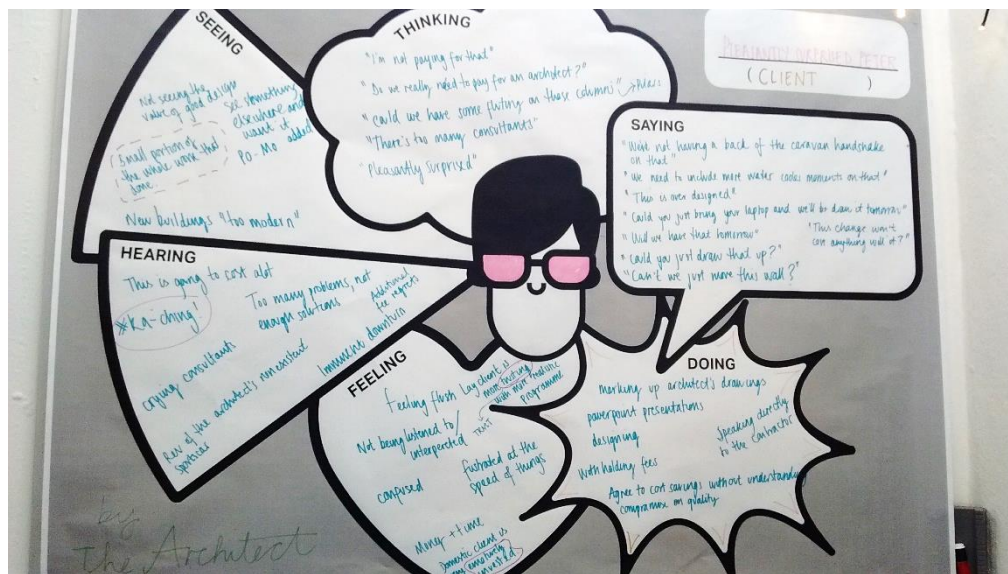
Figure 24   Comments of architects on clients

Source: ArchiFringe, 2017
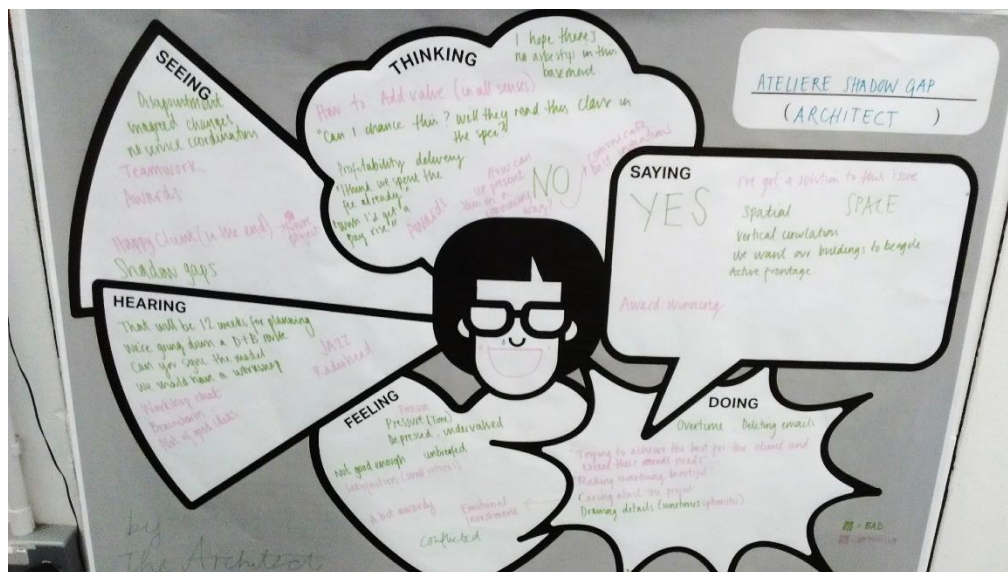
Figure 25   Comments of clients on architects

Source: ArchiFringe, 2017

4.4.4 Architectural bloggers group

'Due to their historical roots, text-based blogs are still by far the most common method of engaging with professional peers' (Kaplan and Haenlein, 2010). Since these are published and shared with the public on the internet, they offer insight to 'what people are talking about in real-time' on a topic often termed as 'trending' on social media. Such written accounts/stories are real-examples based in real-world and narrated by real-people and have also been considered as a primary data source in this research. Two such online blogger groups were followed by the researcher @ArchiTalks (Life of an Architect) and @BusinessofArch (The Business of Architecture). While the former has many bloggers such as, (@Jeff_Echols; @bpaletz; @DrewPaulBell; @boardandvellum; @architectmark) who regularly host Social-Media debates on set topics, the latter focuses on how to attract more clients; training in marketing and how to leverage the internet and technology for success. Wherever applicable, these are properly referenced and attributed to the real authors, however, seeking an informed consent of these authors was not felt necessary.

At the end of the data collection phase, a checklist (Charmaz, 2006) has been used to reflect on the progress made by the researcher, to ensure sufficient qualitative. Some of the points are considered in the following table:

1. Have I gained detailed descriptions of a range of participants' views and actions?
2. Does the data reveal what lies beneath the surface?
3. Is the data sufficient to reveal changes over time?
4. Have I gained multiple views of the participants' range of actions?
5. Have I gathered data that enables me to develop analytical categories?
6. What kinds of comparisons can I make in the data?
7. How do these comparisons generate and inform my ideas?

4.4.5 Round Table Meeting

The second validation session was held with a panel of members from Architects Registration Board (ARB), which regulates the professional standards for architects and prescribes the required qualifications and practical training experience to become an architect in the UK. They conducted a review of the current architecture education on 19th September 2017, in a roundtable session in Glasgow. The main objective was to gather feedback from students, emerging and established architects from academia and practice. Although not formerly planned, the researcher utilised this opportunity to involve the committee members in a discussion about his research and how it

matched with their agenda and project. Not only they extended their kind consent for discussion, with a condition of anonymity, but they also showed a keen interest in the study. The review committee comprised of 3 senior members, one was an external consultant and the others from ARB. The session lasted for almost 2 hrs where the researcher discussed the entire study, including the online survey and its response. This session served two purposes, first to validate the findings and second as a feedback session. At the end of this session, the members acknowledged that the study was interesting, useful and aptly timed. It showed that this research was not happening in isolation and was contextualised in the real-world. The researcher also had some meaningful takeaways from their focused discussions on the patterns of the Delphi Technique.

4.4.6   APSA conference

The researcher was offered a chance to present this work at the Autumn-forum of the Association for Professional Studies in Architecture held on 3 November 2017 in the Bartlett School of Architecture, London. There were 28 delegates, all academics in architecture schools in the UK, including representatives of the ARB and the RIBA (see the image below). Using graphic presentation (15 minutes) and AV facilities, researcher delivered the essence of his PhD research and presented a conceptual framework of neighbourhood-based online platform (see Section 7.3, p. 326) where expert opinion was sought to ascertain its practicability. This included a Q&A session, which received good participation and the idea of this research was appreciated. The attendees wanted to know whether the researcher had done a pilot study or developed a prototype of this platform, and some were concerned about health and safety, and insurance issues, which researcher was working on at that time of data analysis.

4.5   ENSURING RELIABILITY

Reliability of the data is crucial for generating 'grounded theories', particularly in qualitative research. Every word or phrase of categorical data has a different connotation, and it is important to interpret the correct essence concerning 'what, why and when' of what a respondent says. Guba and Lincoln (1985), suggested replacing 'reliability' with terms such as 'credibility', 'consistency', 'applicability', 'trustworthiness' and 'transferability', in particular, the notion of 'dependability' in a naturalistic inquiry. This was particularly observed during the review of literature where academic publications maintain decorum and use formal language; the grey literature mostly presents the things as they really are. According to Guba and Lincoln (1994), in an inquiry process, the idea of the creation of findings by interaction with people finds more logic than the discovery of findings through objective observation.

While scientific experiments and quantitative research can base their results on statistical tests and calculate the percentage of standard error to provide a degree of validity, this is seldom the case in naturalistic and phenomenological research. Cohen *et al.* (2007) advocate that the validity of qualitative data lies in its spirit and must be measured as a matter of degrees rather than absolutes. In qualitative research, reliability can be regarded as a fit between what researchers record as data; understanding and acceptance of the results by the peers (Glaser and Strauss, 1967), and what actually occurs in the natural setting that is being researched, i.e. 'a degree of accuracy and comprehensiveness of coverage' (Bogdan and Biklen, 1992, p. 48). Some scholars contend that the content of the data and the way it is reported is what makes a strong case for reliability and validity. Whereas according to Morse *et al.* (2002), proposing substitute criteria for validity only leads to an erosion of rigour in qualitative research.

Cohen *et al.* (2007), claim that 'the most practical way for achieving greater validity is to minimise the amount of bias as much as possible' (p. 150). Lansing *et al.* (1961) define bias as 'a systematic or persistent tendency to make errors in the same direction, that is, to overstate or understate the "true value" of an attribute' (ibid.). Some major reasons for influenced results include expectations of the researchers where they try to seek answers that support their preconceived notions, misperceptions, misunderstandings and communication gap between the interviewer and the interviewee. Silverman (1993), argues that it is imperative that all the respondents are asked the same question, in

exactly the same manner and using the same examples wherever applicable. Moreover, he notes that researchers can enhance the reliability of interviews by: 'careful piloting the interview schedules; training of interviewers; inter-rater reliability in the coding of responses; and the extended use of closed questions' (Cited in Cohen *et al.* 2007, p. 151) .

4.5.1   Respondent validation

Respondent validation is a crucial step that increases the reliability and dependability of the findings and conclusions in qualitative research, though it may not always be necessary. Bloor (1978) suggests some possible choices which may facilitate respondent validation: predicting the classification criteria of the participants or their likely response based on a hypothetical case or presenting them a copy of research findings and proposed solutions to record their reactions.

Accordingly, this research set an ambitious goal at the outset to assure reliability and validity not only in its outcome but also in the process of qualitative inquiry and measures were integrated into every aspect. Results of the pilot of the online survey were validated during the 'PhD By Design' conference (section 4.4.2 above), and the results of the actual survey were discussed with the interviewees during semi-structured interviews. There were 180 responses in the online survey of this study. Some questions were also posted on online forums to get a worldview, and these answers were later compared with survey results. However, in this study, the sample of practitioners and educators included some respondents with above average competence in discussing the subject matter.

The doctoral theses of James Benedict Brown (2012*), A Critique of the Live-Project* has been particularly helpful in defining the scope and methodology for conducting semi-structured interviews. However, referring to the response validation session of his own thesis, Brown said that it involves significant risk and he faced challenges due to technical and managerial issues and also due to the drop out of the respondents. Porter (2007), writes that basing judgement of research on members' perspectives rather than those imposed by the researcher causes considerable problems. Cited by Porter, Bloor (1978) warns that respondents may not be best equipped or qualified to comment productively on research findings. Fielding and Fielding (1986), warn that 'there are many reasons and interests that can lead members to misreport to the researcher, and it must be borne in mind at all times that they have different purposes from the researcher's'(p. 43). Brown (2012) elaborates that the while validating research, the respondents may knowingly or

unknowingly distort the findings of research from their own perspective. And in a sample of academics, contrary opinions are nurtured by the intellectual milieu in which the research is conducted. While such responses may not always provide the basis for validation, it certainly generates additional data and suggests interesting paths for further analysis (Porter and Dipn, 2007).

4.6   APPROACH TO ANALYSIS AND ITS JUSTIFICATION.

Most research at a fundamental level is a descriptive design of a conceptual idea where a researcher wants to explore 'relationships between characteristics of the units, i.e. patterns of categories (in a qualitative survey) or correlations between variables (in a statistical survey), respectively, to gain compact multidimensional description of diversity/variance' (Harrie, 2010). In the qualitative literature, the various levels of analysis are classified in terms of depth ranging from superficial description to theoretical interpretation (Strauss and Corbin, 1990). Likewise, analysis of such data calls for three logical levels of diversity: 'objects, dimensions of objects (variables in statistical surveys) and categories of dimensions (values)' (Harrie, 2010).

4.6.1   Data analysis

'Both grounded theory methods and intensive interviewing are open-ended yet directed, shaped yet emergent, and paced yet unrestricted' (Charmaz, 2006, p. 28). Hence 'grounded theory' facilitates and enables the researchers to combine multiple data sources, such as interviews, observations, written accounts and surveys. Apart from ethnographic observational studies, the other three methods have been extensively used in data collection for this study. Therefore, the next logical step was to devise a method to code this data for analysis. Charmaz (2006), suggested several strategies that are helpful during coding, some of which have been adopted by the researcher to make this an easier exercise, such as breaking the data into smaller components; making tactical assumptions; pattern matching; identifying gaps in the data and so on. She also warns that researchers may be confronted with conspicuous problems such as identifying topics and not process or actions; coding outside the subject focus; and coding to summarise and not to analyse.

NVivo application is most efficient and helpful in handling large quantities of qualitative text-based data as it reduces the researcher's workload and the risk of human error in the input and retrieval of data. It efficiently allows coding of words and phrases through different nodes simultaneously at multiple levels and searches, filters, sorts and groups the data according to the selection criterion. Coding to summaries has been found useful particularly during literature review where there were multiple sources which needed summarising with references. NVivo also performs Boolean and proximity search: a qualitative equivalent of statistical analysis, such as construct dendrograms (tree

structures); analysis of similarities, differences and relationships between texts and passages of text; annotate text and enable memos (Charmaz, 2006). Other online applications that have been used in this study are Microsoft Office, Google applications (Gmail, Forms, Slides, Calendar etc.), Evernote for web clipping and organising research data, Doodle for scheduling interviews and Mendeley for managing and citing sources.

4.6.2   Coding the interviews

Coding of data is necessary to acquire understanding and develop any 'grounded theory'. According to Charmaz (2006), 'grounded theory coding generates the bones of your analysis'. While many scholars have suggested different ways of coding (Glaser and Strauss, 1967; Strauss and Corbin, 1990; Huberman and Miles, 1994), it is the nature of the collected data, research questions and aims of the study that informs the coding process (Harrie, 2010). Line-by-line coding as described by Glaser (1978) is applicable for investigating fundamental empirical problems or processes and analyses of data generated through observations, documents, or ethnographies and autobiographies. Hence this has not been literally applied, given the nature of this research and the sheer amount of data that was collected. But it has been used to build themes and validate the propositions that were made. However, careful consideration was paid to ensure that all the comments were properly coded into their respective categories. This was done using desktop application of NVivo pro 11, which was provided to the researcher by the University of Glasgow. The researcher also attended a two-day workshop on 'how to do literature review' and 'how to do qualitative analysis' using NVivo as a part of the training program.

Individual codes were then connected through different nodes which shaped the working skeleton and guided the process of analysis to report the findings. As such, the questions were first categorised into four broad themes, similar to those in the online survey:

1. Contextualising the architect-client relationship;
2. Emerging architects and education issues;
3. Evaluation of architects by clients;
4. Role of digital technologies.

Each theme was further divided into different subsections, which recorded the comments made by the respondents during the survey and interviews. This was observed in the

essence of very specific and direct individual questions of the online survey, which some interview participants found demeaning at times.

4.6.3   Types and approach

The samples of qualitative studies are much smaller than their quantitative counterparts because it deals primarily with the meaning and not necessarily aims for generalisation. Sometimes in qualitative studies, the researcher might feel that collecting more data is not leading to more information. A logical clarification of this is provided by Ritchie *et al.*, as they argue 'more data does not necessarily lead to more information… one occurrence of a piece of data, or a code, is all that is necessary to ensure that it becomes part of the analysis framework. Frequencies are rarely important in qualitative research' (Ritchie *et al.*, 2003; Mason, 2010). The framework of the six most popular types of approaches to analysing text-based qualitative data, such as interviews and transcripts, has been found useful at multiple stages of this research, which are outlined briefly.

Content Analysis: The approach starts with some general hypothesis and assumptions based on which the content is coded and analysed for common patterns, and evidence is gathered about views on each pre-identified theme. This has been used towards the end of the data collection stage to organise and group the different types of data.

Grounded Analysis: In this approach, no hypotheses are made. Instead, the researcher allows the data to 'speak for itself', with themes emerging from the discussions and conversations. This approach moves towards a hybrid, and perhaps a more pragmatic approach than a pure system and the coding process in NVivo has been based on this, leading to the discovery of many surprising insights about the ACR.

Social Network Analysis: This approach helps in understanding individual motivations of research subjects and their subjective preferences. This has been particularly helpful in developing individual narratives of architects and clients, from the interview transcripts to identify common themes about their relationships with each other.

Discourse Analysis: This approach not only analyses conversation but also takes into account the social context in which the conversation occurs, including previous conversations, power relationships and the concept of individual identity. Given the

scope and topic of this research, this method was not directly applied at any stage. However, it was helpful in articulating and scheduling the venue for semi-structured interviews.

<u>Narrative Analysis:</u> This looks at the way in which stories are told within an organisation or society to try to understand more about the way in which people think and are organised within groups.

<u>Conversation Analysis:</u> This is largely used in ethnographic research. It assumes that conversations are all governed by rules and patterns which remain the same, irrespective of who is talking. Application of conversational analysis has helped in recognising important issues and develop consensus to inform the findings of this study. The pattern of interviews was informal and conversational, yet it was emotionally engaging for many respondents who were concerned about the future of the architectural profession.

4.6.4   Levels of Analysis:

Charmaz (2006) argues that 'your first question may suffice for the whole interview if stories tumble out' and maintain a progressive dialogue where 'comments may keep a story coming when a participant can and wants to tell it' (p. 29). Whereas in practical research, the research question is divided into smaller parts to ensure proper utilisation of time and resources to achieve a timely and meaningful outcome. Similarly, according to (Harrie, 2010) 'the coding of a data fragment may be either downward (i.e. differentiating) or upward (i.e. synthesising)'.The objective of data analysis was to synthesise using an upward coding based on objects, dimensions and categories. This helped to reconstruct, what had been fragmented in the research design phase, to report consensus and differences on the strands of this research, in the analysis phase, to achieve a higher level of abstractions (ibid.).

As discussed above, the online survey had 54 individual questions which served as initial codes under which the data was grouped. This was followed by a second phase where these codes have been integrated and regrouped under broader themes to synthesise and generate concepts. Broader groups of concepts were then together clustered around four identified themes to develop a narrative around reshaping ACR and their relevance for emerging architects.

4.7   SUMMARY OF CHAPTER 4

This chapter has presented all the methodological strategies that were adopted to inform the pragmatic objectives of this study. This study has aspired to develop a narrative around the relevance of ACR, the effect of recent technologies and role of professional organisations for emerging architects, by collecting, correlating, and comparing views from architects, clients and other professionals for agreements and differences.

<u>Online survey:</u> Through qualitative-survey using the Likert scale, this study collected 180 responses, affording meaningful insights to several propositions and assumptions. Many respondents also made critical observations and commented with examples that helped in the presentation and discussion of the responses. The survey that was shared widely in the UK and other parts of the world through a single shareable link helped to organise and reconcile the discoveries from the literature review in a logical manner. For 5 months, it collected responses from architects and non-architects and provided a premise for setting the tone and narrative, helping the researcher to contextualise the previous works in the light of recent technological advancements.

<u>Semi-structured interviews:</u> Through 26 interviews, events and focus group meetings, qualitative data was collected, reflecting the rich knowledge and the personal experiences of the respondents. These interviews helped in exploring the issues in detail, contextualising and grounding the examples in real-world settings of Scotland. Potential respondents were informed about all aspects of the study through the email invite and were given sufficient time to respond, and the interviews were organised and conducted as per their suitability. Through these discussions, the researcher could acquire a more focused understanding, which eliminated approximations and improved the validity and reliability of the collected data.

<u>Other methods of data collection:</u> As discussed in this chapter, other methods were helpful in digging deep into popular debates ongoing in real-time by becoming a participant observer. The data collected through social media, blogs and personal accounts have helped to establish that this study has not been conducted in a vacuum, rather, it is timely and particularly relevant for emerging architects. Through discussions, the researcher presented the results of the survey and then asked the participants to

reflect on their views to build consensus around a specific issue. These discussions were recorded, transcribed, and then coded in NVivo for qualitative analysis by the researcher. They help in achieving confidence in the findings and contextualising them in real-world examples through people's feedback and experiences.

Although all the participants were familiar with the topic and well versed with the terminology since they had interacted with 'architects and clients', as the case might have been, some respondents still took some time to understand the role and the scope of digital technologies in the ACR and emerging architects, but the discussion soon made it lucid. This was particularly helpful in reflecting and comparing survey result with people's views and opinions.

During the fieldwork, it quickly became clear that this topic was of interest to everyone and was well received by the intended audiences. As shown in Chapter 5, both architects and clients have contributed energetically to the findings of this study through an online survey, semi-structured interviews, online discussions, and other supplementary methods that were adopted by the researcher. At the end of these chapters, the discussion will corroborate the findings from part one and part two and presents the key benefits and challenges from adapting digital technologies and related activities for ACR in practice and peer-student relationship in the education of architects.

CHAPTER 5

FINDINGS AND DISCUSSION: - PART 1

This chapter reports the results of the online survey and semi-structured interviews on the factors relating to breaking down of ACR. Each scenario is discussed, and the responses are evaluated in line with the observations made in Chapters 2. To enhance the readability and avoid repetition, Chapter 5 (Part 1) first reports the results (Section 5.1 – 5.7) and then develops a critique that relates directly with the research question one (Section 5.8 – 5.13). It attempts to identify and outline key factors that are responsible for breaking down of the ACR. The chapter ends with a summary highlighting the significance of these findings within the scope of this research. This has been found to be the most logical manner, as it systematically builds up the narrative to engage in a critical discussion for part 1, towards the end of this chapter.

As such, two broad propositions were defined to progress the investigation a) Design-centric attitude and lack of understanding of client needs have led to the marginalisation of architects, and b) Digital technologies can help bridge the gap and lead to a better ACR. Based on the literature, these propositions were further divided into six theme-based scenarios with five questions statements, to enable a comprehensive study of the dynamics of ACR. The patterns, which emerged from this research support the propositions and hypotheses made at the start of the study. However, some new themes were also found during the data analysis, which has been considered with due diligence. The layout of the following scenario-based sections corresponds to the way these statements were presented to the respondents (See Appendix 6. Online survey). Within each scenario, the first sub-section deals with the online survey and presents the collective results of all respondents (in blue pie charts) and how architects specifically responded to the same questions (in yellow pie charts). The second sub-section of each theme presents findings from the semi-structured interviews, discussing each statement in detail and how it relates to the overall survey results. These interviews have been particularly helpful in putting the pieces together and making sense of this valuable data.

Ethical considerations have been a priority in all parts of this study, and respondents' anonymity has been maintained. The online survey did not ask for any personal information from the respondents to encourage maximum participation. Anonymisation allowed the respondents to comment freely and honestly whenever they felt it was appropriate. The results are interpreted without any personal opinion and are supported with pie charts and bar charts in colours. The researcher acknowledges the fact that no survey instrument can record all the nuances of opinions on complicated issues such as the ACR, particularly in private residential projects. As suggested by one architect, during the study, such projects are far too emotional. To address this issue, an open-ended comment space was provided for each question.

REPORTING RESULTS: PART 1

DYNAMICS OF ARCHITECT-CLIENT RELATIONSHIP

Participants are only identified by the role they play, quotations come from either interviews or surveys, and this is made clear. 'The process of anonymisation is complex and far from water-tight, and changing people's names and disguising locations are only the first steps in a more nuanced process around managing "identifying details"' (Saunders, Kitzinger and Kitzinger, 2015, p. 617). Hence, for reference purposes, pseudonyms have been used to code the respondents. In the recurring sub-sections 'Findings from Semi-structured Interviews' the participants are addressed as, e.g. 'Architect interviewee 1' (A1), 'Client interviewee 1' (C1), Other-professional interviewee 1 (O1). However, respondents who commented while completing the online survey are identified as survey participant/response number/architect or client (SPXXX—AR or SPXXX—CL).

Quotations are presented as they were entered or spoken, with only the most minor editing to remove any informal phrasing, identifying information or correction of typos. They have been selected to represent, as best as possible, the range of opinions on the issues discussed. The quotes interspersed in this chapter will hopefully provide the reader with far better insight into the thought process of architects and clients on so many critical perceptions than the mere listing of numbers and provision of charts could do.

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

5.1   SCENARIO 1: ONCE BUILT, IT'LL LOOK AMAZING

Architects' attitude, outlook, and communication with clients: The first set of question-statements were built around the themes of misunderstandings that develop between architects and clients due to poor coordination and communication. It broadly encompasses architects' judgemental attitude towards clients.

5.1.1   Online Survey Results

1. a) Architects always argue that clients do not understand the hard work it takes to produce a design solution and claim that clients often take out elements from their design ….

Interpretation of the results   **Response Breakdown**

Overall response: In principle, 10% strongly agreed, and 46% agreed that *architects always argue that clients do not understand … to reduce the project cost.* One respondent said, 'Design holds precedence over communication because the design itself is communication of the architect's vision to the client' (SP63—CL).
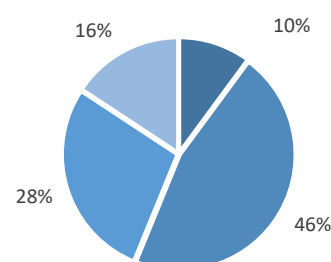
Pie 1.a. 1 Overall response:

Architects' response: Of those who agreed, were almost two thirds (61%) of the total architects, whereas only 16% of them said that was not the case. One architect said, 'there is no doubt that clients take out elements from a design for no other reason than cutting the budget, no matter how rich any client pretends to be they will always try to lower their costs/budget.' (SP169—AR).
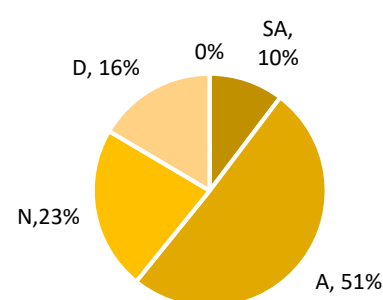
Pie 1.a. 2 Architects' response:

1. b) Clarity of communication, not the design, is the key factor in winning the trust of clients.

Interpretation of the results

Overall response: Nearly three quarters 73% (combined) of participants agree that clarity of communication and not the design is the key factor in winning the trust of clients. This implies that around one quarter do not agree. One client remarked that 'good communication, not the clarity of communication, is essential, i.e. basic stuff like answering the phone, returning calls and emails promptly, delivering information when agreed, etc.' (SP162—CL). One architect suggested that '…the trust of your client rests on more than clarity of communication… "visually impressive" concepts aren't thought through to the extent they appear to be' (SP81—AR).
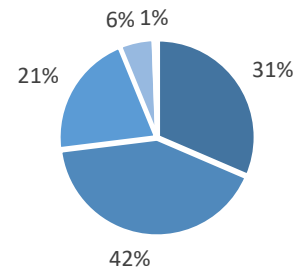
Architects' response: The same pattern was found among architects; 75% (combined) agreed, of which 33% strongly agreed. The 'ACR is primarily built on trust etc. and not on digital technologies – they are merely a tool' (SP79—AR). And '…technology should be adapted to suit the needs of each client rather than what the architect thinks they will be most comfortable with' (SP113—AR).

Response Breakdown

Pie 1.b. 1 Overall response:

Pie 1.b. 2 Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).
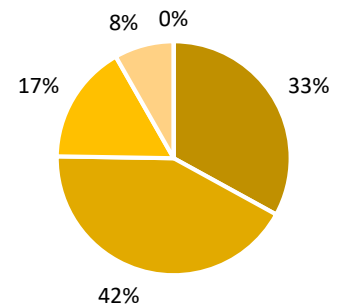
1. c) Visual and digital content are much easier to understand, communicate and share, than paper drawings.

Interpretation of the results

Response Breakdown

<u>Overall response:</u> While 15% disagreed and 18% were neutral, 67% (combined) of respondents believed that 'visual and digital content is much easier to understand, communicate and share than paper drawings'. One client commented, 'While digital technologies are greatly beneficial in rapidly creating and sharing information, they are only one piece of the puzzle. Key to a successful client relationship is constant communication in all forms, especially verbal; this helps to ensure clients understand the design, its benefits and the ramifications of decisions' (SP156—CL).

Pie 1.c. 1 Overall response:

<u>Architects' response:</u> More than half (60%) of architects agreed. About a quarter of them felt undecided, and 16% disagreed. According to one respondent, the client needs the simplicity of communication. 'Offering a simple sketch geared to the level of the client's cognitive awareness is best… Digital design allows the 'architect to explore and test designs more thoroughly and quickly' (SP74—AR). One architect said, 'I support the engagement of digital… technology raises the inherent risk of the original design concept getting highly influenced…by the means/tools of communication and its limitations' (SP47—AR). Another argued that 'clients are often more impressed with the technology factor…and hiring technicians for these is not cheap' (SP52—AR).

Pie 1.c. 2 Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).
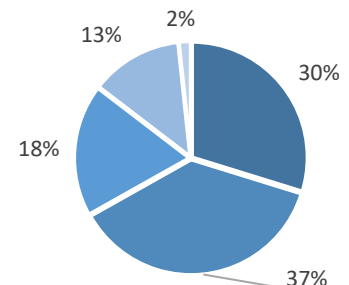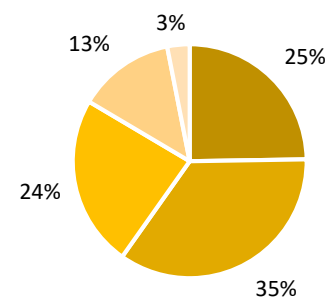
1. d) Innovative use of technology enables architects to produce initial design concepts and proposals at relatively low cost and time.

Interpretation of the results

Response Breakdown

<u>Overall response:</u> Likewise, 45% of the respondents agreed and 19% strongly agreed that Innovative use of technology … relatively low cost and time. However, 17% remained undecided and 19% disagreed that this was the case. One client said, 'The time and resources required to learn new software and applications may be costly; however, once understood this should give more opportunity for architects to acquire new business in an efficient manner' (SP4—CL). 'The product idea in a better-illustrated design helps convey the purpose behind the designer's inputs and helps in clarity in overall project concept' (SP18—CL).
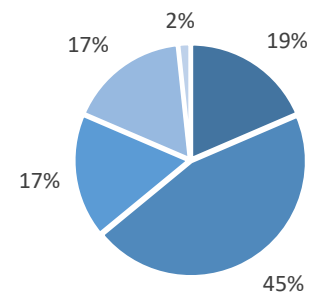
Pie 1.d. 1 Overall response:

<u>Architects' response:</u> Half (50%) of architects believed that this was true, while (30%) voted in disagreement. One architect said, '…innovative technology (such as BIM etc.), whilst vastly improving efficiency…does not replace the iterative, and often time-consuming, a process of design required at the outset of a project' (SP102—AR). Another commented, 'I am not a fan of using only new technologies and I am afraid that most of the time, in order to "communicate our ideas" architects have to become graphic designers' (SP140—AR).

Pie 1.d. 2 Architects' response

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).
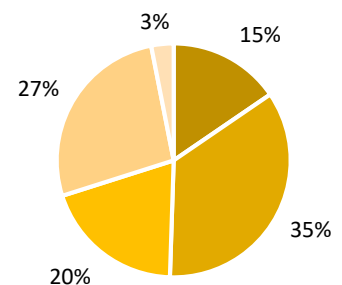
1. e) Acceptance of digital technologies as a standard practice by architects ensures efficient working, which is the key to better architect-client relationship.

Interpretation of the results   **Response Breakdown**

Overall response: Even though 59% agreed that *acceptance of digital … better architect-client relationship*, 28% of the sample remained neutral, whereas 13% disagreed with this idea. According to one client, 'using technology makes us understand things clearly and easily and makes conceptualisation of concepts and ideas easier and better when it comes to dealing with designing and planning and its understanding by clients' (SP29—CL).
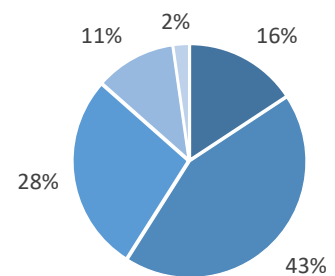
Pie 1.e. 1 Overall response:

Architects' response: Whilst a minority (19%) of architects mentioned that they believed otherwise, 53% agreed that technology helps foster better relationships. One architect said, '…It can be hard for clients to understand drawings; hence, communication is key, in the most client-friendly manner possible' (SP119—AR), whereas another said, '…clients tend to understand a 3D world easier than 2D flat drawings' (SP107—AR).

Pie 1.e. 2 Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).
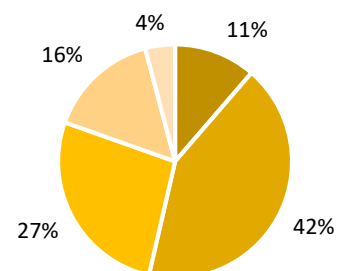
5.1.2 Findings from Semi-Structured Interviews

Following from the architects' and clients' voices in the online survey, this section offers detailed insight with examples about scenario one from face-to-face interaction with respondents.

There was a general acceptance that recent technologies have changed the way architects do business. Some architects held the view that the introduction of technology too early in the design process can be time-consuming and expensive and requires specialised skills for complex projects. Others maintained that 'for smaller projects it's good to introduce technology at the start …moving around and for the client to be able to see that that make more sense. Outset it is fundamental for the client to have a say and understand' (AR11). According to AR10, computer-generated images tend to appear too plastic and finished, which limits viewers' imaginations and can be sometimes off-putting for clients. He argued that 'he'll hand-draw over SketchUp (digital drawing) because I think there's a danger that looking at purely digital images makes it look like, we've taken the process too far into the project' (AR10). However, A11 preferred paper drawings, because with 'digital content' as a means of presentation mode, it is easier to cheat by showing fancy finishes; she said, 'you need to understand the extent of a building, and sometimes with digital technology you may not understand that you're not actually going to have much space' (AR11).

Regarding the notion that clients underestimate architects' efforts i.e. clients think that architects put in less effort than they actually do and remove design elements, A11 said, '…I don't think that the client needs to understand, that's why they've taken you [architects] on board and they take out elements to meet the project cost because it's their money that you [architects] are spending' (AR11 P20). However, according to A1, 'quite often architects are at fault in providing a design that the client can afford, but the client likes the design and the architect develops it further…because they both have high aspirations in the beginning' (A1). He continued,

> …if those aspirations meet client needs, they can find the money; such
> opportunities quite often produce great things and it's amazing how
> clients can play a decisive role. But not all clients can play such roles, and
> when clients see these things [design elements] they say, oh I'd love to
> have these things, I just simply can't afford them. Now if the architect had

> *been firmer with the clients in saying "no, this is all you've got to spend,*
> *you can't have these things"…there might have been a lost opportunity to*
> *explore the most adventurous things. Therefore, it is really on a client by*
> *client basis…and it's important for the client to maybe…but it's*
> *imperative for the architect to be able to read the client…to be able to see*
> *where that sits'. (A1)*

'Design is actually clarity of communication', according to A1. He explained that 'if a design is seen as a pure thing which isn't client-specific, it's not real… whereas a good design clearly demonstrates "form" and delivers "to" the client's needs' (A1). He stressed that 'it is unbelievably important for an architect to be able to speak the client's language and not in their own language…and a lot of architects can't do that…and I think architects do feel a need to impress people…because they often are impressed by themselves or their peers rather than the clients…So, they do talk in that strange language of interventions' (A1).

According to A2, 'digital itinerary tools do not take the personal capacity out of the formula' i.e. do not remove the human element from the act of designing. A1 explained that brief building is an essential part of establishing communication and winning a client's trust . He said, '

> *…you interrogate the client like they're in a police cell to find it…what it is,*
> *what it is… they really want…the client says things about what they*
> *want…which are not true because they're trying to impress you… but you*
> *say what is it that you actually do want…to me that's kind of really basic*
> *pencil sketch drawing…chatting to clients is almost more important than*
> *the digital revolution'.*

According to A2, the innovative use of technology enables architects to produce initial design concepts and proposals relatively cheaply and quickly. He explained that 'what used to take 10-15 days now probably takes 5, or it takes them 2…so probably architects say I can deliver it more quickly, therefore my fees can be lower, but that means…that they need to find more jobs, which they can't properly concentrate on…'(A2). However, A6 highlighted that it can actually make things a lot simpler having everything in writing, eliminating loose talk and enhancing transparency and accountability. She explained that architects can be more focused when 'Every email is logged…everything goes ok… all your drawing issues are open…fantastic…it takes away the filing nightmare, but it does mean there is no escape…your contractor is open…you are open…is an open book' (A6). In the same tone, A9 emphasised the following: 'I think it is really interesting what you

said about accepting digital technologies, because it is not just digital technologies but its acceptance … and it doesn't just have to be accepted, it needs to become standard practice…but this always takes time'.

Clients' Response: Clients expressed that architectural drawings are not of much use when it comes to transferring drawn information into actual execution on site. A private residential client explained, 'the guy who did our roof couldn't read… he certainly wasn't very good at reading drawings. In fact, I've had several experiences where you have handed someone the drawing and they haven't done what the drawing has exactly said' (C1). 'Yes, but even experienced professional builders do not understand what they [drawings] mean, and when the building-control come to inspect it, they don't even care anyways' (C1). According to another client, technology should make architects more affordable: 'Yes, I think that is the case. I think technology should be able to help architects very much …acceptance of digital technologies as standard practice by architects is key? Yes, I would strongly agree with that idea (C2). Accordingly, both C2 and C3 also held that communication is key in the ACR, 'whether its architecture or maths or anything…yeah…I would say it is the key factor…unfortunately, good design may be lost because of poor communication'. C6 had the view that 'most people…in terms of their homes are quite used to fit into what is there rather than designing or even thinking about designing it from scratch' (C6).

5.2   SCENARIO 2: OVERCOMMITMENT LEADS TO UNDERPERFORMANCE

<u>Lack of awareness about an architect's role:</u> The second set of questions tried to look for the motivations of clients and architects towards each other and explored the philosophical underpinnings of their attitudes.

5.2.1   Online Survey Results

2. a) That architects do not allow much flexibility with their proposed design. Many-a-time, this leads to dissatisfaction where the client starts feeling that their desires are being curtailed and they have a limited control over their project.

Interpretation of the results

Response Breakdown

<u>Overall response:</u> In general, 44% respondents disagreed that *architects do not allow much flexibility with their proposed design*. However, 30% (combined) agreed with the statement, while 26% remained neutral. One architect said, 'I do hear this generally about architects… I have always made great efforts to work with my clients' desires' (SP81—AR); however, another remarked that it 'depends on whether the architect sees themselves as an enabler and is keen to deliver for the client or is egotistic and wants to do what they do and not listen' (SP121—AR).

7%   SA, 5%

25%

D, 37%

26%
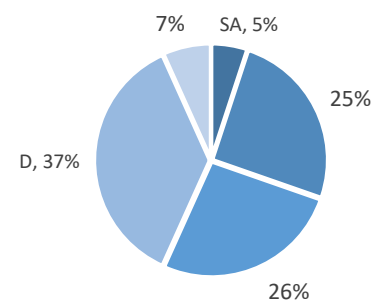
Pie 2.a. 1 Overall response:

<u>Architects' response:</u> More than half of architects (56%) felt that this was not true, although 21% agreed that architects are defensive about their concepts and ideas. One client commented that clients expect a finished building within an agreed budget and a set of drawings and contract documents – all together, not separate, i.e. they want all these things, not just some of these things

10%   5%

16%

23%

46%
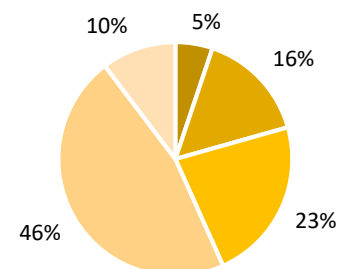
Pie 2.a. 2 Architects' response:

2. b) By making more drawings, the architects try to justify their design fee and recommendations, which impels client into considering the architect's choice of material.

Interpretation of the results   **Response Breakdown**

<u>Overall response:</u> More than half of the respondents disagreed that *by making more drawings, architects try to justify*…. However, a quarter of them (26%) agreed. One architect said, 'If architecture/ design were a set of products/commodities …clients would have successfully initiated and completed projects to their liking… however, the services provided by the architect far outweigh their fee' (SP47—AR). One client commented, 'I would say that any practice principal who thinks that an increased number of drawings helps justify their fee is deluded or has a poor fee agreement in place. Fee structure should be set out clearly from the outset; this is also key to a good client relationship, as everyone knows where they stand from the outset' (SP156—CL).

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19%
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41%
12%
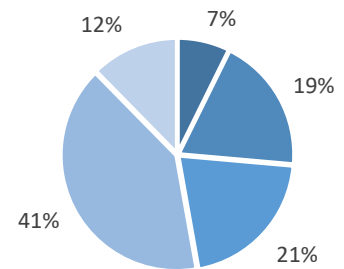
Pie 2.b. 1 Overall response:

<u>Architects' response:</u> Three-quarters of architects (73% combined) disagreed with the statement, and only 16% believed that more drawings justify higher fees. 'An architect's designs are based on holistic thought and long-term concerns… design may be a product of an idea or concept that may be best accomplished by certain choices material or spatial arrangement – clients need to understand and buy into that' (SP79—AR). Another suggested, 'As one of our clients says, "Design-Time is cheap" – get it right then and you save later, as costs are greater when you fail to consider options in the early stages. Do not follow the wrong decision to its logical conclusion' (SP133—AR).

4%
12%
11%
53%
20%
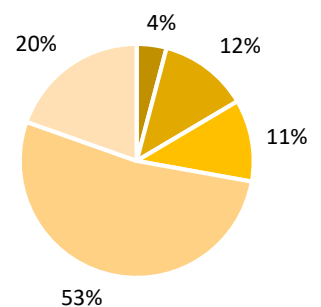
Pie 2.b. 2. Architects' response:

2. c) Clients expect a finished building, within agreed budget and not a set of drawings or contract documents.

Interpretation of the results

Response Breakdown

Overall response: When participants were asked whether 'Clients expect a finished building, within the agreed budget, and not a set of drawings or contract documents', the majority (65%) agreed. Only 20% said no, whereas 15% selected neither agreed nor disagreed. 'Clients are definitely more interested in a finished building than a set of construction documents and flashy 3D images. After all, the documentation is only a means to an end, however much we in the industry take pride in the drawings produced' (SP156—CL).
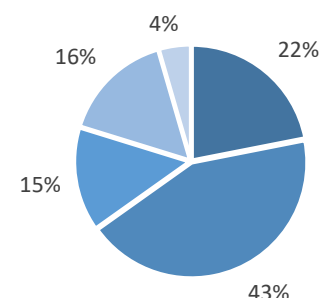
Pie 2.c. 1. Overall response:

Architects' response: Architects' responses followed almost the same pattern, with 64% (combined) agreeing and 20% disagreeing. One client commented that 'most commercial clients recognise the benefit of employing a professional, as it frees them up to concentrate on what they do best, which is often not design but running a business or organisation' (SP162—CL).
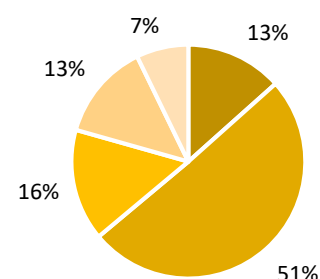
Pie 2.c. 2 Architects' response:

2. d) Clients are better off investing their money in the quality of materials rather than paying architectural fees.

Interpretation of the results

Response Breakdown

<u>Overall response:</u> When asked whether 'Clients are better off investing their money in the quality of materials rather than paying architectural fees', 62%(combined) of respondents reported that they would not be better off, while 20% felt otherwise. One architect argued, 'I just want to say that no matter how expensive the material you procure for your project, you will not be able to use it wisely until and unless you have an expert, like an architect' (SP169—AR). One client suggested, 'Architectural design fees are paid back through the lifetime of a building, and if decent materials are selected, these will too'.
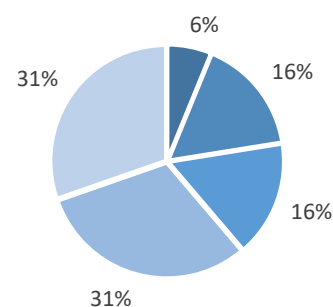
Pie 2.d. 1 Overall response:

<u>Architects' response:</u> 78% (combined) of architects who participated indicated that the services are *well worth the money* i.e. services provided by an architect far outweigh their fee architects'. One respondent suggested that 'a contractor is not a professional and will not look at design options that save the client money – the architect will. Relying solely on the contractor will inevitably reduce design quality' (SP126—AR).
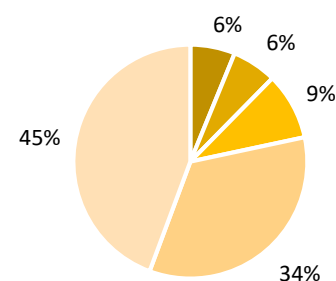
Pie 2.d. 2 Architects' response:

2. e) Many people believe that working directly with the contractor gives them more control,
satisfaction and value for money including a feeling of accomplishment.

Interpretation of the results   **Response Breakdown**

Overall response: 48% (combined) of
respondents *believed that working directly with a*
contractor … a feeling of accomplishment. However, 29%
remained neutral and 23% disagreed. One architect
pointed out, 'The "Grand Designs" problem – clients feel
they should control and steer the project, whereas they
wouldn't argue with a dentist how best to fix their teeth
or a mechanic how to fix their car' (SP98—AR). Another
argued, 'in most cases, the client has never needed to use
an architect before. Once they hear what an architect can
do for a client they often realise that working directly
with the contractor is not necessarily the best way to
proceed' (SP120—AR).
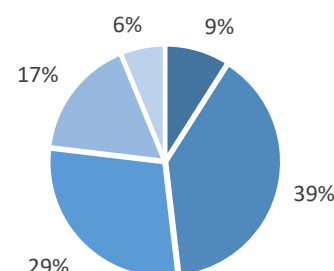
Pie 2.e. 1 Overall response:

Architects' response: A quarter (25%) of
architects felt that this was not true and disagreed, while
others (46%) considered that this was true that DIY gives
them more control, but this is not a good thing. One
commented, 'Many people forget why they came to an
architect in the first place – let them do the job you're
paying them for' (SP177—AR). Another noted, 'this may
be the case initially but as things start to go wrong they
realise that having professional help may have been
better after all' (SP107—AR).
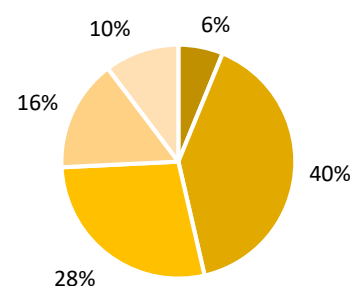
Pie 2.e. 2 Architects' response:

5.2.2 Findings from the Semi-structured Interviews

According to A10, there are two types of professional architects, conceptual and practical. He explained, 'there are good architects out there who find a way of making the brief into great architecture…and there are good business people out there who do the business of architecture'. Citing a client interview, he described how practical architects are often successful in getting big projects; he recalled a client saying, '[a famous architect] came to us and he talked about money because…he spotted that the thing that we were interested in… he guessed his clients' intentions/goals/priorities/budget, whereas all the others were talking about/focusing on aesthetics'. So, there was agreement among interviewee that some architects can be rigid about their concepts and designs.

However, A11 shared the following experience: 'I've seen during a recent refurbishment of a historic building into residential units …and the contractor on site is speaking to potential purchasers and offering them changes…to get investment in at the moment…if the architect is not involved then there's the possibility for things not happening…and usually I think the contractor is offering changes…at his own discretion and also at times for his benefit' (A11). On working directly with contractors and DIY activity, A10 said, 'I think that is true, but those people might be better off not working with an architect anyway so…yeah…the architect might be wasting their time…'. Whereas A1 offered a different perspective:

> *I think that's actually true and I've seen a lot of clients who want to get rid of the architect when they realise how much fun it is to work with a contractor…So, I have …I've seen this because of my work on the investigations committee of the ARB, where I see nearly every project that was wrong, I see one third of all projects go wrong in the UK where architect is in the blamed…quite often you have a very wilful, middle-class, well-educated client who gets to play with the biggest set of LEGO bricks they've ever had. Typically, when the client realises that the architect is getting to play…and it's not fair…it must be the client…so, the client fires the architect…so, that the client can play with the Lego bricks instead. And of course, they get it all wrong sometimes and they might get ripped off and as a result, they then turn on their architect…it is your fault…So yes, it is a lot of fun…I love playing with buildings with contractors and I can get why a lot …a lot of clients would also…oh yeah, yeah, it's good fun. (A1)*

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

In response to the notion that *clients are better off investing their money in the quality of materials rather than paying architectural fees*, A1 suggested that these are two separate things and cannot be substituted for each other. He explicated with an example of Grenfell Tower, why that probably isn't right to compromise on quality, …we didn't invest in the right advice there and we burned 100 people to death…yeah, because of the materials that we chose to use …you know that's not worked out rather well'. Part of the problem lies in UK govt policies which are currently taking an unnecessary risk with future buildings, he continued. For example, 'if you opt for "design and build" you don't pay VAT…on the architects' fees, which acts as one of the biggest attractions for clients; also, the whole risk of having to talk to an architect about this kind of stuff when they don't really want to…you know…it makes sense.

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

5.3   SCENARIO 3: WE CAN'T EXPLAIN…BUT YOU SHOULD TRUST US!

<u>Dynamics during initial stages of the ACR:</u> Part three of the investigation tried to get into the client's shoes and dig deep to find out how clients think and act during the initial stages of projects.

5.3.1   Online Survey Results

3. a) Architects expect clients to make decisions based on rationality, but this is seldom the case as far as clients are concerned.

Interpretation of the results

    <u>Overall response:</u> In response to the statement, 'Architects expect clients to make decisions based on rationality…', the response was mixed: 37% agreed, 26% disagreed and 37% were undecided. One architect responded, 'anyone's rationality is woven in with a host of other factors, so in a way perhaps I agree, but I am well aware that people's baseline for their rationality can vary greatly!' (SP81—AR). One client said, 'Clients are also rational beings. Their desires, choices and preferences may not seem rational to architects but would make perfect sense to them' (SP63—CL).

    <u>Architects' response:</u> Likewise, 29% of architects disagreed, one-third were neutral and 38% agreed that clients' decisions are not always rational. One said that 'there are a wide range of private residential client expectations, influences and behaviours, clients as a broad category are unpredictable than non-residential clients' (SP74—AR). Whereas (SP107—AR) said that 'It should be clear that emotions will be involved in project design; there is no justification for claiming every decision should be a rational one. It is the architect's job to identify those, whether rational or not, and develop a brief to satisfy or at least answer those desires'

Response Breakdown
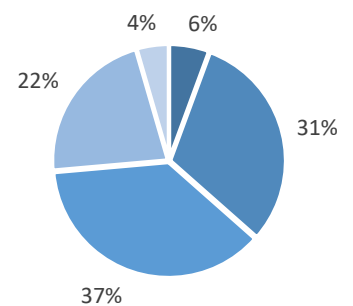
Pie 3.a. 1 Overall response:
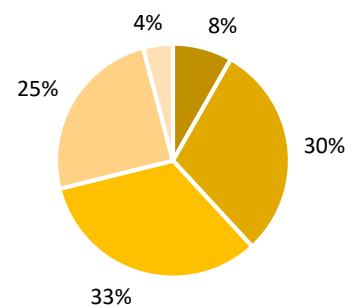
Pie 3.a. 2 Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

3. b) Architects often fail to look beyond the design and formal paperwork, they do not account for the role emotions play, during early stages of the project.

Interpretation of the results   **Response Breakdown**

Overall response: The combined results of architects and non-architects suggest that 30% of respondents felt that 'Architects often fail to look beyond the design and formal paperwork'. However, 24% were undecided and 46% disagreed. One respondent commented that 'emotions play a vital role in each and every aspect of a relationship/profession /society and architecture is no different' (SP169—AR).
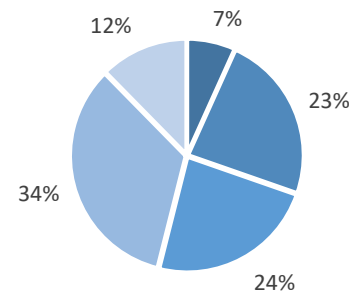
Pie 3.b. 1. Overall response:

Architects' response: When architects were asked the same question, 60%(combined) disagreed i.e. they do acknowledge the role of emotions when dealing with clients, while 27% agreed, of which 6% strongly agreed that 'architects ignore emotions and other factors. One architect said, 'I disagree, largely because they (architects who ignore…) tend to be the ones selling the "feel" of a place. I think they can be very attentive upfront, but often fail to sustain that level of communication throughout the lifecycle of the project' (SP55—AR). One architect questioned, 'do you expect lawyers and accountants to factor in the role emotions play? Our role is to render a professional service in the most humane way possible. And besides, we don't get paid extra for the therapy that we provide' (SP74—AR).
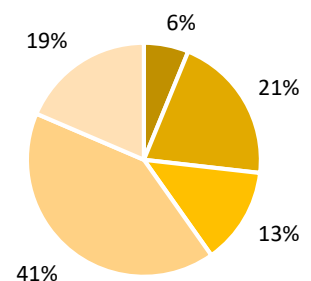
Pie 3.b. 2. Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

*3. c) Advice from friends and well-wishers disturb and affect the initial negotiations and decision-making process.*

Interpretation of the results   **Response Breakdown**

<u>Overall response:</u> Just over half 52% (combined) of those who answered this question reported that 'advice from friends and well-wishers disturbs and affects the initial negotiations and decision-making process'. One architect remarked, 'I filled in neutral because some people search out the opinions of others in many aspects of their lives. If such a person becomes your client, they will likely do the same. Ideally, we get a sense of how strong this dynamic will be early on' (SP74—AR). One client said, 'an architect should expect it as part of their job, and not accounting for external influences would reflect his or her unpreparedness' (SP63—CL).
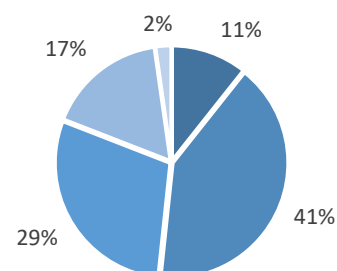
Pie 3.c. 1. Overall response:

<u>Architects' response:</u> Fifty-five per cent of architects concurred that they believed that external influences impede the initial stages of a project. One architect argued that 'first-time clients (esp. residential) seldom understand the contractual aspects of architecture, assuming we just do the design and spec with little site involvement' (SP98—AR). Another view was: 'Mostly depends. However, a good architect should understand that a client's emotional being is a critical element of the context. Trust and the broader landscape of advice are very real' (SP86—AR).
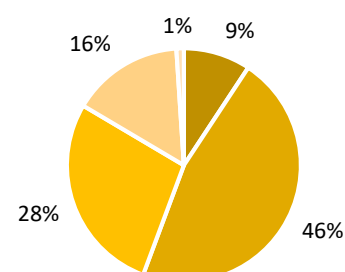
Pie 3.c. 2. Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

3. d) It is difficult for clients to trust someone, including architects, during the initial stages of a project.

Interpretation of the results   **Response Breakdown**

Architects' response: Approximately half 48% (combined) of those surveyed asserted that 'It is difficult for clients to trust anyone at the outset of a project'. Twenty-two percent were neutral and 30% expressed disagreement. One explanation was, 'I think the onus of earning the client's trust lies with the architect; the client can only respond to how the architect approaches the project and the systems of design development, costing and schedule presented to him' (SP47—AR).
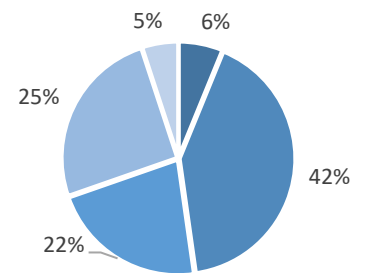
Pie 3.d. 1. Overall response:

Architects' response: Acceptance was low (39%) from architects, whereas disagreement was high (37%), as compared with the collective responses. One respondent said that: 'Potentially, it would depend on the soft skills of the architect. I think clients want to be heard, unless they explicitly give control to the architect' (SP55—AR). Another observed, 'In my experience over the years I have taken increasingly more time to assess that a basic level of trust exists in the earliest stages. It will inevitably build over time with developing the project and ongoing communication, but if some trust isn't there to start off, it's a non-starter' (SP74—AR).
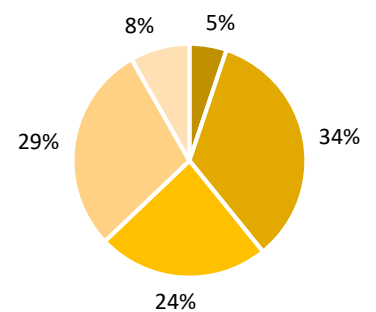
Pie 3.d. 2. Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

3. e) The clients are looking for an onsite architect and other pro-bono services. They are willing to invest their trust in architects, who can deliver from concept to completion.

Interpretation of the results   **Response Breakdown**

Overall response: Almost two-thirds of the participants 66% (combined) said that 'clients are looking for an onsite architect…who can deliver from concept to completion'. However, a quarter remained impartial on this, and 10% disagreed. One client said, 'The clients want onsite supervision and not just office design work' (SP18—CL). One architect claimed that 'The difficulty that architects face is that everyone who has ever watched Grand Designs (and plenty of other shows) thinks they know how to design. They might know what they want, but is it actually "designed"?' (SP113—AR). A conflicting, yet realistic, view from a client was, 'Most of the above really depend on the client; most people are trusting until let down. Most clients simply want a set of drawings for the lowest cost and will forgo onsite services if they think they can manage without' (SP156—CL).

Pie 3.e. 1. Overall response:

Architects' response: Sixty-three percent (combined) of architects also believed that clients are looking for more practical architects. However, a quarter of the responses were neutral and 11% disagreed. One commented, 'Bad workmanship can spoil an excellent design' (SP169—AR). Although it is true that clients often trust architects who can deliver full services that is 'not indicative of them employing the architect for the full service. i.e. only for planning consent or working drawings. Cost-cutting means partial service agreement is common' (SP121—AR). Another commented, 'Depends on the client. Some will sit back and let you work. Others fancy themselves as Grand Designers and interfere, resulting in a negative impact on the project' (SP169—AR).
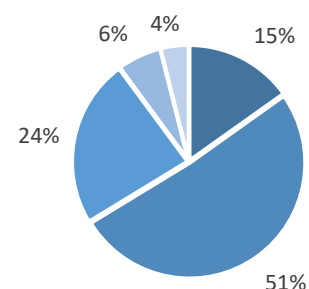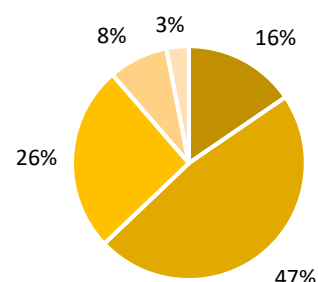
Pie 3.e. 2. Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

5.3.2   Findings from the Semi-structured Interviews

There were mixed opinions on a client's decision-making capabilities during the initial stages of a project. A10 strongly agreed that a client's decisions are not always based on rationality, which is normal, and many architects tend to ignore this factor. He exclaimed, 'I've also seen this thing… where architects want to be… it's more important that they impress their peers than they impress the clients' (A10). A9 also agreed, 'I would not expect that [rational decision-making] if it's a domestic client, it's such an emotional investment for them…and even with a non-domestic client, it's an emotional investment… I guess this reflects the fact that tool that we used was not empathy [i.e. an absence of empathy when dealing with clients], that's a keyword to do any relationships, obviously, this one professional contest' (A9). In other words, Empathy is key in any relationship, including a professional one.

A1 argued, 'I don't think architects generally expect clients to do anything…the more an architect meets clients, the more they realise that everyone is completely individual…and you really have to moderate your design approach to suit the personality of the client…and they are as much of a factor in what is an absolute…as is regulation…and when an architect omits their clients from the equation…early on they can find themselves having falling out very badly with them' (A1). Moreover, he agrees with the way clients make their choices; according to him, 'it is pragmatic and practical because the architecture is part of the clothing…it is social…So, it's there…when you are extending your house…it's like you're buying a car…a car is not a method of transport…a car as a set of clothes…yes…that's how they [companies and brands] sell them…so you wear it…So, the same thing with the house…So, one might think that performance and ecology and sustainability are major factors for an architect whereas for client they're not…they only are if they [clients] can sell it to other people as a [social symbol]' (A1).

While friends and well-wishers disturb and affect the initial negotiations '…they're a vital part of [initial stages]…and the architect must acknowledge this fact' (A10). He also expressed that 'the decision-making process is not disturbed by their advice, rather it's informed' (A10). A9 also conceded, 'I probably agree, I have got direct experience with that, and that can be an annoying client. But it's understandable that any client would do that' (A9).

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

On the question of trust, O1 argued that clients expect the architect as their initial point of contact, 'should go from concept right the way through to completion, and I find that it's when the contractors are going in that is why the relationship starts to fall out' (O1). Concurring in the same tone, A1 believed, 'perhaps…I mean it's really up to the architect to try and create a relationship which is founded upon trust, where the architect has been entrusted to have the client's best interests at heart, and it does take time and cost money… but it's gonna pay off' (A1). A10 had an opposite view; he opined that '…no, I think we expected some trust to start with…if we felt that was no trust we would resign…can't work without trust…' (A10). A9 argued that 'Trust needs to be earned to a certain degree, and it should not be immediately assumed because you are ARB registered' (A9).

A8 explained the difference between supervision and onsite inspection, saying, 'The role of the architects during a project is one of onsite inspection (now that's not supervision, it has to be made clear that the architect is not there to supervise the work, there have to be other mechanisms for that)…but that role has been proven time and again to be highly effective and beneficial to the client in the longer term…now taking that out of the equation might be a short-term cost saving but actually is a disadvantage to the client and the project at the end of the project'.

Regarding onsite architect and pro-bono services, A10 said, 'clients are looking for so many other things which they hadn't anticipated beforehand'. Another answer was, 'At early appointment meetings I make it very clear what my fee options are and what the client will get for each option. I rarely offer pro-bono services unless perhaps it is for a charity with good community service'. A1 described clients expectations as 'a hand-holding exercise' and warned that 'the danger of working with small clients…that that's going to cost our small practice more money than they can afford…my view is there's a point to which you actually have to say… for the benefit of other people who I support, no' (A1).

On asking that is might jeopardise their relationship, he said, 'that's perhaps again because you didn't lay it out at the outset…it's because there's a difference in perception of the deal and the words that are in the deal need to be explained'. He further explained, 'one other thing for which architects have been criticised is that they ignore contract terms in consumer contracts regulations 2008,… which directs architects to explain their contract in words…not just say there's a contract…and they actually have to have

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

minutes of the meeting where they explained it…and then say this is what I explained to you … it's not just reliability is to the purposes of the client but benefiting from an understanding of what the process is…some clients will still try to get more…than they deserve' (A1). A9 also stressed the importance of contract documents, '… the appointment document has to be robust, and an architect should take time to go through it for the client, because they are in dream world, imagining what they are getting' (A9).

<u>Clients' response:</u> One client was very critical about these issues, citing the following personal experience:

> *…the first time we employed an architect…she supervised the construction…and I got into trouble for commenting on what was going on it…because I didn't belong on it [site] until it was finished. She [the architect] said it was between her and the builders, and I had to talk to her and she would tell the builders… But it was a nuisance, because she wasn't there all the time. I could phone her if I had a problem, but it did create a communication issue because if I said something to the builders… I didn't like something…they couldn't do anything about it until I went through the architect because of the way the work was organised. So last time I supervised it myself, no problem, and I was there all the time and I could see what they were doing, and I felt so much more comfortable being a bit in control of the process, but I think you need to really understand the process before you can do that. (C1)*

On being asked further if she believed that 'with first-timer clients [dealing with an architect] is often a challenge' she said, 'Well yes. We didn't really have a problem, I just didn't like the way it worked'. C2 agreed that friends and well-wishers do affect clients: 'I've been in discussions with an architect and other people have then said to me, oh! but what about this? That doesn't look right, what about that, you know, you need to do that as well. So, the initial relationship with the architect becomes much more complex. As a result of that, it's difficult for our clients to trust someone in new work during the initial stages of a project'. C5 expressed, 'I trust everybody…until I'm let down! So, I agree, but when you have bad experiences with builders and architects, it is difficult'. C3 suggested, 'I think it's very difficult for architects to anticipate, but they have to just be very good at guessing the time a project will take and incorporating those 20 hours of pro-bono time into their initial assessment'.

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

5.4   SCENARIO 4: WE'RE INDISPENSABLE…OUR LOGIC IS PERFECT!

<u>Problems during construction stage:</u> The fourth point of the investigation attempts to demystify the dynamics that are at play during the construction stage of a project. It looks at power-sharing, responsibilities and silent hierarchies that transpire between architects, clients and contractors.

5.4.1   Online Survey Results

4. a) Most clients prefer functionality over aesthetics and want that architects should be more affordable and accessible.

Interpretation of the results   ***Response Breakdown***

<u>Overall response:</u> More than half respondents 57% (combined) prefer functionality over aesthetics and want architects to be more affordable and accessible. One client contended that '… you're paying an architect for aesthetics, not functionality or less functionality, I would say most clients actually don't want functionality, I'm not one of those people that prefers functionality, but I would think more people prefer aesthetics over functionality' (C3).
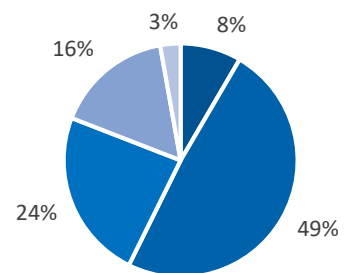
Pie 4.a 1 Overall response:

<u>Architects' response:</u> Architects were divided on this question. Exactly half (50%) agreed, whereas a quarter was neutral, and a quarter disagreed.
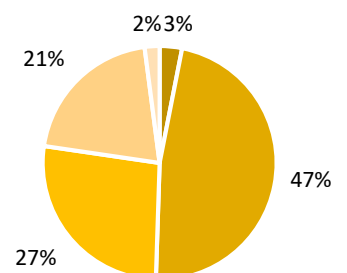
Pie 4.a 2 Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

4. b) Good contractors and skilled labourers are more important than architects, for timely completion, quality and strict budgets.

Interpretation of the results

Response Breakdown

<u>Overall response:</u> Only one third (36% combined) of respondents felt that 'Good contractors and skilled workers are more important than architects, for timely completion, quality and strict budgets'. 37% disagreed and 27% remained neutral. However, one architect said, 'Clients should be prepared to pay for architectural advice and services – our fees are exceptionally low compared with other professions' (SP119—AR).

7%   12%

30%   24%

27%
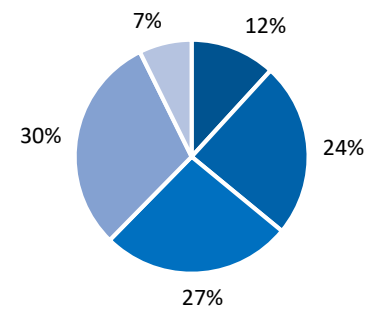
Pie 4.b. 1. Overall response:

<u>Architects' response:</u> Only one fifth (20%) of architects felt this was true. One commented, 'obviously site supervision is a must when it comes to transforming your design into reality, as if the contractor is not able to execute the drawings in a perfect manner, nothing is going to happen, and I have seen great designs ruined because of bad supervision and execution on site' (A1).

11%   3%
           17%

38%

31%
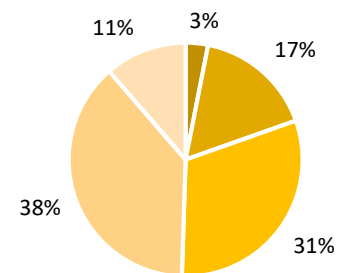
Pie 4.b. 2. Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

4. c) Architects tend to impose themselves and use their position for tactical benefits by promoting their affiliated teams.

Interpretation of the results   **Response Breakdown**

Overall response: Architects tend to impose …
was not found to true in general with 43% disagreement
yet, around one thirds of the respondents
32%(combined) supposed that this might be the case.
Contractor-driven contracts have degraded design and
weakened the architect's role substantially. Our institutes
should be fighting for us in this (SP119—AR).

7%   4%
28%
36%
25%
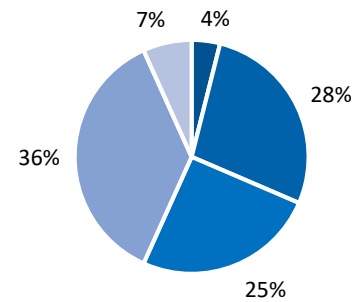
Pie 4.c. 1. Overall response:

Architects' response: As far as architects were
concerned, around 60% (combined) of them strongly
rejected this claim, whereas 25% agreed.

10%   1%
25%
47%   17%
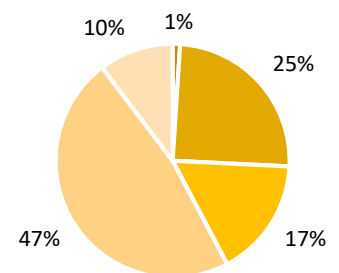
Pie 4.c. 2. Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

4. d) Percentage based fee structures are out-of-date and fail to separate the conceptual value from the production-based materialistic value. This does not encourage clients to approach architects with their projects.

Interpretation of the results

Response Breakdown

<u>Overall response:</u> Around 45% (combined) of respondents agreed that 'Percentage-based fee structures are out-of-date and fail to separate the conceptual value from the production-based materialistic value'. Thirteen percent strongly agreed and 32% agreed; 25% of respondents disagreed, whereas 30% were neutral. A10 firmly argued that they are not out-of-date and that clients like a percentage to base their projects on: 'we will never look at a fee without checking it against a percentage'.
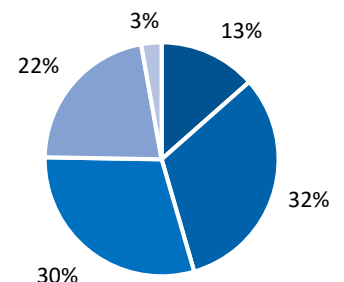
Pie 4.d. 1. Overall response:

<u>Architects' response:</u> Almost half (47% combined) of architects also agreed, whereas 23% were neutral and 30% disagreed.
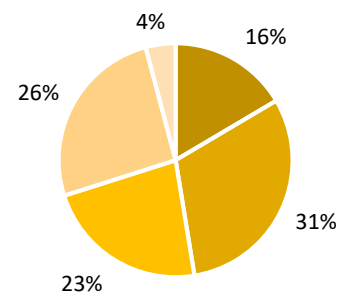
Pie 4.d. 2. Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

4. e) Architects should play strictly an advisory role in an average house construction, to avoid conflict of interest.

Interpretation of the results   **Response Breakdown**

Overall response: Architects should play a strictly advisory role in the average house construction project, to avoid conflicts of interest. In total only 29% suggested that this was particularly important for private residential clients. However, in general there was a disagreement of 47%.

7%
17%
22%
30%
24%
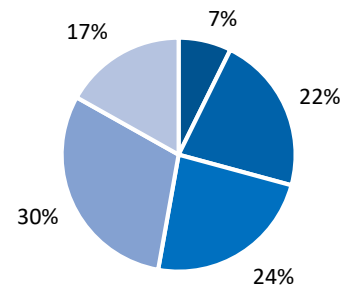
Pie 4.e. 1. Overall response:

Architects' response: On the contrary, not many architects thought that they should play an advisory role. Only 20% thought so.

7%
25%
13%
19%
36%
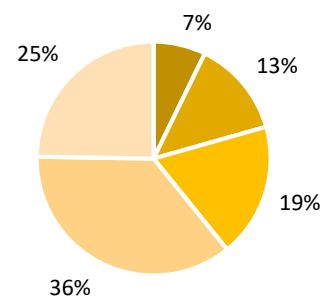
Pie 4.e. 2. Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

5.4.2   Findings from the Semi-structured Interviews

On the aspect of functionality and aesthetics, A10 argued that functionality may be important for most of the clients in the world, but 'people come to us because we do beautiful buildings; they're not going to come to us to do a medical facility because it doesn't matter if the medical facility is beautiful or not'. Although he agreed that emerging architects do not know much about functionality and affordability, 'absolutely right… their skill will be in aesthetics …they need to be trained that way [other than aesthetics]'. A11 explained, 'if we're talking about a residential type of project…it's a very emotional subject…because you're trying to find out how that person lives…do they need a space for muddy boots or…are they super tidy…and to give over that amount of information could seem intrusive, but otherwise you are not designing to their needs…some clients do want…they want to buy it…like you would buy a sofa…they don't want to go into the process, and other people want to know where the wood came from…what the filling is…you know…is the person being paid a fair rate for making it' (A11). A1 was undecided on which was more important, aesthetics or functionality.

A10 believed that good contractors and skilled labourers are more important than architects. A11 believed that since these projects are long, 'some clients want the architect to get planning permission and then go away'. She was also of the opinion, '…well the architect is not the one who's building the wall'. On the contrary, A1 was a firm believer that architects are definitely more important than contractors; he explained that, you can have a good contractor and a bad architect, and you will still have a terrible project…and you can have a bad contractor and a good architect'. The difference between them, he argued, was that 'if the architect is competent and understands the contract… he can make the contractors perform or he can get rid of them'. Referring to the context of the UK, he explained, 'there is no record of contractors getting fired, whereas there is a definite record of architects getting into litigation. I've seen a lot of contractors' bitten-off jobs and I've seen a lot of situations where the architect has actually made the contractor's life very difficult and decide to change their contractor'.

However, A8 expressed concern that,

> …most people, when they're looking for a new house or they've got the
> money to commission a new house, go straight to a builder…and the
> builder will give them the builder's standard house…and that strikes me

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

as just a lost opportunity for everyone concerned…because I sincerely don't believe that a builder will truly be able to translate the aspirations of a client, which are very complex aspirations, into a built form…but actually bypassing the architect is like bypassing a huge opportunity to do something really good…and that's a frustration.

Architects do use their position for the tactical benefit, said A10; he argued that,

often it's not so much about reducing headaches of coordination…the architect's the person who knows the least in the whole process…the client knows what he wants and he's going to know the building much better…he's going to know which plants go in…change the curtain colour and all that…the builder knows a lot about building…the engineer knows a lot about engineering…the architect needs to know a little bit about all of those things but never knows enough about any of those things together to actually do any good.

A9, on the other hand said,

most of the time the profession attracts egotistical personalities, plenty of promises to pay up in gold, someone has to pay for it. Yes, it is a competitive environment. As well, people go to establish links to position themselves tactically, and I used to quite a dismay, the same team over and over again but actually, I understand if you have a good working relationship with consultant then, then why would you not try to promote them.

A10 continued to describe architects:

so now that image of an arrogant architect turning up on site and pointing at things is to do with covering…for not knowing stuff…if you're an architect, you ask questions… you said you go to the builders… say how are you going to build this…I've drawn something but is that right? Are you going to be able to get that all right? Does this help you? Are you going to be able to get the DPC in that way, this is our way of doing it and it's going to make it easier to achieve the same thing…that's the architect's role… architects that turn up on site…just sort of act in that arrogant way…that's a cover for not knowing anything…in my humble opinion' (A10).

A10 firmly argued that clients like a percentage to base their projects on: 'we will never look at a fee without checking it against a percentage, so even if we don't tell our client about the percentage we're using… we find most of our clients actually do like to know because they want to compare architects'. Moreover, 'people like the percentage because

it actually means partly that it is slightly under their control…they can remember that the architect's fee is five percent and the engineer's fee two percent'. However, A1 explained his way of articulating this kind of fee structure:

> *why percentage-based fees are kind of yes…you need to take us on, we're telling you nothing until you signed on the dotted line to take the percentage fee and then we'll go in come up with our best ideas…So, it's a kind of historical view and it is this historical but in the modern worldview…where some people place a little value in the intellectual property…they say, well as soon as you tell me, it is mine…he built my design…the guy that couldn't draw was told how to do it…built my design and I learned a lesson from that – never ever tell anybody any answers until you've got your contract in writing on your percentage fee…because then they're stuck.*

In other words, the agreement was that percentage-based fee structures encourage situations where clients first need to commit to the architect before the architect will discuss the design. A11 and A10 also agreed that architects should strictly play an advisory role. A8 explained that the profession is recognising small clients; with specific reference to Scotland, he said,

> *I have absolutely no doubt that there are very many instances…and probably the majority of instances…where people, sometimes with small budgets, sometimes with big budgets, who can afford to pay for and build their own house…and let's face it that is always going to be a minority in our society…because you know architecture at that level is not about the social model…architecture at that level is about enabling people…with varying budgets, but usually with a certain amount of money…a privileged amount of money to do something that is particular to them…and realise their vision with the assistance of being an architect that should be the ideal… now the irony is…if you actually look at this of years in Scotland there have been a very significant number of modest projects…and quite a lot of those houses are small houses on small budgets…often in remote locations by small practices…not earning big fees…who are, you know, they're scraping together a living but they're not living rich on too large fees…they're charging very competitive fees for a very competitive high-quality service and they are on occasion …in fact more often than not I would say they are creating sublime buildings.*

Clients, on the other hand, agreed that architects should only play an advisory role and not force things. C1 said, 'my architect said, "You can have the wooden windows for a thousand pounds or the plastic windows for five hundred pounds, they will do the same".

The wooden ones will look much nicer; they might increase the value of the house more'. C5 suggested that to complete complex projects and execute intricate detailing, 'you need to have good contractors'. On percentage-based fee structures, she held that 'to me doesn't make sense…it has to be for me, the time… time is what you pay for, not size or budget. I've worked with both structures and time is the most sensible one …this kind of structure makes the best compensation for someone's time'.

5.5 SCENARIO 5: YOU DON'T PAY ON TIME. AND WE DON'T TRUST YOU!

<u>Transactional aspects of architect-client relationship:</u> Section five of this enquiry focuses on the transactional aspect of the ACR, payment of fees and value for money.

5.5.1 Online Survey questions.

5. a) After an initial agreement, architects must allow sufficient time for clients to decide before accepting an advance.

Interpretation of the results

    <u>Overall response:</u> 66% (combined) of respondents believed that 'after an initial agreement, architects must allow sufficient time for clients to decide'. Twenty-three percent were neutral and 11% disagreed. One respondent noted, 'Architects cannot conceptualise, design and add details to a project as and when payments are received. I think the process and pace of design development are essentially dictated by the architect's interest in the project and is completely independent of the dues received from the client. Quite often, an intermittent design process can prove to be a greater investment of time and effort as opposed to a continuous and sustained process' (SP47—AR).
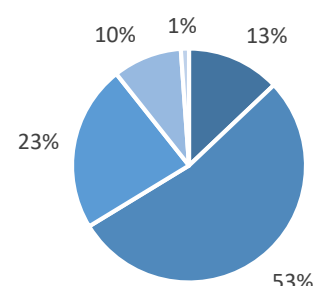
    <u>Architects' response:</u> More than half (57% combined) of the architects opined this to be true, though 27% were neutral and 16% disagreed with this argument. SP162—CL suggested that 'most residential projects fall under Consumer Contracts legislation, which allows for a 14-day cooling off period to allow for full consideration or cancellation. It also depends on the project; if the client is in a rush to get their building constructed, then they won't wait around to decide, as they have already made their mind up'.

Response Breakdown

Pie 5.a. 1 Overall response:
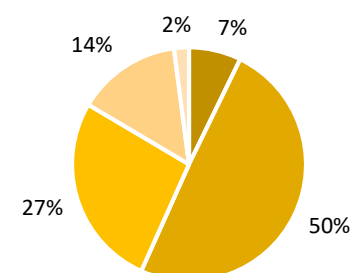
Pie 5.a. 2 Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

5. b) Instead of forcing their plans and ideas on clients, architects should rather work in tandem with the client.

Interpretation of the results

Response Breakdown

<u>Overall response:</u> 84% of respondents (combined) believed that 'architects should work in tandem with the client'. SP74—AR stated, 'as architects, we would expect to consult the client regularly as the design develops and evolves to meet cost and programme targets'.
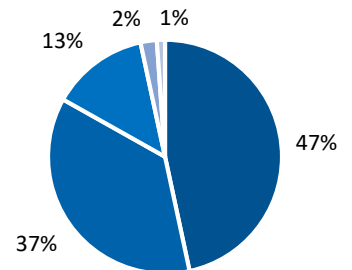
Pie 5.b. 1 Overall response:

<u>Architects' response:</u> Eighty-nine percent of the architects agreed with this in theory. However, other answers, as discussed previously and in the following pages, raise significant questions around this, which is also one of the premises of this study i.e. architects lack collaborative working skills. One could argue that if this was the case in the reality, almost all the problems in the ACR would disappear.
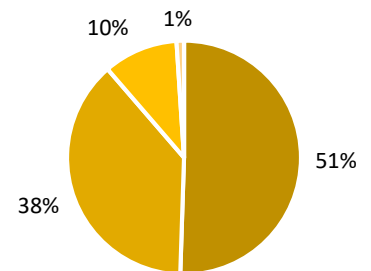
Pie 5.b. 2 Architects' response:

5. c) A substantial amount of the value can be added during the construction stage, particularly in private residential projects.

Interpretation of the results   **Response Breakdown**

        <u>Overall response:</u> The majority (60% combined) of those who responded to this item felt that 'a substantial amount of value can be added during the construction stage, particularly in private residential projects'. Twenty-eight percent were neutral and 12% disagreed. 'Sometimes, not just in residential projects, in the spirit of good collaboration and teamwork, the contractor can offer some very good suggestions on getting things built quicker and cheaper' (SP162—CL).
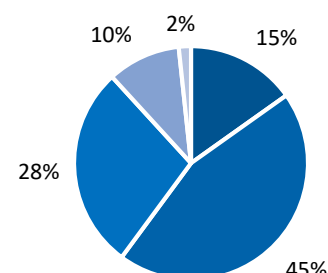
Pie 5.c. 1 Overall response:

        <u>Architects' response:</u> Sixty percent of architects agreed that value can be added during the construction stage. However, one architect argued: 'Define "value". Getting a project efficiently and correctly built in itself can be said to be of value. Design decisions during construction can come at a very high cost, both in terms of stress and financially' (SP107—AR). Another observation was that, 'in the case of the projects I work on, this [value] does reflect during the earlier design stages (SP81—AR).
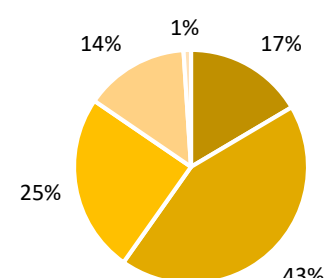
Pie 5.c. 2 Architects' response:

5. d) Architects should be also paid based on: the actual completed work or the amount of the running bills.

Interpretation of the results

Response Breakdown

<u>Overall response:</u> When asked whether architects should be paid based on the work completed or the (running) cost, participants were split into three groups. Half, 50% (combined) were in favour, whereas a quarter of respondents were neutral, and a quarter persisted against, i.e. an architect's fees should be front-loaded and not linked to construction. According to one architect, 'the architect should be paid in accordance with the original appointment documents terms and conditions. Whatever they are, it should be clear as to how the fees are calculated' (SP121—AR).
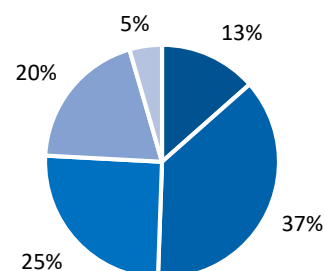
Pie 5.d. 1 Overall response:

<u>Architects' response:</u> Similarly, about one third (39%) of architects approved construction linked payment of fees, but 35% architects disapproved this proposal with 26% neutral. 'An architect is paid based on their agreed scope of services and appointment with the client' (SP97—AR). 'This should be adhered to at all times. In this case refer to SBCC contract suite' (SP101—AR). Another reply was, 'we do a lot of time and expenses work for this reason when the scope is difficult to assess in advance' (SP133—AR).
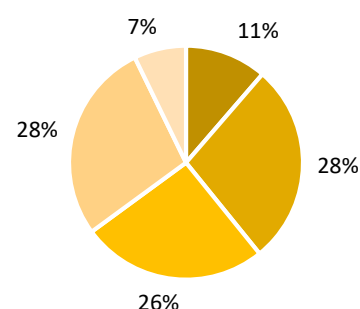
Pie 5.d. 2 Architects' response:

5. e) Through mutual trust is important, the timely payment of dues is the hallmark of any successful partnership.

Interpretation of the results

Response Breakdown

Overall response: Of all participants, 85%(combined) insisted that the timely payment of dues is indeed the hallmark of any successful partnership. One architect observed, 'the relationship is complex. I don't think it's fair to say the hallmark is a timely payment – that's too reductionist' (SP112—AR). One client held that 'payment delays hit the project as well as the architect's motivation to complete the project on deadline' (SP18—CL).

Pie 5.e. 1. Overall response:

Architects' response: Evidently, 91% of the architects said that the timely payment of dues is instrumental for any successful partnership. One commented, 'clients who do not pay on time are asking others to fund their projects. We stop work after warnings to pay' (SP133—AR). Another expressed that 'late payment of fees is why many architects are often in a poor financial situation' (SP119—AR).
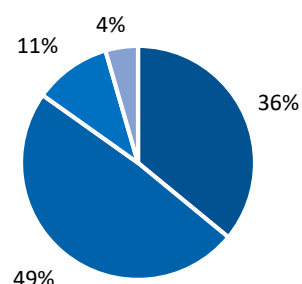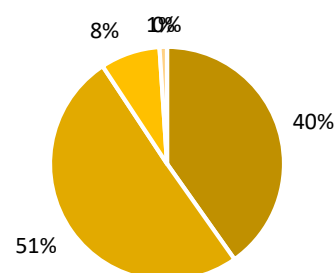
Pie 5.e. 2 Architects' response:

5.5.2   Findings from the Semi-structured Interviews

Most participants agreed that 'architects should allow time before accepting an advance'. For example, one interviewee said, 'actually, it's another way around, usually, it's the client who is desperate to get moving…usually we are asked: where is your fee proposal…but in a situation where time is available, then I strongly agree' (A10). He also agreed that value can be added during the construction stage, particularly in private residential projects: 'yes, I agree this is in the value of service…value of anything…absolutely and it's going to be better for having to work with the crafts-people' (A10). This view was echoed by A11, who said, 'oh yes during the construction yes, I agree yes, it doesn't stop, it doesn't stop at the design stage'. A1 put it,

> *Absolutely…100 percent, I think I would strongly agree with that but that is because I'm that kind of architect…that you know that not everything can be seen until you stand there in the room…no matter what three-dimensional visualisation you have. When you're there, it dawns on the client…it dawns on you and you have ideas after looking at it… and you say, do you know something, we're standing here, oh, we could do this…and I've had some of my best times standing there…in the muddy puddle with the client…yeah, absolutely…and the danger is, of course, you've got to know that that doesn't cost the client an inordinate extra amount of money because it's too late to change it, yes'.*

A9 agreed: 'I never understood why in the traditional balance of fees, they would say 10% left. I don't know where that comes from? The traditional role of an architect was as contract administrator'. A6 conceded, 'I know what to ask for upfront because the reality is you don't get it… I would not expect to get paid upfront for the whole job, …you know, maybe 20%, 10% upfront to kick starts and then could be paid as the project progress'. When asked to comment on RIBA's Plan of Work and fee schedule, she commented, 'it is not prescriptive, though, and clients can change their minds…I agree that there is not much clarity on this, and it all goes back to fee scales' (A6). A7, on the contrary, argued that,

> *we tend to…I mean the RIBA stage tends to be 100 percent of the fees broken down into 40% planning and 25% exactly go to production information, so it's front-loaded, it is very loaded…but there are good reasons why it's front-loaded. We tend to find when we go on site, we tend not… at best not make any money, at worst start losing money but we have a commitment to the job and blah, blah…and we do it, but we do*

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

find quite often that we all get planning and the client goes bye-bye and so we want to get paid properly.

Upon being asked to elaborate, A7 said,

…I just say, well, you know, there's a very low value ascribed to design because they (other building professionals) make their profit off other things, with this as the way of hooking clients…we don't have anything to sell other than our services and support…we're not selling… a lot of clients have this kind of belief that we are involved with contractors and all…that's generally…I guess the problem is more and more designers are thrown in as part of a service.

On whether architects should be paid in accordance with the work completed on site, A10 argued, 'I don't agree with that so much… I employ 30 people and I need a regular income …suppose you get started in this terrible weather and they don't get much done for a month…that means…I can't pay my guys'. Upon being asked, 'but what happens with the contractor, he's also running the same danger', A10 said, 'I don't care about him, but I have got my business to run'. On this issue, A11 said, I would disagree on that because I think that the architect could be very disadvantaged in that way…No…if they've done their work and either the client is stalling, or the contractor is stalling…But most of your work is done upfront…I do think that's the case'. In response to the suggestion that this kind of behaviour indicated mistrust on the architect's part, A11 asserted,

you're assuming good behaviour on the part of client …life happens…things change quickly over time'. She also suggested that, 'in the average office it's the more senior…the more expensive person doing the design stage, and as you're coming to the construction stage and it is the less time that you're spending, and less expensive people can supervise. Thus, the design fee should be front-loaded, but it is understandable that it need not be a percentage-based amount'.

A10 strongly agreed that timely payments are absolutely essential. He stated, 'that's actually more important for the contractor than the architect', and explained that 'we say at the start of the meetings that your relationship with your contract is going to be very much better…if you pay them quickly…so don't wait until the end of the certificate day… pay them as soon as you can…we also tell them if you've got a happy contractor they're going to be less likely to make claims against you, so it's going to be in your interest'. A1 remarked that non-payment is evil, saying, 'I have to say that non-

payment, late payment, is corrupt and evil and nasty…and it's a device that has been implemented in the larger construction industry since 1994…it has been against the law and but it still goes on, …in so many different ways it works to the commercial advantage of the person holding the money,…dominating the person who doesn't have the money then getting them to do more on the basis that they might give them it…I know it's evil, it's disgusting and if you could get rid of it, we would all be very happy' (A10).

When asked about payment of an advance, the clients were unanimous in the view that such payment was necessary for architects but should be time-based. Some felt that 'if you don't like his fee structure you argue with him or go to someone else' (C3), while others considered that 'You still have to pay before you get anything. If you have a small business and you have a credit account and you pay at the end of invoice, then you have a take-home feeling. They have to trust you. If the architect is putting all his trust in the client, how do they know he is going to pay' (C1). She also commented, 'I see a big problem in small businesses, when big companies don't pay money due to small companies, the small companies go bankrupt. So basically, it is a big problem all over, so you can see the architect is going to want to be paid enough money to stay in business'. C3 held the view that onsite value addition is instrumental in small projects, 'when you're actually on site, you take things apart and they're different to what you're looking at in the office'. C6 suggested, 'I agree that planning application drawings there is no issue there…because it's the same number of drawings, so there can be a fixed fee…and past the planning, the architect says, I'll now have to draw, do documentation, conditions drawing, specification…to get free builders to price these jobs,… so we get in line for money for the client…that's where the change happen for 1 million pounds or the 5 million pound building project fee' (C6).

5.6 SCENARIO 6: YOU DON'T UNDERSTAND THE WAY WE WORK!

<u>Ethical and moral obligations of architects:</u> The final set of part one of this study looks at the ethical and moral obligations of architects towards themselves, towards the profession and towards society at large.

5.6.1 Online Survey Results

6. a) Architects seldom prioritise understanding user's needs against visual aspects and try to fit in their own designs into client's budget while continuously redesigning in the name of value engineering.

Interpretation of the results   ***Response Breakdown***

<u>Overall response:</u> With 47% disagreeing and 25% neutral, only 27% agreed that *architects seldom prioritise understanding user's needs…in the name of value engineering.* According to SP161—AR, some do, and some don't –it's down to the individual architect and their personality. 'Without clients, architects do not have work, so the building of a successful relationship based on openness and trust is vitally important' (SP113—AR)
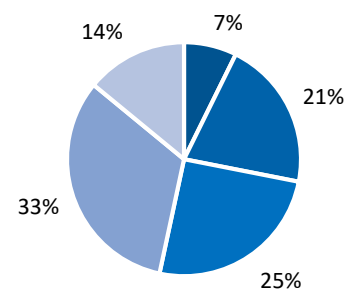
Pie 6.a. 1 Overall response:

<u>Architects' response:</u> Resistance was strong from architects, with 65% disagreeing with this statement and only 16% agreeing.
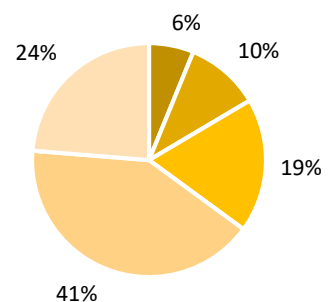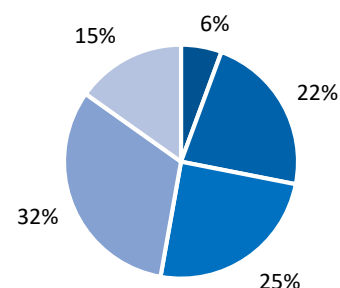
Pie 6.a. 2 Architects' response:

Strongly Agree (Darker) → Neutral → Strongly Disagree (Lighter).

6. b) Many architects lack ethical responsibilities and work to boost their own portfolio rather than responding to clients need?
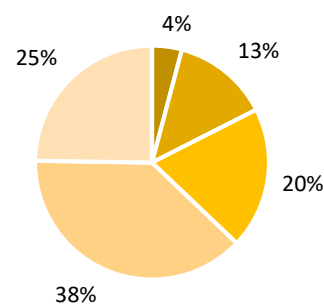
Interpretation of the results

Response Breakdown

Overall response: Twenty-eight percent of those surveyed said that 'architects lack ethical responsibilities and work to boost their own portfolio…', while 47% felt that this was not true. One architect said, 'I answer for my own standards – I am quite sure there are those that aren't so considerate' (SP86—AR). However, another said, 'UK architects have a professional responsibility to their clients under the ARB Code of Conduct. Please refer to this document' (SP101—AR).

Pie 6.b. 1 Overall response:

Architects' response: Contention and opposition were felt from architects when confronted with this question. Sixty-three percent strongly disagreed, and only 17% said yes. SP133—AR alleged, 'but the clients allow themselves to be used this way too'. Whereas SP169—AR said, 'yes, architects do use clients as their success ladder! Okay, so what's wrong with it, until and unless it goes against ethics?'
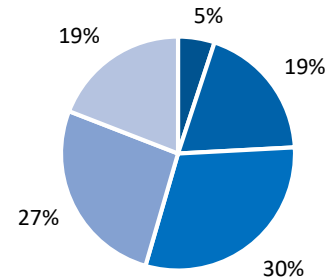

Pie 6.b. 2 Architects' response:

6. c) Architects use clients to quickly climb the success ladder?

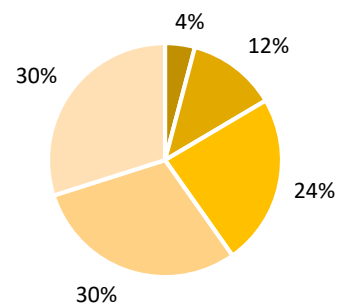**Interpretation of the results**

Response Breakdown

Overall response: Some respondents (24%) felt that 'Architects use clients to quickly climb success ladder' i.e. use clients to further their own interest, whereas 46% felt otherwise and 30% were neutral. 'A good architect should not lack such ethical responsibilities and a good architect would not need to "use" clients' (SP63—CL). One architect commented, 'Successful projects earn good reputations; these projects are successful by fulfilling the client's brief successfully. Not by "using" clients' (SP107—AR).

Pie 6.c. 1 Overall response:

Architects' response: Sixty percent of architects objected to this assumption and only 16% said yes. 'There are some commercial-minded architects, but they tend not to consider design the absolute priority. Good design is not the primary aid to climbing the ladder' (SP74—AR).
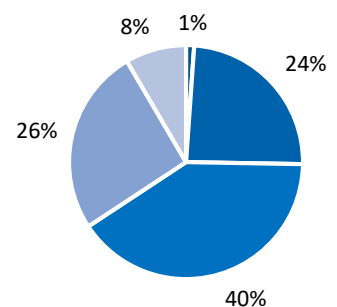

Pie 6.c. 2. Architects' response:

6. d) That these arguments are applicable to many emerging architects?

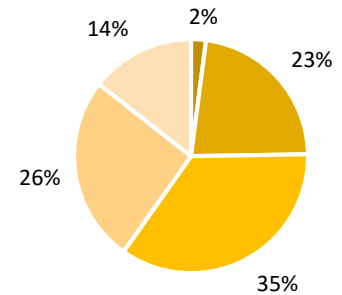**Interpretation of the results**

Response Breakdown

Overall response: Twenty-five percent (25%) think they're not applicable and 34% think they are applicable, 'that these arguments are not applicable to many emerging architects'. However, 40% were neutral.

Pie 6.d. 1 Overall response:

Architects' response: When architects were asked to comment on this, 40% they disagreed and only a quarter of them demonstrate adherence with the statement.
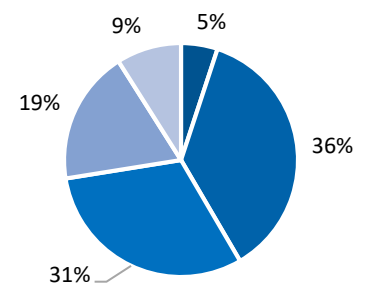

Pie 6.d. 2 Architects' response:

6. e) That these arguments are also applicable to some established architects?

**Interpretation of the results**   **Response Breakdown**

Overall response: Forty-one percent of the sample opined that these arguments are more applicable to some established architects.

Pie 6.e. 1. Overall response:

Architects' response: Even architects (34%) felt that the statements were found more applicable for established architects. One architect stated, 'the terms you state this in are maybe too crass but undoubtedly architects do have their own agendas, both "artistic" and "business" – how else can a business progress if it does not make wider use of the opportunities offered by its clients? This need not be in conflict with the clients' interests, as your questions seem to imply' (SP111—AR).
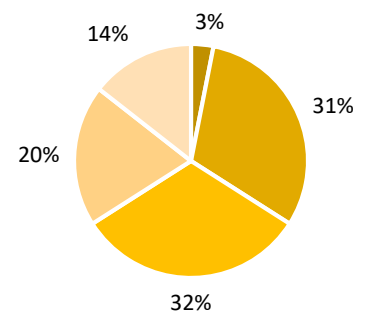
Pie 6.e. 2. Architects' response:

5.6.2   Findings from the Semi-structured Interviews

A common view amongst interviewees and survey respondents was that this scenario had some very blunt and demeaning statements from an architect's point of view.

Opinions differed as to whether 'architects use clients for tactical benefit'; for example, A10 stated, 'well they've got no choice, I mean what else can you do…it's like you can't be successful without clients'. Whereas A1 held that 'architects generally serve clients and serve the design process'. Another interviewee said, 'when I was small, I was taught that the client is the most important person and your role as a professional is to safeguard the client's interest and the programme and the budget, and clients assume that you are going to design something beautiful. That's not the way architects [operate nowadays], they think the job is theirs and the client is lucky to have them there, very arrogant' (A5).

Architects seldom prioritise understanding users' needs against visual aspects and lack ethical responsibility…, A10 held that these traits are more likely to be associated more with recent graduates. A10 suggested, 'I'm unimpressed generally with the ethics of the people that come out of college', whereas A1 argued that, architects seldom prioritise…, may not be the case, and that clients lie about money as well, so, 'you need to know how to be alive to the fact that sometimes clients lie…and but yes, I mean that's …it both sides of the coin, …I think each one is as bad as the other'.

Another theme that came up, for example in discussions of architects' ethical and moral obligations, was their design-centric attitude. A1 explicated, 'in my experiences with architects, they are generally so bad at business that I don't think that it is about money…what it might be about is their driving their own agenda, which is to create that task, that thing, the beautiful design…that is not necessary a client-centred design'. One view amongst some interviewees was that 'when an architect has been seen to be not responding to the client's needs and has been criticised by the profession, it's more common that such an architect is quite senior in years, and that junior architects might actually be sincerer, altruistic and perhaps more honest'.

A recurring impression in the interviews was a sense amongst interviewees that 'yes, what you are asking is true, but the questions seems to depict the architect as an egomaniac'. However, since the questions in this part of the study were asked to provoke a response it

is natural that architects and clients would see it differently. As such, when a statement was found to demeaning by architects, were deemed appropriate by the clients.

## 5.7   ADDITIONAL QUESTIONS FOR EVALUATION OF ARCHITECTS BY CLIENTS

For client respondents who had an experience of working with an architect or engaging them professionally for their project, three additional scenarios were introduced. Fifteen close-ended questions were adapted from the list of 20 questions that AIA has prescribed on its website for clients to ask before finalising an architect for their project (AIA, 2018). These questions were divided into three scenarios with five questions each. The answers to these questions indicate that the clients, in general, were happy with the way architects handled their project. More than 75% of clients stated that they had good design stage experience (graph-1), whereas during the construction stage almost half of the clients said that things could have been better (graph-2). Similarly, more than half of respondents were happy with the professional services offered by the architects including value for money.

5.7.1   Scenario 7: Design stage experience
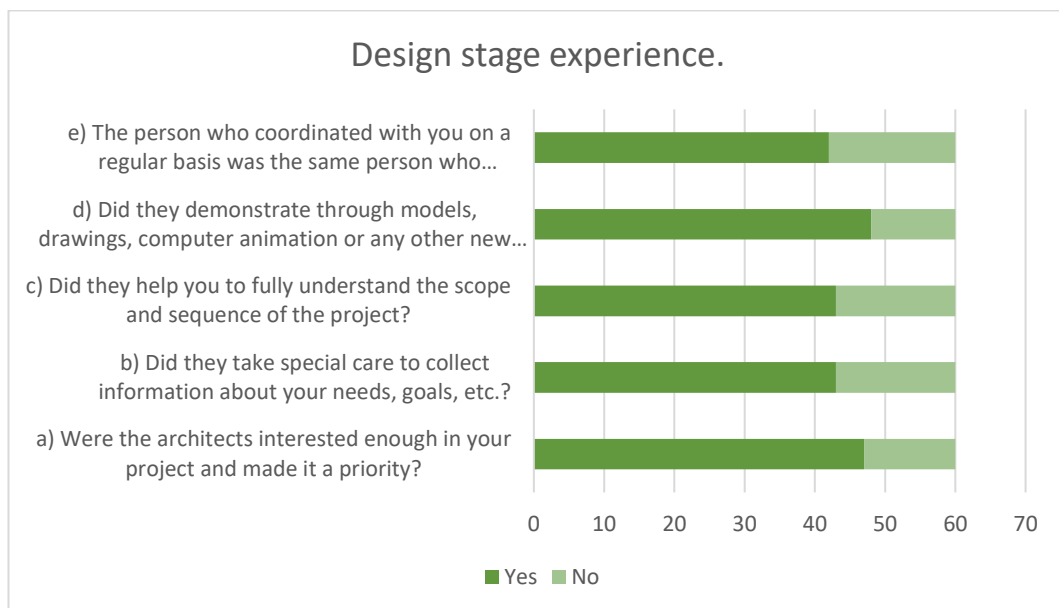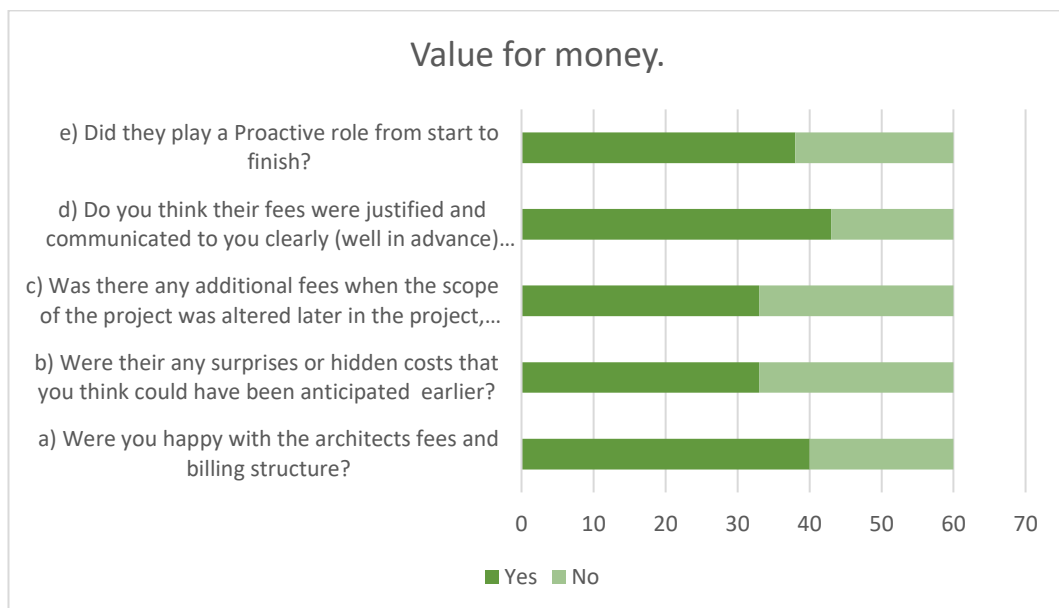

Graph 1 Design Stage experience of clients

5.7.2 Scenario 8: Value-addition during construction
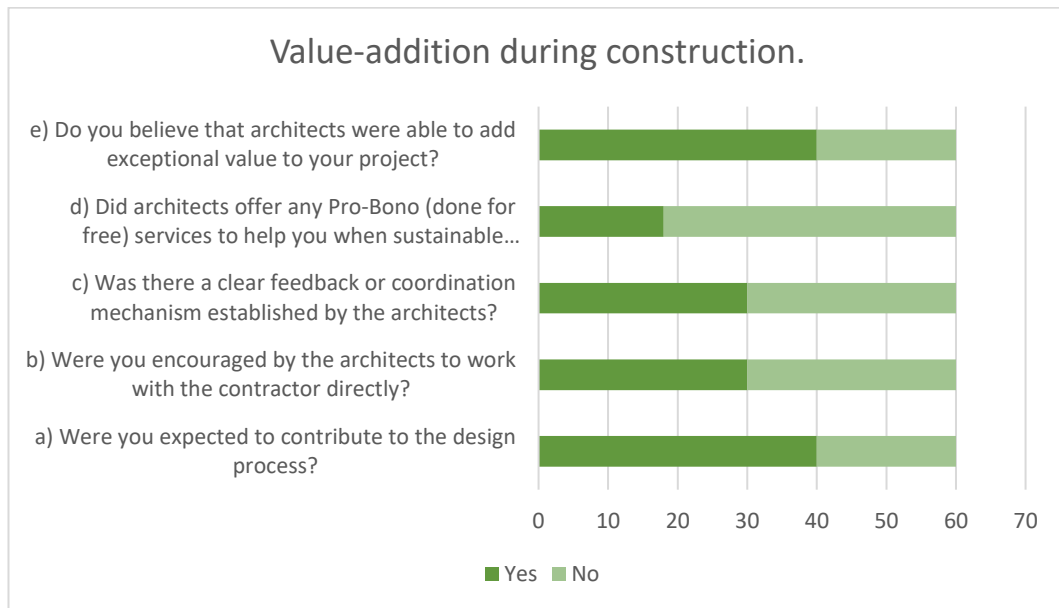
Graph 2   Construction stage experience

5.7.3 Scenario 9: Value for money

Graph 3 Professional service experience

DISCUSSION: ARCHITECT-CLIENT RELATIONSHIP

Examining aspects in more detail

Several problems faced by architects and clients have been reported by the respondents of this study. Based on the content analysis of the literature in Chapter 2 and thematic analysis of the qualitative data collected through interviews and surveys, this study came up with the researcher's insights around the role of architects in society, their social status, the position of clients and users, the role of professional institutions and the effect of recent technologies. The crux of the matter that this discussion deals with is summed up by one of the architects during their interview:

> *The client-architect relationship is like a courtship, all very cordial at the beginning (design stage), but as time and the project progress, it has the ability to turn somewhat unpleasant! Is it just because the initial excitement of the design has evaporated, and the harsh realities of budget and the inevitable compromises begin? I'm not sure it's that straightforward though; as if we consider the role of the engineer, the relationship dynamic is quite different. I would describe it as a more consistent relationship, devoid of the highs and lows perhaps but ultimately more professional. Also, from my own experience, the situation is vastly different on domestic projects when compared to commercial projects. Domestic projects are just far too emotional. Clients feel they know what they want and when that differs from the "architectural vision" the process can become somewhat adversarial as the client feels they are indulging the architect, but as Steve Jobs said…"A lot of times, people don't know what they want until you show it to them".*

The following sections will discuss the results as reported by architects and clients about a) the lack of clarity about the role of and need for an architect; b) The gap between architects and clients in their use of language, terminology and communication; and c) the lack of trust and the crumbling architect-client relationship. At the start of this study, these problems were articulated into two propositions: a) A design-centric attitude and lack of understanding of client needs has led to the marginalisation of architects; and b) Digital technologies can help bridge the gap and lead to a better architect-client relationship.

5.8   DISCUSSION: Once built, it'll look amazing.

<u>Architects' attitude, outlook and communication with clients:</u> The first statement in scenario one, Architects always argue that clients do not understand the hard-work …clients take out elements from their design to reduce the project cost, aimed to find how respondents react to architects' judgemental attitude towards clients. Although no data was found in the literature on the association between the two parts of this question statement, the researcher wanted to find out if there was any relation between the two. The main argument for finding out if there's a relation was that it is generally true that during the early stages of a project, architects are often so lost in the details and aesthetics of a great design that they fail to realise how ignorant their clients are if they happen to be first-timers. Or perhaps it is the clients' lack of technical knowledge that causes the removal of many design elements and plans, etc., suggesting that architects fail to communicate their ideas.

The current study found the following responses from architects and clients: 10% strongly agreed and 46% agreed that architects always argue that clients do not understand the hard work it takes to produce a design solution and claim that clients often take out elements from their design to reduce the project cost. However, even more, surprising was the response of architects: 10% strongly agreed, and 51% agreed. This also accords with the earlier observations made in Section 2.3.2, which showed that client concerns – interests, not worries – must be kept in the foreground of the design conversation (Roberts, Anderson and Hull, 2000; Macomber, Howell and Barberio, 2007). Section 0 identifies several reasons for disputes that arise due to a lack of communication:

1. The client's viewpoint was not fully considered
2. There was not enough communication between stakeholders
3. Design requirements were not sufficiently managed
4. The needs expressed by the clients often change
5. There is a lack of feedback from the client

Likewise, two-thirds of the participants agreed that clarity of communication was far more important than design. All this implies that it is highly likely that the client's viewpoint is marginalised and domineered by the architect, which creates a difference of opinion, at least in private, one-off residential projects. Consequently, by and large, clients end-up asking, conversing with, and trusting contractors and other parties more than architects.

The other questions presented in this scenario revealed that there was general acceptance (65%) among the respondents of the other three statements in this theme,

i.e., *visual and digital content are much easier to understand…; innovative technology helps architects…;* and *acceptance of digital technologies as a standard practice by architects ensures efficient working… better architect-client relationship.* Comparing the findings with those of other studies confirms that clients are unfamiliar with the current architectural language of representation and struggle to understand the modalities of space depicted by two-dimensional plans, elevations and paper drawings. These results also support evidence from previous studies (Awan, Schneider and Till, 2011; Buchanan, 2012; Norouzi *et al.*, 2015; Stevens, Williams and Green, 2015; Anderson, 2016) that with the exponential burst of user friendly technologies, apps and the internet, architects can not only communicate their concepts, ideas and suggestions effectively but also monitor projects remotely with real-time updates and accountable operational transparency.

However, some respondents had reservations about the role of technology. A possible explanation for these reservations may be that the respondents lack adequate exposure to the possibilities and workflows that recent technologies offer in terms of facilitating a collaborative approach, efficient communication and accountability. Or perhaps some architects preferred a traditional model of architecture practice, a view rejected by most interview respondents.

In the digital age, the increasing complexity of building design and need for efficient client-participation in the design process mandates that new frameworks of design approach must be developed with the support of computer-mediated tools that facilitate efficient collaboration among stakeholders. Accordingly, it can be contended that by adopting the digital technologies and modern communications artefacts to facilitate collaboration and design information exchange, architects and clients can enhance their capabilities to a great extent, which will not only reduce conflict and improve the quality of the design outcome but also increase client satisfaction and improve relations.

The present study and many references therein suggest that established architects still prefer to use conventional methods of drawing and practice, and struggle with, or rather avoid, adapting to new technologies and modern workflows. However, rejecting these claims, one could also argue that architects have reasonably adapted modern technologies for their self-centred interest, to reduce their workload and drafting times, and to increase profitability and extend their control over projects and contractors. For instance, applications and software such as AutoCAD and Photoshop are widely used by architects to copy, paste, tweak and modify one design solution to fit the needs of

another client. Arguably, this reduces their efforts and allows them to create more design options in less time. Many established practices also outsource a large amount of presentation work to freelancers and emerging architects at modest rates; these freelancers bring to life two-dimensional paper drawing, for which the principal architect or practice takes credit. Such partnerships and skills are indeed treated as business secrets by architects, which enhances their tactical position in any given architect-client relationship. By covertly using technology, as needed, they can easily impress their clients, which makes it easy to raise their fees and forces clients to commit and make impulsive decisions or commitments.

However, with small sample size, caution must be applied, as these findings might not be true of all architects; however, a consensus was achieved through the online survey and during the interviews that recent technologies are more empowering for both architects and clients. Hence, it could conceivably be hypothesised that some of the main reasons for discontent between architects and clients are lack of proper communication, use of complicated terminology during the presentation of concepts, and architects' focus on aesthetics, instead of functionality or the needs of the clients, particularly during the initial stages.

5.9   DISCUSSION: Overcommitment leads to underperformance

<u>Lack of awareness about an architect's role:</u> The second set of statements in the online survey sought to determine the extent of the lack of awareness among the general public about the architect's role, their attitude towards architects and the reasons for such an attitude. It is argued that by commissioning the right architectural team and expressing their likes and dislikes, clients can add more value to their projects. However, the findings suggest that due to peer-orientation and culture of allegiance, most architects become isolated from society and operate within a closed network. As such, clients are not clear about all the services architects can provide, how to find one and what to expect from them. Many clients privately admit that they get overwhelmed by their architect's skill set and contractual paperwork, which impels them into considering the architect's choice of material, specifications and the products to be used in the project. This often leads to dissatisfaction, where the client starts feeling that their desires are being curtailed and they have limited control over their project, marking the beginning of mistrust between the client and the architect.

When asked their opinions on the statement, *architects do not allow much flexibility … clients have limited control over their project,* only one third (30%) of the respondents felt this was the case, while 25% were neutral. However, it was surprising that only 56% of architects rejected this claim, which hints that there are still a noticeable number of architects who prefer design aesthetics over client needs. A revelatory explanation was offered by one senior architect during his interview, where he explained that there is a continuous power struggle between architect and client. Likewise, the next statement was received in the same vein, with one-quarter of all the respondents agreeing that *by making more drawings, architects try to justify their design fee and recommendations,* whereas architects strongly rejected this, with only 16% agreeing.

The responses to the first two statements suggest that in general architects demonstrate strong work ethics. However, the next two statements suggest that *clients expect finish buildings… and they would not be better off by saving architectural fees.* Therefore, it is reasonable to conclude that something is out of place here, because many studies (Goodman, 1972; Banham, 1996; Rieger, 2002; Till, 2009; Buchanan, 2012) have confirmed that architects often find rational reasons for their actions under the excuse of value engineering, technical explanations and by assuming a certain position of authority. However, the response to the last statement in this scenario gives insights, which support

the arguments made previously, *clients prefer working with contractors directly*, rather than architects. Almost half of the respondents, 48% collective and 46% architects, agreed that *it gives them (clients) more control, satisfaction and value for money, including a feeling of accomplishment*. Surprisingly, even architects agreed that this was true; this gives some indication that architects see themselves as clients here, or, in other words, step into their shoes, where they acknowledge that direct communication with contractors offers more control and a feeling of accomplishment. One architect described the defiance of clients as the 'Grand Designs' problem, while another said,

> *Many people forget why they came to an architect in the first place. However, these claims of architects not only display arrogance and a lack of empathy towards the clients, whereas observation of another architect was more considerate, he said* 'in most cases, the client has never needed to use an architect before. Once they hear what an architect can do for a client, they often realise that working directly with the contractor is not necessarily the best way to proceed'. *(SP120—AR)*

Part of the problem lies in the fact that UK policies are taking a much bigger risk with the future of the building industry. For example, one senior architect explained how clients see dealing with an architect as a hassle: 'if you opt for "design and build" you don't pay VAT ...on the architects' fees, which acts as one of the biggest attractions for clients; and also, the whole risk of having to talk to an architect about this kind of stuff when they don't really want to ...you know...it makes sense to a lot of clients' (A1). These findings are rather unsatisfactory and raise intriguing questions, such as whose job it is to educate clients and raise awareness about the profession. Perhaps client awareness, if included in the academic curriculum, where emerging architects are trained in interpersonal skills, is the answer? Could some sort of alternative routes of procurement of architectural services, as discussed in the book *Spatial Agency: Other Ways of Doing Architecture*, work in the architect's favour? Although many of these questions are outwith the scope of this study and further research is required to investigate the role of various professional institutions in raising awareness about the role of architects in society.

As discussed above, engaging an architect is currently seen as an obstacle by clients in controlling their own money and desires. An architect should be seen by their clients as an enabler and facilitator, as conferred in Section 3.1.5 (page 115). Hence, the results provide further support for the hypothesis that a power struggle in which one party wants control because they pay, and the other wants control over the design to impress peers lies behind many broken-down architect-client relationships and is the reason why

many relationships never begin. Therefore, if architects advocate that all site instructions should be routed through them, then they must, at a minimum, devise workflows that facilitate more collaborative, transparent and direct communication between the stakeholders.

5.10 DISCUSSION: We can't explain … but you should trust us.

<u>Dynamics during the initial stages of the architect-client relationship:</u> The online survey statements in theme 3 were drafted with an objective of understanding the factors that are at play during the initial stages of the architect-client relationship. The statements took a position that clients are willing to invest their trust in architects, who can deliver both things, a concept and the actual building, but architects ignore the emotional needs of their clients in the name of professionalism and rationality. When asked whether *architects expect clients to make decisions based on rationality, but this is seldom the case…*, the response was reasonably positive, with 37% respondents and 38% of architects agreeing with this statement. This implies that to win clients' trust and progress with projects, architects must be capable of identifying and addressing the emotional requirements of their clients, who are occasionally swayed by the strong influence of product suppliers, friends and well-wishers. One respondent commented, 'It should be clear that emotions will be involved in project design; there is no justification for claiming every decision should be a rational one. The architects, as well as the clients, have very different criteria and priorities. It is the architect's job to identify those, whether rational or not, and develop a brief to satisfy or at least answer those desires' (SP107—AR). Likewise, during their interviews, A2 endorsed the way clients make their choices:

> *I agree as I think the questionnaire said, the clients are on a certain level rational, and they're irrational about stuff like money particularly. Even institutional clients are irrational on a money level. You can say to them, if you don't do that now, it will cost you three times more in 10 years' time. And still, they will choose not to do it. Because that's tomorrow …and they'll look at you and be like, …yeah, you're right but… (A2)*

By offering free advice, other building professionals, like site supervisors, petty contractors and joiners, complicate matters further, which triggers a series of apprehensions and doubts in the client's mind, such as, what if the architect's promises are not kept? While this is natural and unavoidable, architects need to find ways to mitigate such client concerns before they become formidable; one possible solution is to have a mechanism in place through which clear and frank dialogue could be established as and when required. This was noted during the analysis of the second statement, where 30% of all respondents and 27% of architects agreed that *architects often fail to look beyond the design and formal paperwork…*; and with 51% of collective respondents and 55% of architects agreeing that external influences do impede the initial stages. One architect argued that 'first-time clients (especially residential) seldom understand the

contractual aspects of architecture, assuming we just do the design and spec… with little site involvement' (SP98—AR). Such influences of other building professionals and well-wishers affect clients' decision-making capabilities, urging them to go against the recommendations of architects, which in a way make the paperwork and contract documentation superfluous. One architect said during the interview that

> …the key thing, is the relationship between the client and the architects… so how do you establish a relationship of trust? …my experience is that it generally comes from the 'architect listening' and 'client understanding' …where the client realises that the architect has listened even though they haven't got everything right as they develop an idea; then an element of trust develops between the client and the architect and there's a better chance that the client will… ask the architect to be their architect and act as an architect' (A4)

Therefore, the element of trust is also an important catalyst in ensuring the smooth transition from initial stages to good progressive affiliation. The current study found that 48% of all respondents and 39% of architects confirmed that it is difficult to trust someone at the outset of a project. Even more surprising was that two-thirds of respondents and architects said that they are aware that 'clients are looking for an onsite architect …who can deliver from concept to completion'. A conflicting, yet realistic, view of a client was, 'it really depends on the client, most people are trusting until let down. Most clients simply want a set of drawings for the lowest cost and will forgo onsite services if they think they can manage without' (SP156 – CL). Apart from design and aesthetics, it seems that even architects do not seem interested enough in supervising construction for private residential clients.

5.11 DISCUSSION: We're Indispensable! Our logic is perfect

<u>Problems during the construction stage:</u> The online survey statements in set 4 looked at issues affecting the architect-client relationship when contractors and skilled workers bring up practical issues on site. These issues can range from operations and logistics to planning permission, etc., but with respect to this study, they are the cost of design elements, material choice and finishing. The majority of residential clients look to architects for simple solutions, which need not necessarily be masterpieces of their creative imagination; therefore, they claim, architects should be affordable and accessible to everyone. When asked to choose between functionality and aesthetics, more than half (57% combined and 50% of architects) of respondents said that clients prefer functionality over aesthetics (see Section 2.3.3, page 67). Comparison of the findings with those of other studies confirms that current systems of architectural education produce graduates who only have aesthetic skills and do not know much about functionality and affordability. These results may help us to understand why people prefer practical architects over aesthetic architects, apart from the fact that engaging an architect adds approximately 15% to 20% to the project cost.

Similarly, when asked if *good contractors and skilled labourers are more important than architects for timely completion, quality and strict budgets*, 36% of respondents said yes. What was more surprising is that one fifth (20%) of architects also said that contractors were more important than architects. Many reasons can explain these results, as argued by Till (2009), Banham (1996), Salinargos (2008), and others. This implies that it is often the case that first-time residential clients are not aware of how to obtain what they want because the benefits of engaging an architect are neither explicit nor guaranteed for clients (see section 2.3). During an interview, A1 explained that 'you can have a good contractor and a bad architect, and you still have a terrible project ...and you can have a bad contractor and a good architect', the difference in both he argued was that, 'if the architect is competent and understands the contract … he can make the contractor perform, or he can get rid of them'.

Another hindrance to the architect-client relationship is the architect's authoritarian image, which many clients feel, they use for the tactical benefit. When asked about this during the survey, 32% of the overall respondents and 26% of architects agreed that *architects… use their position for tactical benefits by promoting their affiliated teams.* Although 60% of architects strongly rejected these claims, it does not indemnify that this

practice does not have any implications. From personal experience, the researcher can argue that it is fairly common for product manufacturers to offer various promotional and incentive-oriented schemes that offer heavy discounts through architects for recommending their products. Hence, often it's a rivalry about, who can get a better deal for clients – contractors or architects – and moreover, it is worth noting that these special prices are never available to clients directly, even though they invest the money and perhaps pay interest too. However, only 29% of all respondents and 20% of architects agreed that *architects should play a strictly advisory role in average house construction, to avoid conflict of interest*. In general, therefore, it seems that respondents overall acknowledge the value of architects and their contributions, but the identified apprehensions need to be addressed.

Typically, architects charge their fees either as a lump sum or as a percentage of the project cost, excluding charges for site visits or time spent during contract administration. The next statement contended that *the current fee structure that architects use is inadequate to justify the technical genius rooted in their concepts and professional ethos of their practice and fails to separate conceptual value from production-based money-oriented value*. Around 45% of all respondents and 47% of architects acknowledged that the traditional fee structure is out of date. The findings suggest that the fee structure might be a source of discontent, and they also show the urgent need for alternative routes of procurement and practice of architecture. A possible explanation for this response is also that in non-residential projects, a percentage of an architect's fees helps in budget planning and it is not something new for stakeholders, while in the case of residential clients, who are not even fully aware of the role and services offered by architects, think paying architects is superfluous. For such clients, the main focus is having their own home. Hence, task-based fee structures might encourage clients to approach architects with their projects, which may later have the potential to transform into larger commissions. This could be particularly beneficial to small practices and emerging architects.

For instance, we assume that an architect's fees are justified and deliver value for money in the long run, when they specify A-class materials and long-lasting products. The 15%-20% additional project costs are also understandable, as long as it's reasonable and if the client can pay for it. In this context, it is also worth noting that when most consultants and contractors get paid in full for their products or services, it is the architect who gets blamed and held responsible for any shortcoming. Arguably, architects truly bring spatial

qualities to projects, which otherwise would have been just buildings, but where are such clients nowadays, who can patronise an architect's dreams?

The effect of fetishisation and consumerism has engulfed middle-class society in such a manner that middle-class people are barely able to make ends meet and live their daily lives. Isn't it ironic of architects to think that these clients will identify and appreciate the aesthetic value of something that is beyond their finances? Moreover, why should clients plan and think five to ten years into the future, when most modern-day product-infatuated businesses are promoting a 'use and throw' culture? For example, furniture and furnishing companies offer zero-interest, use-now-pay-later schemes on their products (see Section 2.4.7, page 89). They only target the present, without planning for the future. Their only motive is to sell and meet consumer demand. By no means does the researcher want to take a position that a 'use and throw' culture is good, nor that clients should endorse this path. The point of this argument is when most other businesses and companies are responding to consumer needs, why do architects resist that change?

5.12 DISCUSSION: You don't pay on time. And we don't trust you!

<u>Transactional aspects of the architect-client relationship:</u> The fifth objective of the online survey statements was to explore issues around money matters in the architect-client relationship. It is a widespread belief among architects that clients do not pay on time; understandably, they do not undertake any assignments unless they are paid in advance and have a contract in place. Moreover, this lack of faith and trust also signifies that architects adopt a cautious approach and doubt that their clients have adequate funds to pay their fees, even when it is for the architect to impress the client, respond to their needs and satisfy them. In other words, by becoming the first ones to accept an advance or promoting front-loaded payment contracts, architects somehow tend to cast themselves in the same light as other building contractors in the eyes of the client. To behave ethically, architects must seek to convince clients of the value that they can bring to the project and ensure that clients do not feel pressured to commit.

As noted during the literature review (Section 2.4.5, page 85), architectural fees are mostly front-loaded, where more than half the fee is paid before the start of on-site construction. Could this also be one reason discouraging clients from approaching architects? Perhaps clients relate fees more with onsite service during construction, unlike architects, who justify fees with design and preconstruction work. When asked whether, *after an initial agreement, architects must allow sufficient time for clients to decide before accepting an advance or signing a formal contract*, 66% of respondents and 57% of architects agreed that it should be the case. Although there is a fourteen-day cooling-off period to allow for full consideration or cancellation, it is generally overlooked by both clients and architects, as both are in a rush to start construction.

One of the most intriguing responses was when respondents were asked whether *architects should work in tandem with the client*. Unexpectedly, 84% of all respondents and 89% of architects agreed that this should be the case. One could argue that if this were the case, most of the architect-client relationship problems identified in this study would never appear in the first place. Interestingly, a dispute among architects and clients also comes about on the concept of 'value for money'. Some architects argue that value can be seen and added during the initial stages of the design process when fundamental decision-making takes place. However, the next statement was framed on the premise that, in private residential projects, a large amount of value can be added during the construction stage, when most architects are not around for consultation. 60% of

respondents in both categories agreed that *a substantial amount of value could be added during the construction stage.*

This led to the next statement, regarding how this 'value addition' is achieved in practice. When the architect's role is mostly confined to the design stage, where most senior designers spend time on resolving design issues, selecting palate of material and finishes, and finalising the bill of quantities, one might wonder how this value is added during the construction stage. Do architects knowingly ignore this issue, since they are already preoccupied with the design of the next project? Or, since they have already received most of their money up front, do they simply lose interest? One client, during the interview, said that their architect was quite adamant that 'any matter on site was between her and the builders and I had to talk to her, and she would tell the builders…' (see page 239). It can be implied that value-addition during construction is a missed opportunity for clients, which they do not benefit from even after paying architects' fees. While value addition during the construction phase may sound irrational and impractical from an architect's viewpoint, it certainly might be yet another reason for clients' rejecting attitude towards architects.

One could argue about how good value that was added to paper by architects but never executed on site or transferred to the client really is. For instance, imagine that architects added value in the design stage by specifying stone flooring that cost x amount of money. Now, imagine that mid-way through the project, if the clients feel that by opting for tiled flooring, they can reduce the cost of the flooring, including savings, such as, reduced material wastage, less labour cost, ease of installation, faster turnaround, since the tiles are pre-finished, etc. Arguably, this is the right time to make such a decision, partly because it is the time where clients could understand and make a well-informed decision, unlike during the design stage, when everything is new for them. Or in another instance, it could also be the case that the clients feel that perhaps they can add more value than their architect, since they are present at the site, while the architect is not. For why should there be a problem if the clients want to make some changes if they believe that by doing so, they can spend less and achieve more?

Following from the discussion above, when respondents were asked whether *architects should also be paid based on the actual completed work or the amount of the running bills,* 50% overall and 39% of architects expressed agreement with the statement. Similarly, most of the respondents (90%) concurred that *timely payment of dues is indeed the*

hallmark of any successful partnership. But on the question of 'when architects should be paid', few observations were made by respondents during the interviews. A7 explained that according to RIBA's 'Plan of Work', fees are generally broken down into 40% planning stage, and 25% exactly go to production information' and preconstruction stage. So, it is front-loaded, which means 65% of the fees are already paid before anything moves on site. Some architects argued that fees should be front-loaded, 'because architects could be very disadvantaged the other way and you cannot do business on the assumption of good behaviour on the clients' part' (A11).

Most of the time it is said that *the architects charge* a percentage or lump sum fee for their services but nowhere is it revealed *what architects should charge.* For example, architects in the UK promote contract documentation, the scale of charges and stages of payments, as prescribed by the RIBA 'Plan of Work'. But they don't make it clear to clients at the outset that they are not obliged by law to use the RIBA 'Plan of Work' and could instead enter into a simple task-based contract. It could be argued that this is where the relationship enters the 'grey area' and starts getting complicated. Moreover, when clients begin to understand and unfold the sequence of events, midway through the design stage or planning process, they tend to see architects as fraudulent and deceitful. Furthermore, the literature notes that all the publications from the professional organisations and the guidelines therein are drafted in a biased manner that invariably favours architects. For example, in response to the question 'Why do I pay you so much before construction starts on site?', The model answer prescribed by RIBA is, 'because a large amount of work has to be completed before we get to site and, also where the major value is added'. Isn't it clever of architects to collect the major part of their fees before the completion of the project and yet claim overall authority over the product, and, if there are problems and mistakes, to wash their hands of these and remain safe (Walker and Newcombe, 2000)? Does this not indicate a lack of professional ethics, commitment and responsibility on their part?

The model answers to the typical client questions in the *RIBA Fees Calculator* make for disconcerting reading if one is reading from the viewpoint of a client. It tends to cast clients as fraudsters and architects as heroes. For clients, it is a one-time story and has reasons to be forgotten, but one could imagine, what the clients would have to say if a similar publication is made from their viewpoint. However, in the case of architects, its reiterating and they have so much experience of dealing with clients, yet they always undermine clients and start a new relationship based on contractual documentation?

Why can't they approach newer clients more openly with trust and faith and offer alternative routes of engagement? While one can understand that such an idealistic situation might not exist every time in the modern world, it can be implied that even architects cannot be trusted blindly by clients. And if this relationship were only to be considered as a financial transaction, then why do architects publicise otherwise about clients, that they work in close collaboration with clients.

As a matter of fact, the architect-client relationship ought to be seen as more than just a financial transaction. Arguably, the advent of digital technologies has made it much easier to coordinate changes, share product images and keep track of finances. But, in reality, everyone other than the client sees this as an opportunity to make more money by taking advantage of the tactical position that they hold during the mid-stages of the project. Furthermore, the regulations of the practice and the legal contract documentation do not allow for mid-project changes, even if they are practical since these changes might reduce the architect's fees and contractor's profit, which is linked to the total project cost determined at the outset.

5.13 DISCUSSION: You don't understand the way we work!

<u>Ethical and moral obligations of architects:</u> Towards the end of part one of the online survey, some direct and upfront questions were asked of the respondents, on the assumption that after responding to the previous five statements scenarios, they were now fully aware of the premise of this study. Respondents were asked questions on issues including, *architects seldom prioritise understanding user's needs against visual aspects and try to fit in their own designs into client's budget while continuously redesigning in the name of value engineering.* Only 27% of all respondents said that this might be the case with some architects; however, the majority of architects disagreed with these claims. According to one respondent, 'some do, some don't; it's down to the individual architect and their personality' (SP161—AR). Another exclaimed, 'without clients, architects do not have work, so the building of a successful relationship based on openness and trust is vitally important' (SP113—AR). However, 28% of all respondents and 17% of architects felt that *architects lack ethical responsibilities and work to boost their own portfolio (statement 6 c.),* and 24% of respondents conceded that *architects use clients to quickly climb the success ladder (statement 6 d.),* whereas most architects rejected this allegation.

Opinions differed as to whether *architects use clients for tactical benefit.* For example, A10 stated, 'well they've got no choice, I mean what else can you do …it's like you can't be successful without clients'. Another interviewee (A5), said, 'when I was small, I was taught that the client is the most important person and your role as a professional is to safeguard the client's interest … That's not the way architects [operate nowadays]; they think the job is theirs and the client is lucky to have them there, very arrogant'. Likewise, many clients believe that an architect's rush to start construction leads to evading crucial details, which results in increased project costs and delays completion. This leads to poor contract administration, resulting in the confusion that becomes a major cause of clients' discontent.

The last two questions were aimed at contextualising part one of this discussion. Respondents were asked whether the arguments and claims made in these six themes were more pertinent to emerging architects or established architects. Contrary to expectations, this study found that a significant number of established architects were said to possess these traits. Only 24% of respondents said that these statements apply to many emerging architects, whereas 41% believed that they are more related to established architects. Arguably, under the strong influence of a competitive

environment and professional practice, *emerging architects tend to unlearn their academic knowledge, ethical discourse and theoretical understanding rather too quickly* (see Section 3.3.4, page 131). Trained by seniors and peers in a professional environment within an architectural practice, trainees become full-fledged architects. However, while getting trained, they perhaps tend to lose sight of the ethical and moral responsibilities of an architect that they acquired through their academic experience. In other words, by the time they establish themselves in the industry, which is on average five to ten years after graduation, their personalities are completely transformed. Hence, it is possible to hypothesise that these traits are more likely to be found in the case of established architects.

5.14 SUMMARY OF CHAPTER 5

The objective of this chapter was to identify and discuss the factors that cause friction between architects and clients in the context of private residential projects. The following table presents the key findings of this chapter.

Statements with more than 70% agreement	*Statement no*
1. *Clarity of communication, not the design, is the key factor in winning the trust of clients.*	1. b)
2. *Instead of forcing their plans and ideas on clients, architects should rather work in tandem with the client.*	5. b)
3. *Through mutual trust is important, the timely payment of dues is the hallmark of any successful partnership.*	5. e)
Statements with more than 60% agreement	
4. *Visual and digital content are much easier to understand, communicate and share, than paper drawings.*	1. c)
5. *Innovative use of technology enables architects to produce initial design concepts and proposals at relatively low cost and time.*	1. d)
6. *Acceptance of digital technologies as a standard practice by architects ensures efficient working, which is the key to better architect-client relationship.*	1. e)
7. *Clients expect a finished building, within agreed budget and not a set of drawings or contract documents.*	2. c)
8. *The clients are looking for an onsite architect and other pro-bono services. They are willing to invest their trust in architects, who can deliver from concept to completion.*	3. e)
9. *After an initial agreement, architects must allow sufficient time for clients to decide before accepting an advance.*	5. a)

10. *A substantial amount of the value can be added during the construction stage, particularly in private residential projects.*

5. c)

Statements with more than 50% agreement

11. *Architects always argue that clients do not understand the hard-work it takes to produce a design solution and claim that clients often take out elements from their design to reduce the project cost.*

1. a)

12. *Advice from friends and well-wishers disturb and affect the initial negotiations and decision-making process.*

3. c)

13. *Most clients prefer functionality over aesthetics and want that architects should be more affordable and accessible.*

4. a)

14. *Architects should be also paid based on: the actual completed work or the amount of the running bills.*

5. d)

Statements with more than 30% agreement

15. *Many people believe that working directly with contractor gives them more control, satisfaction and value for money including a feeling of accomplishment.*

2. e)

16. *Architects expect clients to make decisions based on rationality, but this is seldom the case as far as clients are concerned.*

3. a)

17. *It is difficult for clients to trust someone, including architects, during the initial stages of a project.*

3. d)

18. *Percentage based fee structures are out-of-date and fail to separate the conceptual value from the production-based materialistic value. This does not encourage clients to approach architects with their projects.*

4. d)

19. *That these arguments are applicable to many emerging architects?*

6. d)

20. *That these arguments are also applicable to some established architects?*

6. e)

Statements in Disagreement

21. *By making more drawings, the architects try to justify their design fee and recommendations, which impels client into considering the architect's choice of material.*

2. b)

22. *Clients are better off investing their money in the quality of materials rather than paying architectural fees. [In Disagreement]*

2. d)

23. *That architects do not allow much flexibility with their proposed design. Many-a-time, this leads to dissatisfaction where the client starts feeling that their desires are being curtailed and they have a limited control over their project.*

2. a)

24. *Architects often fail to look beyond the design and formal paperwork, they do not account for the role emotions play, during early stages of the project.*

3. b)

25. *Good contractors and skilled labourers are more important than architects, for timely completion, quality and strict budgets.*

4. b)

26. *Architects tend to impose themselves and use their position for tactical benefits by promoting their affiliated teams.*

4. c)

27. *Architects should play strictly an advisory role in an average house construction, to avoid conflict of interest.*   4. e)

28. *Architects seldom prioritise understanding user's needs against visual aspects and try to fit in their own designs into client's budget while continuously redesigning in the name of value engineering.*   6. a)

The reasons and problems were also exemplified by the gap of perception that exists among architects and non-architects due to the use of architectural language and terminology. The research has found that there is a gap between 'what an architect thinks a client want' and 'what client actually wants'. It is possible, therefore, that private residential clients relate fees more with onsite service during construction, unlike architects, who tend to justify fees with design and preconstruction work. These observations suggest reasons for the breakdown of the architect-client relationship, such as an architect's design-centric attitude, lack of interpersonal skills and peer orientation, which result from their education and training. Currently, the discipline operates on a philosophy that *Architecture* is an *Art* and with it exist as stable method of education and practice of architecture. Whereas the findings of this study suggest that emerging architects are not capable of identifying and addressing the emotional requirements of their clients, and one of the main reasons for this is the lack of real-world client interaction during their education.

CHAPTER 6

FINDINGS AND DISCUSSION: - PART 2

This chapter reports the results and discusses the findings related to architectural education and academia. It explores and outlines the problems faced by emerging architects and responds to the research question two and three. The aim of this research was three-fold: first was to investigate, deliberate and contextualise the reshaping of ACR in the digital age (Chapter 5). Second, was to highlight the concerns of emerging architects and the lack of the real-world client interaction in architectural education; and third was to ascertain and elaborate on the effect of use of digital technology for education and training of emerging architects and reshaping ACR. These factors are grouped according to the issues identified in chapter two and three, i.e. Role of educational institutions; professional institutions and architectural practices, including the role of recent technologies and what they mean for education and practice of architecture.

REPORTING RESULTS: PART 2

CONCERNS OF EMERGING ARCHITECTS AND THE ROLE OF TECHNOLOGY

This section of the survey was concerned with the role of educational institutions, professional bodies and architectural practice with respect to the aspirations of emerging architects in the age of digital technologies.

6.1   ROLE OF EDUCATIONAL INSTITUTIONS

6.1.1   Online Survey Results

Interpretation of the results   *Response Breakdown*

7. a) Although participatory-design, design-build and learning-by-doing present an understandable substitute for studio-based learning, such methods contribute marginally towards students understanding of users and clients.

<u>Architects' response:</u> Forty-four percent of architects confirmed that pedagogies such as participatory-design, design-build and learning-by-doing etc. contribute marginally towards students' understanding of users and clients. However, 33% of architects disagreed and 23% were neutral. One respondent said, 'although my education was a long time ago, the real lack was the education in real-life skills, how to run a business, how to prepare a fee bid. I think it might still be a bit like this, all of which affects people's lives' (SP119—AR).
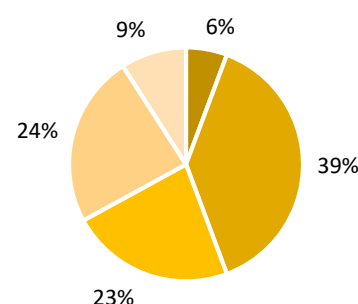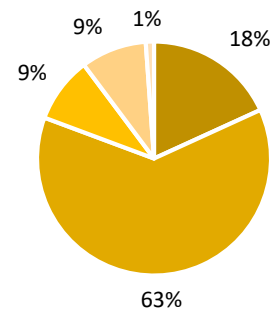

Pie 7. a Architects' response:

7. b) What the students learn during the internships and fieldwork is often not well integrated with the institutional learning.

<u>Architects' response:</u> A common view (82%) amongst architects was that 'what students learn during internships and fieldwork is often not well integrated with their institutional learning'. According to SP125—AR, 'there is too much emphasis on the ideal and very little real-life teaching. There should be more internships and courses should be shortened. University gives an unreal expectation of the profession'.

9% 1% 18%

9%

63%

Pie 7. b Architects' response:

7. c) Under the strong influence of the competitive environment and professional practice, emerging architects tend to unlearn their academic knowledge, ethical discourse and theoretical understanding rather too quickly.
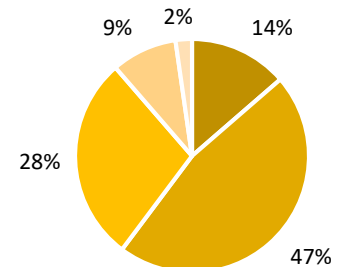
<u>Architects' response:</u> Thirty-five percent of architects felt that 'emerging architects tend to unlearn their academic knowledge, ethical discourse and theoretical understanding rather too quickly.' While 34% disagreed, 31% were neutral. SP169—AR said, 'Yes, I believe practical knowledge should be more of a focus during a student's education. But we find ourselves weak on this front, especially because the teaching staff are not exposed to the reality of the practice'. Another view was that of SP177: 'Everything learned in part 1 is vital – it is this creativity drive that will make or break you in the future. Though, depending on the environment, the opportunity to practice these methods is restricted' (SP177—AR).

SD 5%   SA 6%

D 29%   A 29%

N 31%
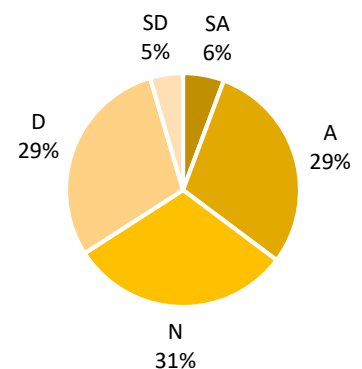
Pie 7. c. Architects' response:

7. d) The phase of making an architect of a student; a time when the personality is moulded, is not adequately endorsed either by education or by the practice, that expects both practical skills and sound knowledge.

<u>Architects' response:</u> Another area that (61%) of architects agreed to was that 'emerging architects are not adequately endorsed or mentored either by education or by the practice'. One respondent elaborated that 'the roles of pedagogy and practice are quite different. It is not the mandate of academia to produce fodder for staff offices. Its role is to advance the discipline of architecture and push it beyond professional boundaries. A relationship with practice is healthy, but academia is not merely for skill training but primarily critical thought' (SP79—AR).

Pie 7. d. Architects' response:

7. e) By engaging real-world clients, using digital technologies during education, architecture schools can facilitate meaningful practical exposure.

<u>Architects' response:</u> Seventy-four percent of architects agreed with and acknowledged that 'architecture schools can facilitate meaningful practical exposure by engaging real-world clients through appropriate technology'. One respondent commented that 'most students will tell you that hands-on construction experience and first-hand engagement with clients informs them more and is more memorable that studio study' (SP74—AR). SP86—AR remarked, 'these questions clearly suggest a more integrated approach to study and practice, with which I wholly agree'. SP112—AR suggested that a more integrated approach could be done, 'perhaps in conjunction with an architectural practice that has the working knowledge of the building industry'. However, a contrary viewpoint was that of SP113—AR, who said, 'the key issue here is "education". Students are learning and do not need to practice; however, an understanding of what happens next is important'.
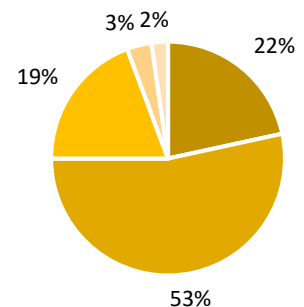
Pie 7. e. Architects' response:

6.1.2 Findings from the Semi-structured Interviews

On participatory projects, A8 reflected that,

> *architects need to have a good bedside manner…they need to be able to communicate their ideas, knowing that ideas are invariably complex…invariably difficult for laypeople to engage with. No matter how intelligent the client might be…if it's not something that they've engaged in before, they cannot envisage it without actually seeing it in three dimensions, which is something only architects can do and envisaging the dimensional reality of what they're proposing…than only the client can ever imagine it.*

A1 suggested that students do not need to unlearn ethical discourse; rather, they need to learn 'a different ethical discourse. They have to understand that they're not gonna run the world…and they're not going to impose, and they have to collaborate'. Citing his personal experience, he said:

> *I saw some really gruesome things going on…and I understood very quickly that I knew nothing…I had learned nothing here [institution] of any value to some of the work I was doing…of course, I did know things…I just couldn't work out how to apply them because there were so far from the reality that I was being faced with, and I don't think was a matter of unlearning, it was a matter of finding there was all the stuff…I should have been learning, and in that context, I should have learned this orientation which was client-centric…I do think that this is the worst possible place to teach architecture for those people who are going to be working with clients. (A1)*

O1 stated that 'the world in the industry we were going into was completely different to what we were learning, so it should have been tailored a bit more towards how we would work in the real world'. He also admitted that 'predominantly, real-world client interaction is a neglected area in architectural education. However, some places do quite well with real-life projects; they'll get small-scale projects into the universities for the students to work on, but other places don't'. However, A11 opposed this idea, he sees it differently and argued that,

> *I believe that the studio is where you've got the chance to dream, to try all sorts…and of course a client is not necessarily like that…you're not bound by what the client wants…but you're certainly going to be confronted with what is the client's opinion of what you've done…yes, and you can start to see which students' work they like and which they didn't…so you do learn…yes, I don't think it is*

> *institutional learning…but I think that's that. …because you learn*
> *the basics of some construction when you're at university… you learn the*
> *basics of some regulations…but really you want to maximise that time*
> *spent design dreaming…when you're in work, that's when you learn what*
> *size a stair riser needs to be…it should be at that point. (A11)*

On the other hand, A6 argued, 'work with an apprenticeship scheme and that whole structure needs to be looked at, at the moment in terms of "how long should an architect be in college"; "how long should be in practice". All that stuff and it needs to be looked at because there isn't enough of the tutoring and the mentoring and their it is almost nothing like an apprenticeship and I think we need to be moving towards more modern apprenticeships for architects' (A6).

In all cases, the respondents reported that there was an immediate need to shift the focus of architectural education to client-centric values. As A10 said, 'you get people that absolutely know how to be design-centric because that's what they're doing at college…the whole idea of a real brief hardly comes about, but also, people don't know how to engage with their client'. He also alleged that,

> *yes, it's a kind of autism…it's like…they only know how to impress their*
> *peers and in practice sometimes these extraordinary draft situations*
> *where someone feels they need to defend their design because it is some*
> *kind of "backed weapon" and they're defending it against the person*
> *that's going to pay for it… and they fail to realise that if the client doesn't*
> *like it, they're not going to pay for it'.*

He also emphasised that some smart domestic clients can smell that attitude in architects. For example, during initial design discussions, 'some architects are soon frightened that their design will change, and they might have to come up with another idea and they think that their first idea is the greatest thing ever…and they don't want anything to change their idea, even if the person that's going to pay to realises that'.

6.2   ROLE OF PROFESSIONAL INSTITUTIONS

In this section, results around the role and impact of regulatory bodies in the discipline of architecture have been presented.

6.2.1   Online Survey Results

Interpretation of the results

Response Breakdown

Architects' response: Upon being asked, 'what are the factors that might discourage or restrain the aspirations of emerging architects in the age of digital technologies?', 65% of architects alleged that high tuition fees, job insecurity and a lack of practical skills during education are very deterring. One architect said, 'Architects emerge from the education system in all shapes and sizes, with different attitudes, aspirations and natural skills' (SP116—AR). Another explicated that 'Low salaries, long hours, hundreds of hours of unpaid work, constant scolding from professional bodies, the ever-present threat of legal action, perception of success and wealth from the public (and the backlash that comes with that) are just a number of the reasons pushing people out of the profession' (SP125—AR).

Pie 8. a. Architects' response.

Architects' response: Forty-six percent felt that legislative and regulatory constraints imposed by professional institutions discourage emerging architects from becoming successful practitioners. However, one respondent suggested that 'Experience is key. Student architects should take time to experience and learn the ins and outs of professional practice; this is not something that should be learnt by mistakes on the job' (SP107—AR).
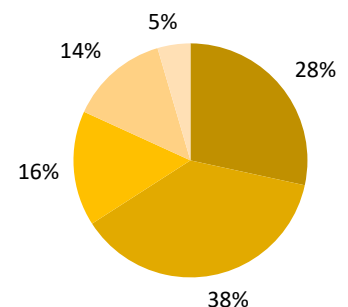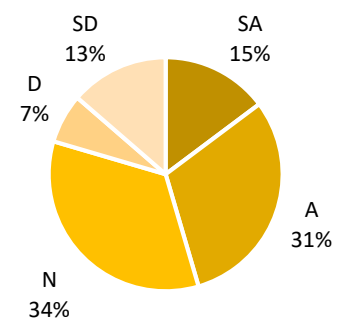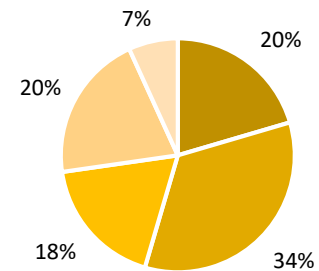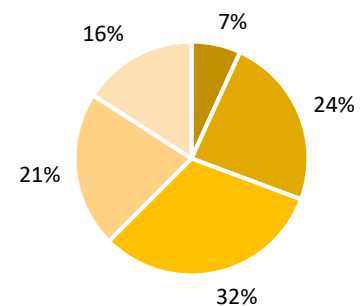

Pie 8. b Architects' response:

Architects' response: 'Limited interaction with end users and clients during education' is another key area that 21% of architects felt was 'very discouraging' and 34% felt was 'discouraging'. SP55—AR commented, 'I believe that interaction with end users and clients during education is very important'.
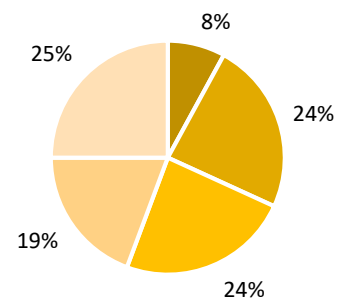

Pie 8. c Architects' response

Architects' response: About one-third of architects thought 'confinement to their own assemblage and self-centred work culture' was a contributory factor that demotivates emerging architects. One commented, 'I believe the whole architectural course is flawed and technologists provide a far better understanding of economical design' (SP118—AR).

Pie 8. d Architects' response:

Architects' response: About one-third of architects also suggested that 'design-centric theoretical knowledge and a culture of impressing their peers' could also be responsible for inhibiting young professionals from launching themselves successfully. One architect argued, 'it would be hard to train in less than five years, but more realistic involvement with practices would be useful. I also recall that "fashion" tended to influence projects whilst at university, and that if you didn't follow that "fashion", your design was not "cool" in any way' (SP119—AR).

Pie 8. e Architects' response:

6.2.2 Findings from the Semi-structured Interviews

A11 recalled, 'My experience is that you would find employment with a practice where your design skills were going to be limited but your practical skills were going to improve and increase'. Upon being asked, 'but who employs such architects? No one wants trainees,' she replied, 'No, they don't anymore?' (A11).

On limited interaction with end users, A9 said, 'I was really quite shocked and dismayed that the school doesn't seem to take students on live site visits [referring to a particular school]. I think that should be compulsory during the early parts of the first and second years. I don't know if it is a peculiarity of this school, but I had that in my school and it was so valuable'.

On impressing their peers and the self-centred work culture, A1 said the following:

> *I tend to think that impressing their peers is an unbelievably negative influence upon a young architect's ability to progress...because students think it matters, yeah, and it doesn't...the crit doesn't matter, it is just people who are being a bit smarmy mouthing off about their own ego...it's got nothing to do with learning architecture and I hate it. We should never be giving criticism to an architectural student in a grandstand situation...it should never happen. Yet, that's what we live by...and when I watch the staff doing it, I hate them, and when I participate, I hate me... I actually hate myself for feeling...I have to compete with another person who said something...oh, I should make a better comment...and the poor students being torn apart...it's completely wrong...and this is one of the biggest negatives. Even at the end then they said well try and sort that...so, we clap at the end of a crit and the clapping is the most in disingenuous clapping you've ever heard. It's just, why are you clapping...this person's already in tatters...they don't need to hear you to do that...So, that I think that's a monstrous one. (A1)*

6.3   ROLE OF ARCHITECTURAL PRACTICE

In a follow-up to an earlier inquiry, this question asked architects to suggest 'what might be the most suitable approach for emerging architects to gain practical skills'.

6.3.1   Online Survey Results

| *Interpretation of the results*	*Response Breakdown*

Architects' response on the statement:

Work as project manager on large projects. SP101 – AR suggested that, 'architects are unlikely to project manage a large project or become a D+B contractor straight out of education – these roles rightly require years of experience and expertise'. Another suggested, 'There are many other important aspects to becoming a successful practitioner. Being able and willing to work 45-50hrs a week; being a positive and clear communicator; understanding business; enjoying your job; having integrity; and having assets to start and build up own practice'.
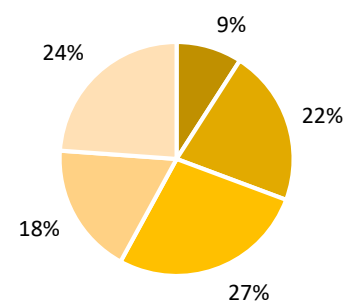
Pie 9. a Architects' response:

Architects' response on the statement:

Work as a Design-Build contractor on small turnkey projects to learn the trade. According to one respondent, 'design is really important. People want and need "Architecture as a practical art" delivered by sensitive, intelligent people who can see the breadth of influencing factors impacting on any given project' (SP112—AR).
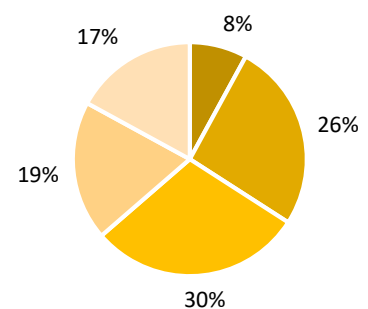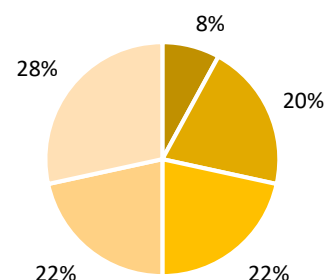
Pie 9. b Architects' response:
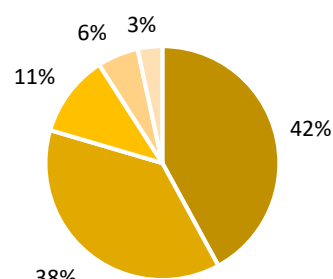
Architects' response on the statement:

Work as a sole practitioner towards a specific specialisation. According to SP113—AR, 'professional qualification as an architect is not the end of the education process – it's just the start of the next phase, so it's important for architects to recognise that they are still learning and will continue to do so throughout their career'.

8%
28%
20%
22%
22%

Pie 9. c Architects' response:

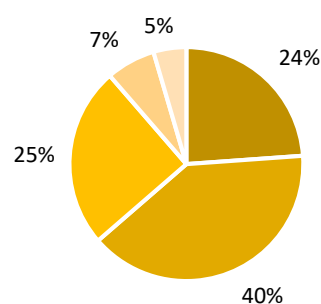## Architects' response on the statement:

Work as an apprentice with an established architect. Architect SP119—AR suggested that 'experience is everything. By project managing, you get experience in client, consultant and contractor dealings. Working for a good practice also is an essential prerequisite to learning about architecture in its fullest sense'.

6% 3%
11%
42%
38%

Pie 9. d Architects' response:

Architects' response on the statement:

Willingness to embrace the change of being client-centred and not design-centred. One respondent opined that 'breadth and depth of practical and responsible experience are where you learn client-centric design' (SP86—AR). SP101—AR proposed, 'Why can you not be both client-centred and design-centred? Good design should respond to the client's needs'. SP79—AR argued, 'Architecture is and must remain a design-centred activity'. Moreover, he contended that 'the concept of the profession as being client-centric is itself outdated in this digital age. The tools available to architects today must enable them to find and initiate their own projects – not wait for people in power or with money to appoint them. Platforms like Kickstarter etc. can allow them to raise capital, and other Social-Media platforms can be used to create broad awareness and support of communities for projects'.

7% 5%
24%
25%
40%

Pie 9. e Architects' response:

6.3.2 Findings from the Semi-structured Interviews

A1argued, 'working as a sole practitioner towards a specific specialisation – that has been the thing that has changed my life…yeah, I think it's unbelievably important'. Regarding the current model, where students work with established architects for experience, he said:

> *I know…but all that comes out of training with the established architect is that they know a wee bit about what that architect does…they don't learn anything about client interface…So, I don't think that's a good one…Sole, practitioner makes you client-centred because you're having to deal directly with the public…the marketing orientation which is incredibly…important working with or as a Design-Build contractor…yes…that's very important.*

6.4   ROLE OF DIGITAL TECHNOLOGIES

After a series of comprehensive enquiries, all respondents were asked very simple and closed-ended questions to form the critical link between all aspects of this study through the role of technology and digital learning. The last three questions were focused on use of digital technology among architects and clients.

The first question asked, 'Have you used any Social-Media platform, online tools or mobile apps to manage, communicate or monitor your project(s)? (Such as Skype, WhatsApp, Construction management, Budget control Apps, progress monitors etc.)?' The objective of this question was to appraise and evaluate the popularity of these technologies for professional use among respondents, and how they affect the way architects dealt with each other and with clients.

Question 10

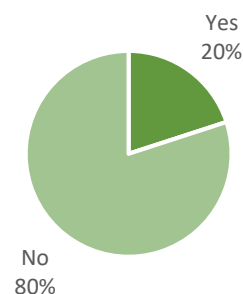| *Interpretation of the results*	*Response Breakdown*

Amongst architects, more than half (59%) said they had used social media, online tools or mobile apps to manage, communicate or monitor projects. Only 41% said no.
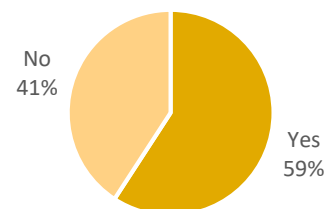
Pie. 10 1

When clients or non-architects were asked the same question, only 20 percent (12 out of 60) said yes. The majority (80%, 48 out of 60) said no.

Pie. 10 2

Question 11

The second question attempted to investigate the frequency of usage of such apps and tools. It asked: 'How often have such apps been used by you or your architects to explain concepts, during the design meetings in the projects you've worked on?

Interpretation of the results   *Response breakdown*

Architects' response: To this question was still negative. Thirty-four percent of architects said they have never used, and 31% have rarely used, any technology to explain concepts during design meetings. Only 35% of architects confirmed that they found it useful.
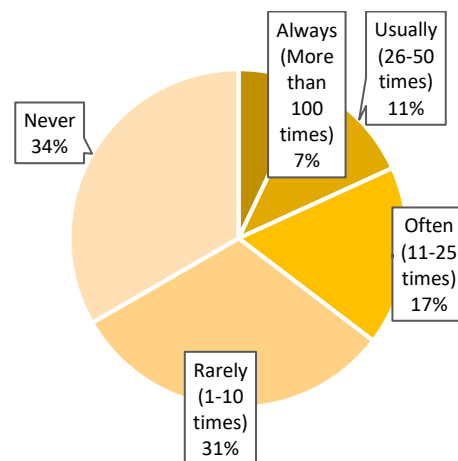
Pie 11. 1

Others response: Very few clients or non-architects stated that their architects used some sort of technology to explain concepts. Forty-five percent said never and 34% rarely.
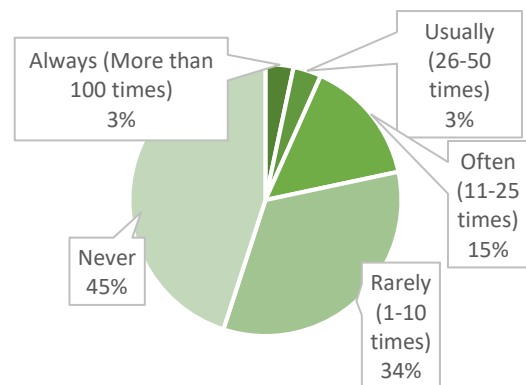
Pie 11. 2

Question 12

In the last question, respondents were asked 'How often do you feel that by using digital technologies, concepts, ideas and intentions can be made crystal clear to audiences?'

Interpretation of the results   *Response Breakdown*

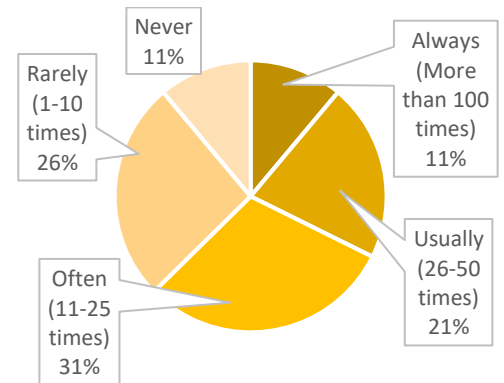Overall response: The overall response to this question was significantly positive when compared with the last two questions. Eleven percent of architects said it would be very helpful and 21% felt that technology can enhance understanding of concepts during design meetings.

Never 11%
Rarely (1-10 times) 26%
Always (More than 100 times) 11%
Usually (26-50 times) 21%
Often (11-25 times) 31%

Pie 12. 1

Clients and non-architects: Overwhelmingly answered 'yes' to it. They felt that it would greatly assist them to understand plans and drawings. Over two thirds of the respondents answered 'often', 'usually' or 'always' making it up to 70% of the total non-architect sample.

Never 10%
Rarely (1-10 times) 20%
Always (More than 100 times) 20%
Usually (26-50 times) 22%
Often (11-25 times) 28%
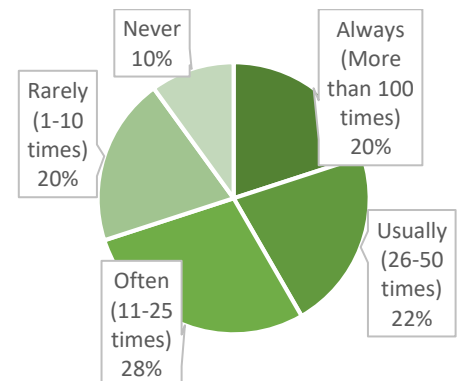
Pie 12. 2

DISCUSSION: CONCERNS OF EMERGING ARCHITECTS AND TECHNOLOGY

In this part, the role of architectural education is critically examined based on the results of the online survey and semi-structured interviews. It looks at the connotations of the points discussed above and how they impact the aspirations of emerging, as well as their implications for the architect-client relationship. Following from the literature review (Chapter 3) and discussion (Chapter 5), it has been observed that architects' design-centric attitude, lack of interpersonal skills and peer orientation is a result of their education and training. The development of architecture has rarely focused on creating a peoples' architect (See Figure 26). The misalignment between student expectations and the reality of practice hampers the aspirations of prospective students and dissuades them from becoming successful practitioners.
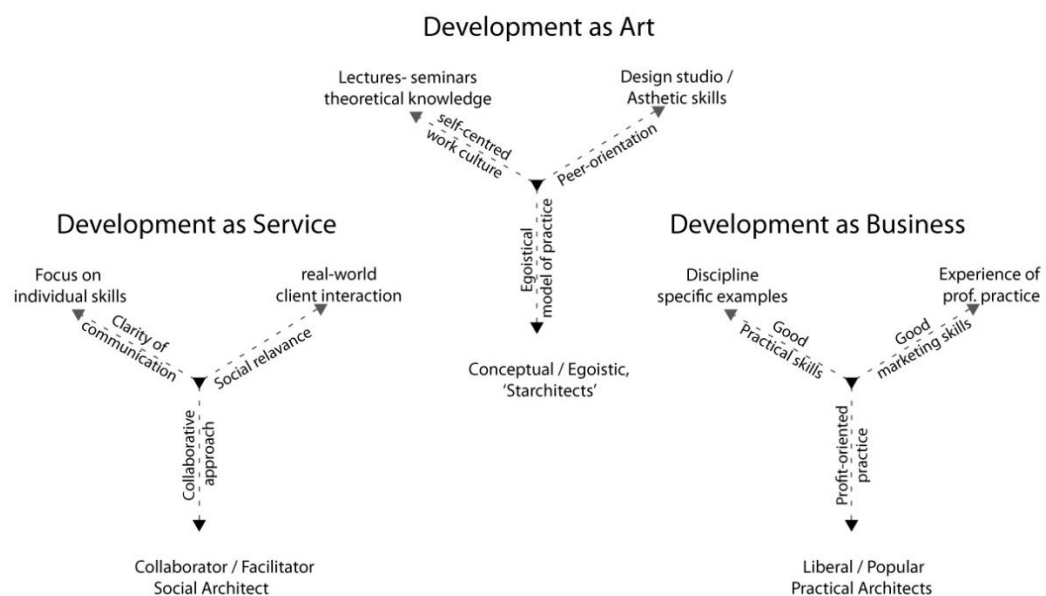
Figure 26 Development of architectural practice

Source: Author

These problems were expressed in two propositions: a) Emerging architects face significant challenges due to their debt-laden education, job insecurity, lack of practical skills, self-centred work culture, etc.; and b) There is an immediate need to introduce real-world client interaction in architectural education. Hence, this part of the discussion is concerned with achieving the following objectives:

1. To develop consensus around the reasons that might discourage or restrain the aspirations of emerging architects in the age of digital technologies.
2. To establish that there has always been an immediate need to introduce real-world client interaction in architectural education and that with the advent of digital technologies, the possibility of fulfilling this need is now much easier than ever before.

Figure 27   Different levels of interactions in architectural education

Source: Author
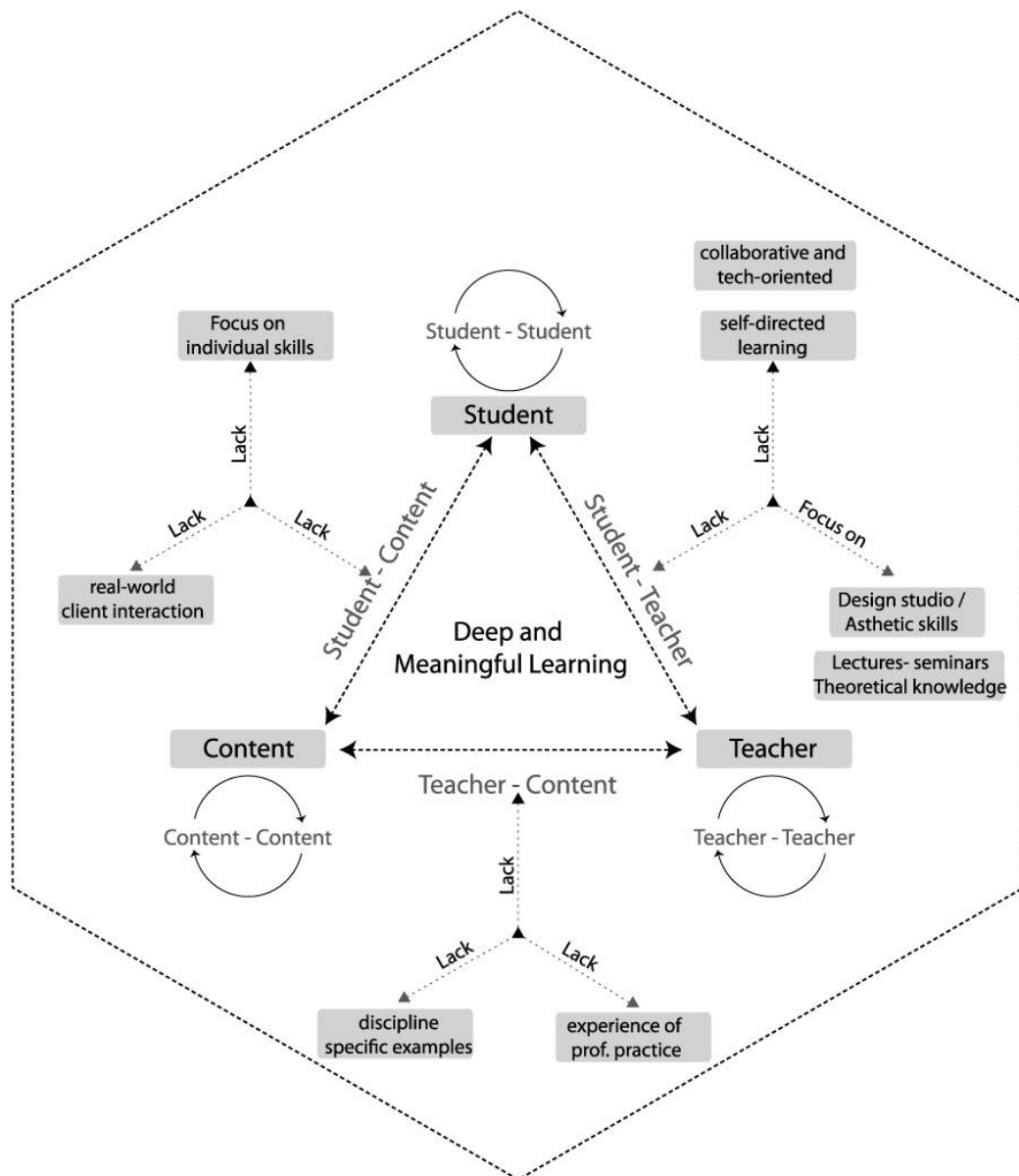
6.5 DISCUSSION: Role of educational institutions

As Buchanan argues in the essay 'The Big Rethink: Architectural Education', 'in contemporary parlance, we have moved from the age of genius to scenius, yet, architectural education is still geared to produce solitary genius rather than today's collaborator' (Buchanan 2012). The seventh set of online survey statements asked architects to reflect upon their experience of architectural education, and particularly design-studio, to ascertain the role of various components of teachings in imparting usable, practical skills. The following discussion attempts to explore the claims made by educational institutions that they impart practical knowledge to students through participatory design work in the studio and a live-project pedagogical approach.

Consistent with the literature, it can be argued that, in principle, participants supported the view that live-projects can impart practical skills to emerging architects. However, the findings of the current study do not support the claims that the current form of live-projects at academic institutions is adequate and capable of offering the interpersonal and practical skills required to run an architectural practice. The study also found reasonable support for Brown's (2012) arguments that,

> live-projects can contribute to a better awareness of how universities can contribute to society...[they] are seen as viable mechanisms for helping students and staff stay connected to issues of importance and relevance to occupants and users of the built environment outside the academic institution... Working in local or regional contexts, the academic institutions might seek to re-position themselves as a platform for debate about local, regional or national architectural issues (Brown, 2012).

It has been discussed previously that many educators and academics are often afraid of trying out new methods and technologies; hence, most of their studio assignments are more about cultural and social engagement projects (See Section 3.4.1, page 137). This was confirmed during the survey, where 44% of architects said that *participatory-design, design-build and learning-by-doing... contribute marginally towards student understanding of users and clients* – A view that many architects echoed during their interviews. Academic Live-projects in their current form, a) lack real-clients with definite project requirements or realistic budgets; b) bypass many practical and ethical issues faced by emerging architects, and c) do not focus on students' individual design skills. This

suggests that practitioners should be more involved with students at multiple levels during their education, rather than just being visiting guest faculty members at the *crit*.

This also accords with the researcher's earlier position that academics are not up-to-date with emerging practices in the professional world. This was evidenced when respondents were asked whether *what the students learn during internships and fieldwork is often not well integrated with institutional learning*. What was surprising was that even when 82% of architects agreed that this was the case, there seemed to be no well-established models or frameworks that facilitated critical reflection or application of skills learned during fieldwork/internships with studio work. Moreover, most internships and practical training with an architectural practice are positioned within the academic curriculum in such a way that they take place in isolation from academic studies; for example, between Part 1 and Part 2, or during Part 3 of the prescribed RIBA framework of qualifications. This lack of integration is disheartening for students and emerging architects and does not enables critical reflections of the skills gained in training. During the survey, 61% of architects agreed that *emerging architects are not adequately endorsed either by education or by practice*. However, one respondent stated that 'the role of pedagogy and practice is quite different… A relationship with practice is healthy, but academia is not merely for skill training but primarily critical thought' (SP79—AR).

Following from the discussion in the last chapter, there are three likely causes for the differences of opinion that people hold. First, many architects believe that people want them to design beautiful buildings, but non-architects' understanding of beauty is often an outcome of social, emotional and financial factors. A second reason could be found in the way architects get new clients; for example, it is very difficult to ascertain at the outset of a project whether the client is looking for functionality or aesthetics. Third, architects' judgemental and selective attitude while approaching new clients also contributes to the discipline's overall position favouring design-centric paradigms.

A notion prevails that architects should reject a project by overquoting their fees or by saying they are too busy if it is not going to be a worthy addition to their portfolio. This means that architects need to be experts in the practical aspects of dealing with clients, e.g. interpersonal skills, marketing acumen and business strategies. One architect expressed this: 'although my education was a long time ago, the real lack was an education in real-life skills, how to run a business, how to prepare a fee bid. I think it might

still be a bit like this, all of which affects people's lives' (SP119—AR). An implication of this notion is the possibility that, since aesthetic architects disregard most of the time, clients with modest budgets and functional requirements, such clients end up working with practical architects and other building professionals.

Nevertheless, the importance of academic knowledge, theoretical understanding and ethical discourse cannot be undermined, given the responsibility that architects have towards society. However, SP169—AR said, 'Yes, I believe practical knowledge should be focused on a little more while educating a student. But we find ourselves weak on this front, especially because the teaching staff is not that exposed practically'. However, one interview participant argued that academic learning should not only be about practical skills because the studio is a place that offers a chance to dream and to do irrational things – a view also discussed in Section3.4.2, page 138.

In all cases, participants reported that there was an immediate need to shift the focus of architectural education to client-centric values. SP86—AR remarked, 'these questions clearly suggest a more integrated approach to study and practice, with which I wholly agree'. Seventy-four per cent of architects agreed and acknowledged that *architecture schools can facilitate meaningful practical exposure by engaging real-world clients through appropriate technology.*

6.6   DISCUSSION: Role of professional institutions

This theme aimed to build consensus on the most deterring factor that restrains emerging architects from becoming successful. As also discussed in Chapter 2, Section 2.1, the professional institutions influence the practice of architecture more than they influence the theory of architecture. However, the way these institutions shape the expectations of 'practice' from 'academia' is an important point of investigation within the scope of this study. As previously shown with respect to professional practice (part 2 of Chapter 5), similar issues were in architectural academia. One-third of the architects confirmed that design-centric theoretical knowledge, a culture of impressing their peers, confinement to their own assemblage and self-centred work culture are contributory factors that encumber the journey of emerging architects.

Section 2.4.1 (page 78) argues that once an architect becomes a member of such clusters, their attitude towards others changes and they swank about their distinctive competence due to the specificity of the skills. To assert control, they draft and promote legislation that favours their assemblage through professional institutions and various codes of conduct (Hughes and Hughes, 2013). especially considering there are so many short building courses available SP118—AR commented, 'the whole architectural course is floored, and technologists provide a far better understanding of economical design'. This discrepancy could be attributed to the lack of interdisciplinary interaction and the attitude of the architects when they conveniently snug themselves within their own circles (Choi, 2016).

 One explicated that 'low salaries, long hours, hundreds of hours of unpaid work, constant scolding from professional bodies, the ever-present threat of legal action, the perception of success and wealth from the public (and the backlash that comes with that) are just a number of the elements pushing people out of the profession' (SP125—AR). Due to the competitiveness that drives the construction industry, all architectural practices are looking for young professionals who are equipped with practical skills and advanced software knowledge. Established architects are no longer interested in training and investing in young architects. This has led to a contradictory direction for the discipline, where long-term sustainability can only be achieved when significant changes are made to current practices. However, to exercise these changes and establish modern workflows, short-term financial gains and conventional methods of doing business can also not be

ignored instantaneously (Aho, 2013, p. 111). These findings may help us understand why emerging architects are often unemployed and not adequately endorsed by academia or practice.

Limited interaction with end users and clients during their education is another key area that 55% of architects felt to be very discouraging for emerging architects. While RIBA has conducted a review of the currently prescribed qualifications framework of architectural education and proposed a set of new recommendations, which will come into effect in September 2019, it is still up to institutions to interpret and implement the recommendations (RIBA Education Review, 2018). Although they offer a new seven-year integrated pathway to becoming a licenced architect in the UK, with two years of assessed professional experience, the issue of limited interaction with end-users during education is still a neglected aspect in the new recommendations. Thus, the RIBA Educational Review leaves several questions unanswered, when compared with the findings of this study. One of the issues that emerge from these findings is that there is a need for a framework within which students can learn how to apply lessons learned onsite with academic knowledge. In other words, a system of continuous dialogue is required between a real-world client and students, moderated by academics to develop client-centric attitudes.

Following from the discussion above, it can be recognised that the role of professional institutions is central in developing a comprehensive future vision of the profession. And to enact that change, it is essential to reshape and re-groom the members of such institutions, i.e. to introduce radical changes in the way architecture students are educated and trained. As such, one of the objectives of this study was to develop a consensus around the factors that might discourage or restrain the aspirations of emerging architects in the age of digital technologies. In accordance with the present results, all the above-discussed factors have been found to be equally deterring and require urgent intervention on the part of concerned institutions and policy-making bodies. The following graph presents the analysis of these factors, where high entry and exit barriers and limited interaction with end users have been voted as most discouraging.
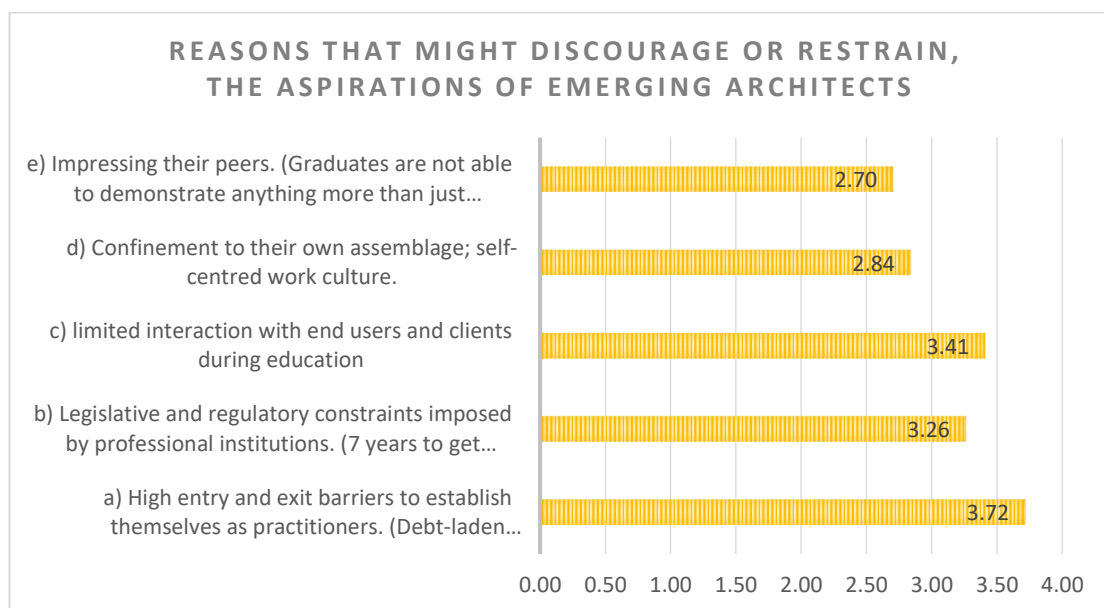
Figure 28 Factors that discourage emerging architects

Source: Author

6.7 DISCUSSION: Role of architecture practice

The final set of statements in part 2 attempted to build consensus around what course of action can ensure that emerging architects gain practical skills that help them become successful practitioners. Prior studies acknowledge the importance of practical skills that are expected from recent graduates. During an interview cited by Buchanan *et al.* (2014, p. 11), Dr. Alexander Stara of Kingston University notes, 'the profession needs graduates who have the ability to realise buildings and spaces that respond appropriately to their context and the public realm, are environmentally and socially responsible and culturally situated, while managing to remain viable as a business for the architects'.

Working as an apprentice with an established architect was considered by the majority of architects as the most key step towards attaining holistic knowledge of the profession. This not only requires willingness but also a commitment from practising architects to mentor architecture students. However, the findings of this study suggest that because of the way architects have been marginalised in recent decades, where the majority of practices are concerned with their own survival, this may no longer be an available option for prospective architects. More than design skills, architectural practices look for graduates who can demonstrate proficiency in advanced building software. Artificial intelligence, machine learning and complex algorithms can easily guide a young professional to design a functional building. It has become a survival race in which architects are facing tough competition from other building professionals. Arguably, this is a consequence of the discipline's design-centric attitude and the culture of peer orientation, which has become even more conspicuous due to social media and internet marketing practices. And because the traditional link between clients and architects has been broken, architects' ability to discern client needs into beautiful function buildings has been compromised

The second most imperative step for the better future of emerging architects, according to architects, was a 'willingness to embrace the change of being client-centric and not design-centric'. The third recommendation was to work as project managers on large projects. Many architects would argue that 'architects are unlikely to project manage a large project or become a D+B contractor straight out of education – these roles rightly require years of experience and expertise' (SP101—AR); however, one could contend that working as a trainee with an established architect can also not be regarded as a sure route

to success. During the interviews, many architects reported that students do not get to learn how to deal with clients and are often assigned to junior staff, who instructs them to do dreadful drafting work. It is an important experience to be assigned to junior staff, who instruct them in dreadful work, but not when it becomes exploitation, which it usually does.
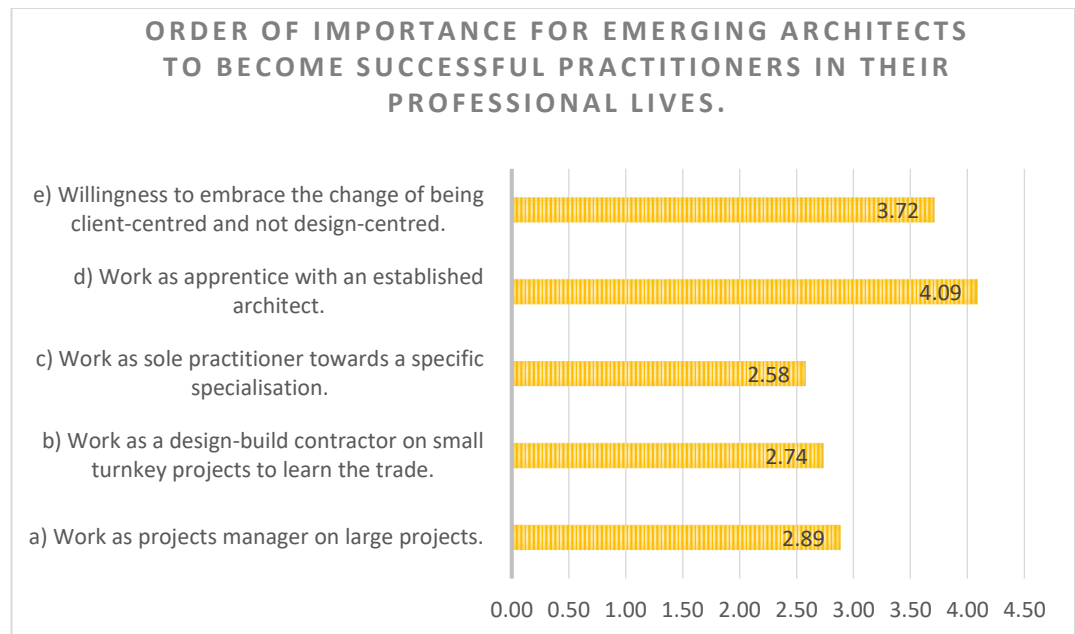
Figure 29   Order of importance for emerging architects

Source: Author

The graph above presents an analysis of respondents' opinions on the most suitable approach for emerging architects. These statements also reflect the issues discussed in Section 3.3.3 (page 129) and match those observed in earlier studies: there is no well-established route to gain employment. Moreover, architects have abandoned their primary objective of *serving a human purpose*, as this study has shown repeatedly. And, keeping in view that domestic clients constitute 52% of the client base of micro-practices and 34% of the client base for the overall architecture practice in the UK (RIBA survey, 2013), it is possible to hypothesise that these conditions are less likely to occur if architects can approach new clients with openness and trust, and to re-establish the broken link with domestic clients in particular.

6.8 DISCUSSION: Digital technology and its implications

This sub-section provides a further understanding of digital technologies as they apply to architects and clients. Also, it attempts to create a link between practitioners, clients, students and educators in the architectural landscape. Reasonable support for the possibility that there is a link has been demonstrated through the discussion in part 2 of Chapter 5 and Chapter 6. However, further evidence will be provided to ensure that the analysis is balanced while shedding new light on and presenting a critique of other perspectives and arguments. This has been done by a) evaluating the popularity of these technologies among architects and clients through some basic questions that were asked during the online survey, and b) evaluating the state of Social-Media and digital technologies used in higher education systems through the discussion and analysis of the sources listed in Section 3.5**Error! Reference source not found.**. Hence, the following d iscussion will only attempt to articulate the role of technology from the perspective of the architect-client relationship.

Question 10 of the online survey asked respondents whether they have used any Social-Media platform, online tools or mobile apps to manage or monitor their projects in the past. Almost two thirds (60%) of architects and only one fifth (20%) of non-architects confirmed that they had used some form of technology. However, on asking how useful they found working with such apps and tools (Question 11), only 35% of architects said they found it useful, whereas very few clients reported that their architects used some sort of technology to explain concepts. It was surprising that both architects and non-architects overwhelmingly acknowledged the premise of Question 12, which by using digital technologies, concepts, ideas and intentions could be made crystal clear to audiences.

While architects and contractors learn from their mistakes, it can be argued that, since each job is significantly different from the previous one, with some generic exceptions they are rarely able to apply the lessons learnt from a previous job. However, with recent technological advancements, many building components and products that architects use in their drawings are increasingly becoming available as ready-to-use 3D models enriched with information, specifications and instructions from the manufacturers and suppliers. The ready to use 3D models of various components are so detailed that by just putting them in place in the drawing, one can complete the entire operation. Elevations,

detailed sections, 3D visualisations and even material takeoff, including description, notes, quantities, cost, etc., are instantaneously generated, unlike in the past, when manual drafting alone took weeks for small practices to complete, even for modest projects. All this reduces the chances of human error and misinterpretation of the drawings, and the loss of detail is minimal, consequently enabling architects to create drawings with confidence. Therefore, this study also notes that given few exceptions, such innovative technologies are rarely put to use by architects to empower and educate clients, fill communication gaps between involved parties, or as a means to make their services more affordable for the general public.

6.9 SUMMARY OF CHAPTER 6

In this chapter, results of the aspects relating to architectural education, concerns of emerging architects and the role of technology are presented and critically discussed in the light of observations made in chapter two, three, four and five.

Isolated efforts are still being made by students and emerging architects at various institutions to highlight concerns and anxieties about the future of the profession (Friday Lecture series, SSOA; O'Boyle *et al.*, 2013; Buchanan *et al.*, 2014). Therefore, an added secondary source review was performed by the researcher using video recordings of lectures, keynotes and group discussions relevant to this study, accessed from the online archives of The Glasgow School of Art. One such study, which was closely examined as part of a further investigation during the analysis stage of this study, revolved around the theme of 'Life after Studio', focusing on the growing disconnect between academics and practitioners about practical skills for graduates need. One of the startling conclusions of this research was that the architectural profession is no longer an individual-centric profession and has rather evolved into a collaborative practice. Other insights included the need for an intrinsic relationship between scholarly research and practice, including the promotion of a culture of debate and discussion around societal issues and the architectural learning process.

Similarly, the cost of architectural education, the slow adoption of new technologies and a lack of practical skills have been identified as growing barriers to the success of the architects. These findings were further compared with other similar articles published around the same theme in architectural media, such as The Architects Journal, The Architecture Review, Building Design Online, RIBA publications, etc., to inform the researcher to cite relevant examples during the semi-structured interviews. Hence, the discussion above draws its arguments from a variety of sources to find grounded support for the claims made in this study. The triangulation between the previous studies, published articles and empirical findings of this research help to generalise the assumptions made around the concerns of emerging architects and reshaping the architect-client relationship. These findings raise intriguing questions regarding the nature and extent of challenges faced by emerging architects. Therefore, they accentuate the need for developing frameworks that enable real-world client interaction in

architectural education and encourage clients to approach architects in the first instance with their building-related needs.

Digital technology: One premise of this study was to explore how the use of technology can address the concerning communication gap between architects and clients. Likewise, digital technologies and their relevance for architectural education, their benefits for helping emerging architects learn, connect, and engage effectively with clients and peers, and reshaping the architect-client relationship have been the main threads of investigation. As such, Section 6.4 sought to understand the sentiment and outlook of architects and clients on digital technology. Through the questions in this section, it was first shown how popular these technologies were among respondents. Comparing the results, it is clear that respondents accept this technology in principle. In the answers to the last question, it was revealed that both architects and clients felt that technology (such as Skype, WhatsApp, Construction management, Budget control apps, progress monitors, etc.). can enhance understanding of concepts during design meetings, improve communication and afford meaningful practical exposure to emerging architects about the practical side of the profession.

The position of the researcher, while advocating the adoption of digital technologies for a better architect-client relationship, is based on three factors. First, it reduces human errors and enables proper documentation of the design and construction stage. This is particularly helpful in sharing and reflecting on the lessons learned during a project. Second, by using building-design tools, online applications, and software, such as Archi Cad, Revit and Bentley, etc., the task of drafting seems to be reduced to putting things together rather than creating a bespoke design every time. This can enable architects to develop multiple package-systems to extend the range of services they can offer to clients at an affordable fee. Third, by using digital communication tools for project management and contract administration, architects can enhance accountability, transparency, and trust among project stakeholders. This will not only boost the architects' professional integrity but also help them communicate the value that they bring to projects.

The following is a summary of the statements presented in the order of their acceptance by the respondents of this study.

| *Statements with more than 70% agreement* | *Statement no* |

1. What the students learn during the internships and fieldwork is often not well integrated with the institutional learning.

   7. b)

2. By engaging real-world clients, using digital technologies during education, architecture schools can facilitate meaningful practical exposure.

   7. e)

3. 65% of architects alleged that high tuition fees, job insecurity and a lack of practical skills during education are most deterring.

   8. a)

4. Work as an apprentice with an established architect.

   9. d)

Statements with more than 60% agreement **Statement no**

5. The phase of making an architect of a student; a time when the personality is moulded, is not adequately endorsed either by education or by the practice, which expect both practical skills and sound knowledge.

   7. d)

6. Limited interaction with end users and clients during education' is another key area that 21% of architects felt was 'very discouraging' and 34% felt was 'discouraging'.

   8. c)

Statements with more than 50% agreement **Statement no**

7. Architects felt that legislative and regulatory constraints imposed by professional institutions discourage emerging architects from becoming successful practitioners.

   8. b)

8. Work as project manager on large projects.

   9. a)

9. By making more drawings, the architects try to justify their design fee and recommendations, which impels client into considering the architect's choice of material. [In Disagreement]

   2. b)

Statements with more than 30% agreement **Statement no**

10. Although participatory-design, design-built and learning-by-doing present an understandable substitute for studio-based learning, such methods contribute marginally towards students understanding of users and clients.

    7. a)

11. Under the strong influence of competitive environment and professional practice, emerging architects tend to unlearn

    7. c)

their academic knowledge, ethical discourse and theoretical understanding rather too quickly.

12. About one third of architects thought 'confinement to their own assemblage and self-centred work culture' was a contributory factor that demotivates emerging architects.
8. d)

13. About one third of architects also suggested that 'design-centric theoretical knowledge and a culture of impressing their peers' could also be responsible for inhibiting young professionals from launching themselves successfully.
8. e)

14. Work as a Design-Build contractor on small turnkey projects to learn the trade.
9. b)

The discussion above and the findings will doubtless be much scrutinised, but there are some immediately dependable conclusions, which reinforces the hypothesis made at the start of the study and accentuate the overall argument as debated previously. These findings have led the researcher to devise and explore one such approach, in which neighbourhood-based online platform has been proposed as a workable mechanism for, bringing in and integrating, real-world client interaction to impart practical skills alongside theoretical knowledge. The development of this idea into a working prototype has been out with the scope of this study due to time constraints. Therefore, a conceptual framework was drafted, and the same was presented during at the Association for Professional Studies in Architecture (APSA) conference where expert opinion was sought to ascertain its practicability (See Section 4.4.6). Section 7.3, AN OPPORTUNITY PRESENTED BY DIGITAL TECHNOLOGY, is devoted to discussion of this conceptual model along with its wider implication for education and training of the emerging architects.

CHAPTER 7

SYNTHESIS, CONCLUSIONS AND FUTURE WORK

This chapter articulates the original contribution of the thesis, drawing together what has already been documented by scholars, academicians and critics through extensive literature review in Chapters 2 and 3, a pragmatic approach to investigation in Chapter 4 and the findings in Chapters 5 and 6. The first part (Section 7.1) of this chapter will show what this research has achieved and how the findings have met its originally anticipated aims, set at the start of this study. In Section 7.2, the researcher emphasises the steps that were taken to ensure that the study findings were realistic, reliable and meaningful.

The next part of this chapter (Section 7.3) discusses and elaborates on one of the many possibilities of reshaping the future of architecture and boosting the ACR through digital technologies. It begins with an introduction to the conceptual framework of a 'Neighbourhood-based Live-Project' using an online platform as a mechanism to integrate real-world client interaction during architectural education (Subsection 7.3.1). Subsection 7.3.2 outlines the strengths and difficulties of this model. Subsection 7.3.3 describes how respondents evaluated and commented on the feasibility of this model.

Section 7.4 highlights the research significance and articulates the original contribution of this study. An acknowledgement of the drawbacks, blind spots and other confines, including an outline of how it could have been done differently, appears in Section 7.5, while the final section (7.6) concludes this thesis by articulating potential areas for further investigation.

7.1   AIMS OF THE THESIS AND FINDINGS

This thesis aimed to examine the relevance of the architect-client relationship in emerging architects' education and training. The following research questions defined the scope of investigation.

RQ 1. What factors contribute to the breaking down of an architect-client relationship?

RQ 2. What is the role of architectural education in addressing these issues?

RQ 3. What is role of digital technologies in reshaping education and practice for a stronger architect-client relationship?

The findings of this study establish that the decline of the ACR is rooted in architects' inability to strike an optimum balance amid quality, cost and time; and clients' ignorance or mistrust on the architects' ability to do this. The study finds that architects' incomplete education and training are the main reasons for their design-centric attitude, peer-orientation, lack of interpersonal skills and consequent neglect of clients' needs. These can be further traced to students' lack of exposure to a) discipline-specific examples, b) tactical knowledge of practice and c) real-world client interaction. Even when the main part of an architect's role is to manage, negotiate and collaborate with consultants, colleagues and the wider public, business management, interpersonal skills and client interaction find no noticeable mention in the architectural curriculum. It has also been shown that in architecture, innovation in practice is always ahead of academic research, yet it remains intangible and inaccessible to students. It is this intangibility that is argued to be a crucial missing link in the traditional architectural education system. Consequently, the aspirations of emerging architects are further frustrated and dampened through the silent hierarchies prevalent within the discipline, while the concept of *architecture as a service to society* is rarely prioritised.

7.1.1   Summary of findings: Architect-client relationship

The literature review has identified the existence of distrust and wariness between architects, clients and stakeholders. The a lack of appropriate design language and a mismatch between the communication and design processes has also been recognised through online survey and validated through interviews. The findings also confirm that other building professionals have severely marginalised architects. According to the inferences of this study, the predicament of the profession and the marginalisation of architects is due to their detachment from the client and an ACR that is at an all-time low, if not completely broken down. Moreover, clients' distrust towards architects is due to a) missing value-addition in projects, b) improper communication and use of complicated terminology and c) prioritising aesthetics over their needs.

As noted in the literature review, this has long been true, that institutionalisation of architectural education, and ramifications of complex buildings and expectations of

modern life have tainted the traditional ACR. An architect's role has shifted from a service provider to an ambitious entrepreneur. In general, most architects tend to ignore their social and ethical obligations, prefer to remain engrossed in their artistic dimensions, and promote themselves as elite social reformers and form-givers to the built environment. Both architects and non-architects have responded and confirmed that it is a failure on the part of architects, a) in articulating and communicating the value that they bring to projects, and b) in striking an optimum balance between addressing client needs and their own aesthetic aspirations. Therefore, architects need to shift their focus from design-oriented missions to client-centric values and enhance their marketing and interpersonal skills to better communicate with their clients.

Other important insights that this study has arrived at are as follows:

1. The needs of clients are side-lined, as the needs are misinterpreted and looked upon unrealistically by the architects; and advice from friends and well-wishers disturbs and affects initial negotiations and the decision-making process. This makes the ACR, in its current model, operate more like a power struggle.
2. Most clients prefer functionality over aesthetics and want architects to be affordable and accessible. Clients are looking for an onsite architect and other pro-bono services. They are willing to invest their trust in architects who can deliver from concept to completion.
3. Clients expect a finished building, within an agreed budget, and not a set of drawings or contract documents. Clarity of communication, not design, is the key factor in winning the trust of clients.
4. A substantial amount of value can be added during the construction stage, particularly in private residential projects. Architects should work in tandem with clients instead of forcing their plans and ideas, and they should consider client training a part of their job.
5. After an initial agreement, architects must allow sufficient time for clients to think before accepting an advance or signing a contract. Although mutual trust is important, transparency, accountability and timely payment of dues remain the hallmark of any successful partnership.

7.1.2 Summary of findings: Education and practice

The literature review recognised architects' dilemma about 'form over function', and their struggle to justify their fees and the need to form a unanimous opinion regarding the Code of Conduct. The education of architects still favours experimental learning guided by the dominant nature of tutors over students with subjective feedback. As such, studio culture is structured around the concept of competition and prepares graduates to fend for themselves in a manner aimed at developing specific skills to

impress peers. In a design studio, good design always means something that is unique and something that pushes the boundaries of form and aesthetics. The academics are unable to bring a) discipline-specific examples, b) tactical knowledge of practice and c) real-world design problems into architectural education, a culture of peer-orientation and self-centred work culture has thrived and led to the current state of affairs.

Besides, inadequate efforts to reduce the gaps between academia and practice, a lack of public awareness and interdisciplinary engagement has daunted the future of the architectural profession. The empirical findings suggest the following:

1. 65% of architects alleged that high tuition fees, job insecurity and a lack of practical skills during education are most deterring. Limited interaction with end users and clients during education is another key area that 55% of architects felt was 'very discouraging'.
2. Architects also felt that legislative and regulatory constraints imposed by professional institutions discourage emerging architects from becoming successful practitioners.
3. The phase of making an architect of a student, a time when the personality is moulded, is not adequately endorsed either by education or by the practice, which expect both practical skills and sound knowledge.
4. What students learn during internships and fieldwork is often not well integrated with institutional learning.
5. By engaging real-world clients and using digital technologies during education, architecture schools can facilitate meaningful practical exposure.

7.1.3   Summary of findings: Digital Technology

The literature review revealed architects' resistance towards the use of modern technologies and collaborative workflows, their preference for traditional methods of practice, and that print and digital media language largely overshadows the effects of descriptive architectural drawings on clients. It has been shown that, while there are significant challenges ahead, acceptance of digital technologies as a standard practice by architects is the key to a stronger ACR. The findings of this study report that

1. Visual and digital content are much easier to understand, communicate and share than paper drawings.
2. Innovative use of technology enables architects to produce initial design concepts and proposals at relatively low cost, relatively quickly.
3. Digital workflow reduces error, facilitates systematic documentation and enables a collaborative work culture during a project.
4. Digital workflow enhances accountability, transparency and trust and extends the range of services that an architect can provide.

7.1.4   Recommendations

This research has shown that there is a niche of potential and an unmet demand in this sector for radical change and impactful engagement. Therefore, a framework that empowers and reinstates meaningful learning, critical reflection, robust assessment and moral accountability is needed. A system that offers accessible, affordable and achievable opportunities to students, architects and clients, which enables their efforts to be recognised, evaluated and endorsed appropriately.

Therefore, the main recommendation of this thesis is that to secure the future of the architecture profession, emerging architects need to be trained more in client-centric skills than design-centric aptitude. Hence, the role of digital technologies is argued to be most instrumental during the education and training of architects for encouraging a behavioural change to reshape the ACR in the future. With the advent of digital technologies, numerous opportunities have presented themselves, which promise to facilitate the introduction of real-world client interaction into architectural education. To that end, many emerging models are discussed in this study; however, further research is needed to establish the feasibility and effectiveness of these new pedagogical approaches.

7.2   RELIABILITY OF THE FINDINGS AND VALIDATION OF THIS STUDY

As discussed in Section 4.4, to conduct this research and ensure its dependability, several data collection methods were studied and considered by the researcher at the outset. Hence, validation of the study findings was not limited to the end of this study, but rather embedded from the very beginning. Since online survey and semi-structured interviews were the primary sources of findings and contribution of this study, it was considered appropriate to conduct validation sessions in the form of face-to-face meetings, presentations and Q&A sessions (See Appendix 7. Response validation questions. A short validation session of 15 minutes was held after each interview, where the participants were shown and asked to comment on the online survey results, followed by four validation questions. One focus group round-table discussion and a formal presentation at the Association of Professional Studies in Architecture conference were the other two occasions where the study findings were validated. The results from these sessions are briefly presented in this section.

7.2.1   Face-to-face sessions

<u>First question</u>: *Do you agree that real-world client interaction is a neglected area in architectural education?* It was revealed that indeed it was a neglected area. According to A2, 'very rarely is there a client actually sitting in front of them. What normally happens is the design tutor chooses a project that students have to design, and they deliberately make it too difficult because it's about challenging the students' (A2). A6 reported, 'as a profession we are bad at demonstrating our worth and PR and we need to be a bit of an analyst to demonstrate the benefit we can bring to a project'. According to CL2, 'client interaction is underplayed and not done as much as should be'; he said, 'that there are some projects where an architectural firm, particularly big firms, will kind of drop a design onto a client, so I think that answer is probably that it is a neglected area'. One respondent acknowledged that client interaction is neglected, but he was not convinced that architectural education needs to be reformed. He argued the following,

> *when you study architecture, you learn about design concepts and so on. Technical basis and practical experience is rather something you learn on the job afterwards… there is no such thing as the client, they are all different, it all depends on the project. It can be a huge building complex, might be a commercial development, small house of a private client, it might be a state organisation, so in my experience interaction with clients*

can be very different and you'd rather require good interpersonal skills, communication skills. So, I'm not convinced that you can learn much during architecture education. (A3)

It was also pointed out that affordable medium and small-sized practices, with the focus on small jobs, do not exist now as they used to in the 80s and 90s. This finding was unexpected and suggests that the competitive nature of architects and the institutionalisation of practices have led to the decline of a network of sole practitioners, who now form consortium of large practices. A recent RIBA survey reinforced this, saying that most medium and small practices do not plan to expand their business but rather are downsizing.

<u>Second question</u>: *How would you articulate the need for real-world client interaction in architectural education?* C1 felt that generally people are distanced from architects and architecture school, and only those with a family member in the profession know of it. Others have a fear of approaching architects. A6, on the other hand, said,

> *…during architectural education students could meet some real clients and maybe some real life projects …in college a lot of the projects are very arty, they're not based on reality, and it's that preparation of turning the student into an actual architect that accentuates a need for a dose of reality, you need to know what clients are interested in and what special things you are going to do and how (A6).*

Similarly, O1 explained that,

> *…education is not only theory; rather, it is teaching a student how to communicate with the client effectively and build relationships at an early stage: If I'd have had more of that one-to-one basis when I was learning I would have learned a lot quicker so that when going into the industry I would have felt completely confident in doing that and so yes I do agree that real-world client interaction is a neglected area in architectural education (O1).*

However, it was also noted that clients need to be trained to appreciate the value of a good design, which can only happen if architects take initiative in that direction. A6 remarked that the education system in Britain was at fault, and since clients in Britain and Ireland don't recognise good design, as opposed to clients in Scandinavian countries, education regarding good design should be imparted at primary level.

The third question aimed at testing whether respondents empathised with the assumption that, *once integrated in the academic curriculum, digital technologies can afford meaningful practical exposure to students.* The response was positive, as most respondents endorsed the proposal and said they were convinced that digital technologies could be instrumental in reshaping the architectural education system and, consequently, the ACR. O1 said,

> *I would have just more real-life based scenarios. It doesn't necessarily have to be an entire building that's being built; it could be even smaller aspects or maybe damaged parts of buildings under repair as a project, that students can go into to have an understanding of the construction techniques. More understanding in a real-life site environment would be really beneficial and valuable to the students (O1).*

Admittedly, training and education are two different things, as one participant argued that the presence and involvement of a real client and real financial budget are very difficult to recreate in architecture schools: 'Not because you can't get students to price it but that engagement of understanding how a project's priced and a continuous involvement of developing in conjunction with the costing expert, as well as developing in conjunction with a client, but interaction, that's the thing that's very difficult to recreate' (A1).

The final question asked respondents their opinion on whether *client interaction during education would improve the ACR and prospects for emerging architects.* Most respondents believed that it would have a positive impact on the profession as a whole, particularly on emerging architects. Digital communication would improve architect-client relations by eliminating the fuss of calling every time and scheduling face-toface meetings. It can increse accountability by recording every meeting, assinging targets digitally and sending out agendas for future meetings. However, not just acceptance, but also continual upgrading hardware and keeping up-to-date with the technology is important. One respondent described that digital documenattion can help when mapped with 'RIBA Plan of works':

> *'I mean there are so many ways you can use digital through that and I think communication is the key, but first stop is attracting clients so it's PR… that although sketches probably as better, but a picture speaks a thousand words…I used to meet clients every day and they would come to me with pages out of magazine, but that has totally changed; now everybody has a Pinterest page, it's all digital now' (A6).*

7.3   AN OPPORTUNITY PRESENTED BY DIGITAL TECHNOLOGY

7.3.1   Neighbourhood-based Live-Project

A part contribution of this study was to develop a conceptual framework for an online platform and application that enables student-client interaction supervised by tutors. This platform will work as a secure discussion board with a dedicated project page, which is integrated as a module in the academic curriculum and facilitated through an institutional framework. Light construction activities, such as garage extensions, conservatories, landscape development, pavements, fencing, roof repairs, interior modifications, renovations, painting, construction of a new retail store, etc. are common sights. This initiative would help connect owners carrying out these activities with emerging architects and architecture students living within the same postcode who are willing to volunteer a low-cost service (see Figure 30 showing how it works).

Students can express their interest in shadowing these projects, offer low-cost non-technical advice or just volunteer as a handy person during procurement of materials. The scope of students' involvement could be helping with the basic layout, measurements, etc.; colour scheme suggestions; cost-reduction ideas; smart detailing during renovations; construction sheds, garden fencing, landscaping etc. These brief and straightforward activities offer valuable insight, and through them students learn a lot about architecture, design and construction. They can provide meaningful practical experience and enhance learning towards being client-centric, responding to user needs and collaborative problem-solving methods. The architectural educator's mediation of the client-student relationship is vital for ensuring that 'students do not simply substitute the educator for the client, treating him or her as a source of unquestionable knowledge' (Brown, 2102). Once interwoven with the institutional framework, this can become a useful tool for students to enhance their interpersonal skills and interact with practitioners, contractors, users and clients.

<u>Institutional viewpoint:</u> The administration, through an institutional framework, will help provide timely feedback to students from their peers and tutors. Second, digital documentation of the activity will enable supervised practical experience and grass-roots level interaction with real-world situation for students. Visiting tutors can play a proactive

role by getting involved with students at multiple levels as and when convenient rather than just limiting themselves to design studio *crit* sessions.

INTRODUCTION
Landing page for everyone.
Brief outline of how it works!

From here they will go to Sign-in Page

Sign-in page
register as
student /client / tutor

INITIAL CORROSPONDENCE
Student approaches multiple clients and
expresses interest to shadow their project.

If intresetd Client replies and fills up as much
detail of the project as possible - docs, images,
maps etc.

CONSENT AND APPROVAL
Receives projects details and
consent form clients
Forwards the case to the tutor /
academic institution for approval

LIVE-PROJECT EXECUTION
Project Landing Page
Interacts with client and tutors.

DOCUMENTAION
From here they will go to
Sign-in Page and register as
student /client / tutor

Figure 30   Neighbourhood-based Live-Project

Proposed conceptual framework   Source: Author

<u>Professional viewpoint</u>: Established architecture practices can promote scholarship and disseminate their vast knowledge to students by allowing them to shadow their projects, giving students a chance to question their peers' design decisions and learn from their projects. Mentorship needs to be a resolute activity of professional practice and should be treated as a professional and moral obligation of all architects.

7.3.2 Strengths and difficulties of this model

Some of the key features of these projects are outlined as follows:

1. Being in the same postcode, no travel cost is incurred by students; they can arrive quickly and at short notice, ensuring flexibility.
2. With no civil, mechanical, electrical or structural work involved, these are perfect case studies for first-hand learning experience.
3. Being in a residential neighbourhood, student health, safety and security risks could be largely reduced.
4. These projects involve a chance to speak with real clients and offer impartial, quick and affordable brainstorming opportunities, even for routine maintenance jobs.

For students

- Reduced travel time and costs;
- Promotes a client-centric design process;
- Maps with ARB criteria for prescription of qualification;
- Students can record activity digitally and develop their portfolios;
- Get easy recommendations for jobs or internships

For institutions

- Enriched educational experience of students and educators with real-time case studies;
- Enables regular progress and monitoring by tutors and reduces assessment time, everything being online.
- Improved institutional ranking and popularity of course modules;
- Attracts more students.

For clients

- Get help in small jobs like basic planning, measurements, colour scheme suggestions, cost reduction ideas, etc.;
- Receive impartial, quick and affordable brainstorming, even for routine, building-related maintenance jobs.

Appropriate project types

Academics argue that the reason for not incorporating Live-Projects in their programs is the inability to find ones that are appropriate for students' aptitude and stage of learning. This excuse is inaccurate and has been contended as the weakest link in the chain of architectural education, which can be easily mitigated using digital technology. In the following two observations, this study shows that finding such small case-study projects is not difficult.

1. All local authorities publish a public list of weekly planning applications, with complete project details, including the names of architects and clients. If the architects agree to play a proactive role to help and mentor students, this could become an ideal learning platform and even substitute the current model of architectural internship, where students rarely get to see the client.
2. Upon monitoring the frequency of adequate small jobs posted by members on their communal Social-Media page, it was noted that, on average, 4-6 such jobs were posted every week within a postcode. Figure 32 shows the nature of enquiries and types of jobs in the researcher's postcode posted from December

2016 to May 2017. Hence, students and emerging architects can easily connect with potential neighbours and express their interest in projects. Although a level of trust and introduction already exists amongst the neighbourhood online community, with institutional endorsement, students' credibility would be further established.

Akash via Nextdoor	**Private message: RE: Slabbing** - Akash akash.angral@gmail.com Jordanhill Hi Nicki, I hope you don't mind	18:38
Akash via Nextdoor	**Private message: RE: Carpet Fitter** - Akash akash.angral@gmail.com Jordanhill Hi Callum, I hope you don'	18:37
Nextdoor Jordanhill	**Joiner** - Marion Ramsay, Scotstoun Hi there I'm looking for a joiner to fit a bit of skirting around a chimney br	18:32
Akash via Nextdoor	**Private message: RE: Recommendation for a roofer** - Akash akash.angral@gmail.com Jordanhill Hi Suza	18:31
Akash via Nextdoor	**Private message: RE: Landscaping / fencing / pet enclosure** - Akash akash.angral@gmail.com Jordanhi	18:30
Architecture Fringe	**Reminder for Architecture Fringe 2017 | The Essential Relationship** - Eventbrite Find events My Tickets	18:15
Akash via Nextdoor	Private message: RE: Architect for planning permission - Akash akash.angral@gmail.com Jordanhill Hi Jay, I	18:08
Akash via Nextdoor	**Private message: RE: New patio doors** - Akash akash.angral@gmail.com Jordanhill Hi Orla, I hope you do	18:07
Akash via Nextdoor	**Private message: RE: Plasterer** - Akash akash.angral@gmail.com Jordanhill Hi Jeff, I hope you don't mind	18:07
Akash via Nextdoor	**Private message: RE: Gutter Cleaning & House Painting** - Akash akash.angral@gmail.com Jordanhill Hi	18:06
Akash via Nextdoor	**Private message: RE: Painter / decorator** - Akash akash.angral@gmail.com Jordanhill Hi Treza, I hope you	18:03
Akash via Nextdoor	**Private message: RE: Recommendation needed, please** - Akash akash.angral@gmail.com Jordanhill Hi	18:00
Akash via Nextdoor	**Private message: RE: Kitchen appliance fitter** - Akash akash.angral@gmail.com Jordanhill Hi Wilma, I ho	17:58
Akash via Nextdoor	**Private message: RE: driveway resurface** - Akash akash.angral@gmail.com Jordanhill Hi Irene, I hope you	17:58
Akash via Nextdoor	**Private message: RE: Looking for Donations to make a Water Collection System : To Water...** - Akash	17:57
Akash via Nextdoor	**Private message: RE: Garden work** - Akash akash.angral@gmail.com Jordanhill Hi Frank, I hope you don't	17:56
Akash via Nextdoor	**Private message: RE: Decorator** - Akash akash.angral@gmail.com Jordanhill Hi Josie, I hope you don't mir	17:55
Akash via Nextdoor	**Private message: RE: Painter and decorator** - Akash akash.angral@gmail.com Jordanhill Hi John, I hope y	17:52

Figure 31   Small jobs posted on a neighbourhood Social-Media group.

Source: Author

Eligibility conditions

1. Must be a small job and should not involve any civil, electrical, mechanical, structural works or hazardous activity. Adequate insurance cover to be in place.
2. The size of the projects to be shadowed should be based on either the cost or the complexity of the project and approved by the studio tutor/institutional committee.
3. Time and date of meeting must be approved by the tutor and fixed at least three days in advance. Each activity must be digitally recorded and connected through GPS.
4. Recommendation from at least two neighbours should be required. Disclaimer and other conditions must be agreed upon prior to any contract.
5. The work must be located within the students' postcode, and shadowing may also be done in small groups, if required.

<u>Sustainability</u>

Students who aspire to gain direct on-site experience and do voluntary work 2-6 hours per week could take the initiative to manage and monitor such projects. This could be done either independently, under the supervision of teaching departments or career services, or through a students' association. Although voluntary service can be mutually beneficial, compensation could be provided in the form of payment of basic living wage and a small token of appreciation for participation (e.g. shopping vouchers). Depending on the response and impact, donations could also be gathered from groups and individuals who benefit from the project.

Endorsement from architectural institutions and professional organisations could be a key factor in the launch and success of such initiative. With the support and involvement of architectural practices, this project can materialise with very low investment. Through a social cause, community engagement and an institutional fit, this project enables early understanding of theory and practice for students, offering case studies of small Live-Projects. Furthermore, this can have a potentially wider impact and outreach in society, by creating awareness and promoting the architectural profession and the role of architects in society.
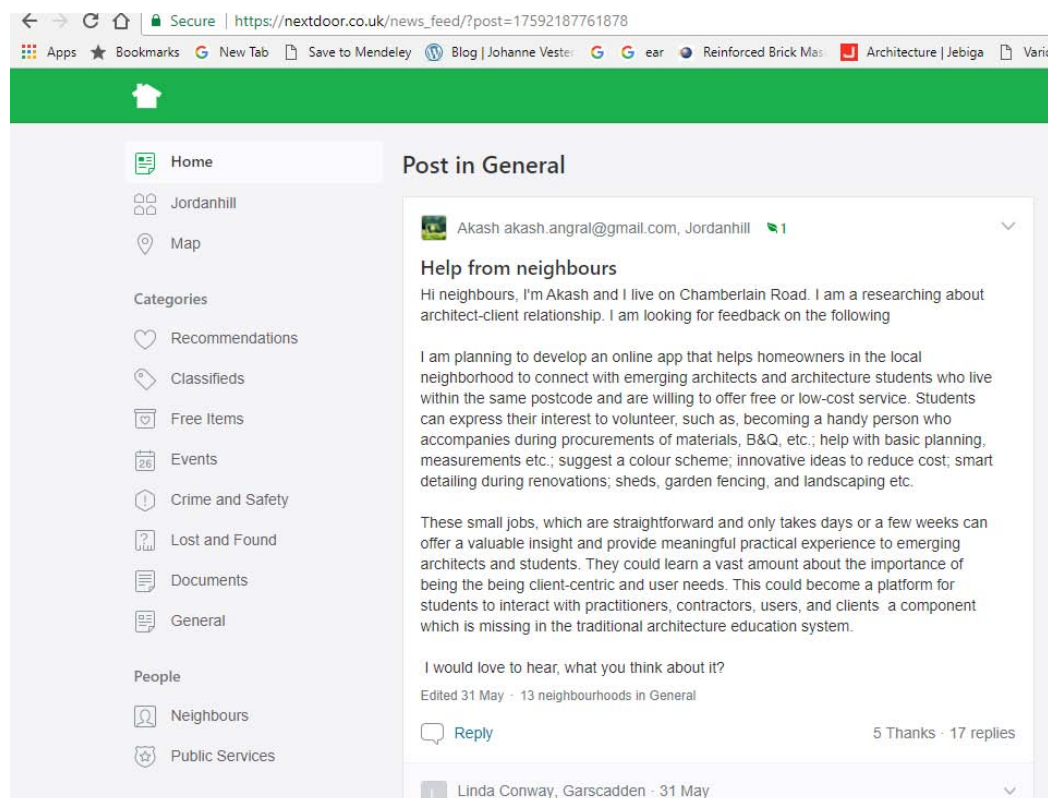

Figure 32   Posting on Nextdoor

7.3.3 Feasibility of the 'Neighbourhood-based Live-Project' model

This idea was first posted on 'Nextdoor', a local neighbourhood Social-Media online platform. It received 17 replies from members (see Figure 32). The researcher answered their questions and explained the benefits of this initiative. Although the findings of this study were presented and discussed with experts on different occasions, this model in particular was discussed towards the end of semi-structured interviews, where respondents were asked to comment on its suitability. The discussion offered an opportunity to deliberate implications and find solutions through questions from the respondents and answers from the researcher. The insights and comments on the suitability of this idea, both in favour and against, are presented briefly below.

Opinions in agreement

According to A1, this could act as a signpost for the profession, assuming that clients will be 'altruistic and looking for the benefit of the student and the young engagement'; however, others might abuse this as a cheap way of getting an expensive job done. He also felt it was 'important for the profession of architecture to buy in to this idea, and if you are seen as undercutting a proportion of work that the practices can do, then, given my experience, they would become very defensive of that'. The researcher replied that, as things stand, many students have to engage in some sort of part-time job to support themselves. The only change would be to integrate the practical education from this work into their academic education. An example of this is a system at Glasgow Dental Hospital, where students, under the guidance of experienced practitioners, treat patients free of cost. Lawyers have a similar arrangement which is rooted in the field, called 'public law clinics'. Even accountants have it – why not architects? After the researcher explained the project details, the respondent was convinced and said that it was a win-win situation for clients, students and the profession as a whole. The direct engagement of trainees with all other parties is valuable and could be life-changing for students.

Another point argued by the researcher was that until now it was not possible to bring discipline-specific examples into the design studio and organise real-world client interaction. However, the option of virtual connectivity through smartphone technology, professional networks, Social-Media groups, availability of clients and ease of arranging appointments has made this a fairly straightforward and easy operation. One respondent questioned the need for linking this project with an institutional framework and asked whether there was some kind of accreditation of experience involved. The researcher explained that students can use these case studies to complete their practical experience logbooks, which is a prerequisite of validation of professional qualifications by institutions like RIBA, RIAS and ARB. Speaking in favour of this idea, the respondent remarked that 'institutions claim that there is a lack of such projects for students to learn from… because those academics are also removed from practice'.

One said that 'this idea was more significant than working on projects like a park bench for a housing association, that lacks the interface and inteaction between client and provider' (A1). Another respondent argued that this would be a good initiative, particularly for clients with small projects, as it is complicated for them to go to a professional architect, who has a reputation of being expensive. Involving students for modest solutions could

offer clients the same results (A4). According to another interviewee, rolling out this project would be very influential to the future of architects (A8). For those who would have never considered an architect as an advisor, the affordability of an architect's advice through this project would allow them to discover whether or not architects are useful advisors. Another respondent advocated the benefits of this proposal for students, as they currently do not get practical knowledge until they are in practice (Architect: A9- AR). But it has selective suitability; for example, they can engage in spatial planning, but jobs like construction detailing are too complicated for them to handle. One professional said that the aspect of getting additional skills from real-time experience is not specific to the field of architecture and is clearly beneficial for any professional working with a real client (O2). One feature acknowledged by a respondent was the aspect that this work is done by people within the same community or a postcode, as having familiarity and understanding of the local area helps.

The discussion above highlights the points in favour of a 'Neighbourhood-based Live-Project'. However, many other concerns and possible limitations were also spotted. These apprehensions, plausible explanations and mitigations by the researcher are discussed below.

Opinions in disagreement

The first and foremost concern of both architects and clients was: What happens if students specify something wrong or make a mistake? For example, one architect said, 'if you put a student and a client together, they're gonna connect drainage up completely the wrong way' (A1). The researcher explained that there would be three categories of possible architects willing to offer affordable services on this platform: students (enrolled in an institution), emerging architects (Part-2 qualified or post-graduates) and established architects (part-3 qualified or equivalent). As such, students would not offer any consultancy; rather, they would shadow the work on site. Moreover, they would primarily focus on gaining experience in initial design stages, closely supervised by their tutor and assimilating this knowledge into a brief report at the end of the project, digitally documenting the whole exercise.

The second point of concern was that it might dishearten prospective students, as they might get an impression that architects are unduly paid. In the words of respondent A11, ' …we have this feeling that things are free, whereas, lawyers,

dentists, doctors, opticians, these guys are really well-paid …we mustn't become more devalued'. To this, the researcher responded that this platform was not trying to devalue architects; rather, it was an attempt to bridge the gap and reinstate the lost trust among the public, bringing back the due respect of architects. People don't seek out for architects the way they look for other professionals, because architects are not affordable and this project would make architects affordable.

Other concerns pointed out by the interviewees included the risk of exploitation, longer duration of job execution than expected, extra time devoted by the tutor, and issues surrounding the competencies of students and the insurance and liability of institutions. One client held out that, 'I would never have a student do work for me, even if it was free … because I don't know how competent they are' (C1). An interior designer (O1) said, 'I don't think that architects would want to take on students or emerging architects with not a lot of first-hand experience to do the jobs and projects that they would be looking for...'. In his opinion, students with an understanding of actual building construction and manufacturing processes would be preferred. And the objective of perceiving and learning client relationships can be better achieved at the initial stages of the design rather than at the construction stage.

Overall, the idea was widely appreciated from an educational perspective; considering the concept of observing the architects in practice, and how they build relationship with their clients. O1 also remarked that it's a good stage for the students to volunteer and see how a project like this progresses and how something is constructed, the fundamentals of which can be taken back to university. This entire engagement takes the form of a project between a tutor and a student, who can get client feedback after the project. However, he was strongly against any sort of interaction that could jeopardise the stakeholders' interest.

7.4   THE ORIGINAL CONTRIBUTION OF THE RESEARCH

The outcome of this study could be valuable for helping students and emerging architects understand clients' concerns, eventually leading to a stronger ACR. Furthermore, it could contribute to 'two-way' knowledge flow between academia and practice and serve as the basis for further investigation of the implementation and use of digital technologies in education and practice. Figure 33 below compares the prevalent methods of producing architects and articulates the essential need for a people's architect. It identifies this lack in the shape of a people's architect, someone who is trained in a collaborative approach with discipline-specific examples and real-world client interaction. A profit-oriented entrepreneur with good practical skills who can produce design solutions which not only address client needs but also demonstrate social relevance.

This study is made credible by its extensive literature and its use of online survey, semi-structured interviews methods, which validate its results.

1. The literature review highlights the importance of the client's role and of formulating a comprehensive theoretical framework around architect-client relations, including how they influence and progress through the various stages of the design process. This has been contested as the first contribution of this study.
2. This study has articulated two lesser-known aspects of architectural discipline: a) the absence of client experience in education, and b) unmet client expectations in practice. The second contribution of this thesis is to bring together these issues to enunciate the need for real-world client interaction in architectural education.
3. The third contribution of this study is explaining how digital technology can bridge the gap between 'client-language' and 'architectural-language' during the various stages of a project. It has revealed that even though architects claim to understand client language, few actually do. Unless acquainted with the architectural language of illustration, private residential clients mostly struggle to understand design concepts rooted in technological and aesthetic brilliance.
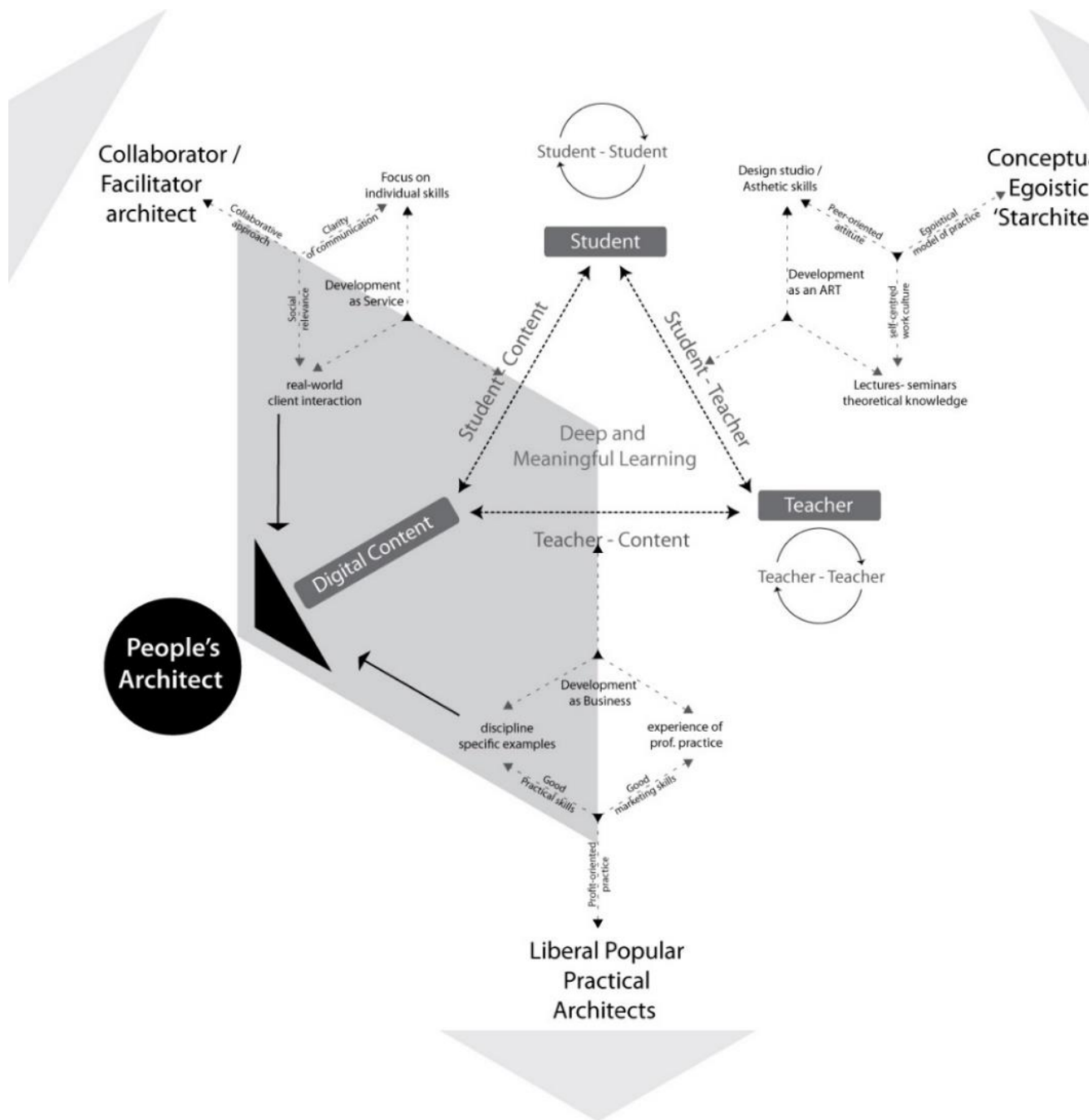
Figure 33   Scope and contribution of this study: Need for a people's architect

Source: Author

4. The role of people's emotions and their decision-making based on feelings (Harris, 2014) is another aspect that has been evaluated within the ACR. The appraisal of different architectural features and aesthetic elements by architects and non-architects in the digital age has also been contested in a new light. While architects expect to win projects based on architectural features and advantages of their design elements, clients look for emotional benefits and value for their money.

5. The understanding of the ACR has been found to be an under-theorised field of study, especially in the context of its relevance for architectural education, and as a pathway for gaining employment, as well as its social significance in evaluating architects' ethical and moral obligations.

6. Finally, and perhaps most significantly for an under-theorised field of study, this thesis makes a concerted attempt to contextualise contemporary understanding of the ACR and substantiate assumptions and misbeliefs through its empirical findings.

7.5 RECOGNISING DRAWBACKS AND LIMITATIONS

As stated in the introduction, the disposition of this study builds upon the lesser known and under-researched viewpoint of private residential clients' and concerns of emerging architects. However, the aim of this study was to contextualise a reshaping of the ACR and accentuate the need for real-world client interaction. It has been argued that developing an intrinsic relationship and understanding client-centric values can secure the future of architects, and this can be done by interweaving technological advancements with the education and professional landscape of architecture. Although this study has led to many insightful findings, there are certain drawbacks to the contributions of this study.

1. Student representation is particularly low in the online survey, contrary to what was originally anticipated, and the small sample size of students and emerging architects did not allow the researcher to generalise their viewpoints. Therefore, the concerns of emerging architects are only supported through the review of literature and secondary research projects. However, the study did benefit with respect to finding and validating reasons for the breakdown of the ACR, as most responses were from established architects.

2. The scope of this study was limited in terms of available time and resources. Classroom validation sessions with the students were planned, but due to time and scheduling constraints, these did not materialise.

3. The study does not take into account other technological advancements that affect the architectural landscape; for example, use of AutoCAD, Building Information Modelling (BIM), Augmented and Virtual Reality and many other proprietary software and hardware applications.

4. One hypothetical position adopted by this study was the assumption that a) professional practice and the technologies available, and b) the dynamics of the ACR, are the same everywhere, because of globalisation and advancements in information communication technology.

5. This study looks primarily at the prevailing conditions in the United Kingdom. The reasons for such location-based research were that most published data available is in the context of the UK, the active role played by RIBA and ARB, and the fact that the UK is regarded a hub of the architectural world. Hence, the lack of examples from other parts of the world could have impacted the findings and can be regarded as a limitation of this research.

7.6   FUTURE WORKS

Many things may seem easily doable with the growing influence of digital technologies and the internet; it has, however, become challenging not only for architects but also for other professionals to satisfy the needs of their customers and create products easily accepted by users. However, with multiple options now available to clients through digital platforms such as Social-Media and mobile apps, clients often find themselves engulfed in feelings of discontent about the options that they must forego as a result of the ones that they choose. One could argue that although clients and users are becoming familiar with recent technologies, aggressive digital marketing also impedes the decision-making process and has a detrimental effect on the ACR.

With the advent of digital technologies, numerous possibilities have presented themselves, which promise to address various issues faced by stakeholders in academic and professional spheres in the architecture, engineering, construction and operations (AECO) industry. To that end, many new models have emerged, such as collaborative practice with building information modelling (BIM), working in virtual environments (VR and AR), digitally recording practical experience, and online *crit* and feedback systems for students. Hence, future research on this subject will be guided by the implications of these technologies and exploration of the ways to mitigate any undesirable consequences for emerging architects and clients. Some areas that the researcher has identified for immediate investigation are:

1. What happens when traditional methods of architectural training and practice, such as interactions among personalities and interdependencies between processes, roles and people's actions, are confronted with the adoption of recent digital technologies?
2. What happens when people are swayed by the effect of digital fetishisation? What are the implications of bridging the gap in language and terminology in architecture, considering the use of digital workflows? What is the role of various professional institutions in raising awareness about the role of architects in society?
3. How do architects in the digital age adapt and use technology to inform alternative routes of procurement? Since in architecture the prototype is the final object, and would be an automated operation in future, when the buildings are 3D printed, what happens if the processes they devise and the planning they do go wrong? Who bears the cost of such experiments?

7.7 REFLECTIVE SUMMARY OF THE PHD

The overarching aim of this study was to examine and report the elements that often lead to the breakdown of the architect-client relationship (ACR), and how such knowledge can help emerging architects develop an understanding of the profession early in their careers. The empirical data in this study was collected from Interviews that were held in Glasgow and Edinburgh, with 55% of survey respondents from the United Kingdom as compared to the rest of world. Likewise, most of the literature and work cited in this study originates from and refers to conditions in the United Kingdom. The thesis benefits from both a significant breadth of coverage – with a large and diverse sample of respondents in a structured online survey and social-media comments – and a significant depth of inquiry through semi-structured interviews, focus group discussion and respondent validation. The opportunities and difficulties of using primarily qualitative research methodologies, and their influence on the direction of the empirical research, including its outcome, have helped generate new insights. Thus, this thesis has made a concerted attempt to contextualise contemporary understandings about architect-client relationships and explore the assumptions and mis-beliefs that swamp the architectural landscape.

This thesis strongly rejects the claims by Lawson (2002, pp. 109-110) and Brown (2012) that the gap between teaching and research is narrowest in architecture and that architectural education benefits from the close links that it has with practice and that 'educators are, to varying degrees, generally occupied with two or sometimes all three aspects of the triumvirate of teaching, practice and research' (Brown, 2012, p.16). 'The position that architectural education, research and practice form an inter-connected and inter-dependent triumvirate that is central to the daily activities of many architectural academics' (ibid.). And that 'architectural education is obliged to consider its teaching and research in terms of both its contributions to architectural knowledge and its contributions to academic knowledge' (ibid.). Although this might be the case with some rare architectural educators who are also engaged in professional practice, but in the academic world this unique combination of interests is hard to find.

The role played by professional institutions in establishing the concept of Continuing Professional Development (CPD) in architecture is worth noting here. The standard RIBA-validated path to architectural practice necessitates alternation of periods of academic study and professional work experience, and formally recording practical experience,

which continues after the completion of one's formal academic studies with a professional obligation to commit to a formalised programme of CPD (ibid.). However, this study contends that end-users' needs, client interaction and real-world issues are rarely prioritised in these CPD events over conceptual discussions of great designs, new building materials and their specifications, or software application training sessions.

The findings of this study have validated that a lack of real-world client interaction is detrimental and has been contended as the weakest point in the chain of architectural education. This study has also rejected the claims of academics that argue that the reason for not incorporating Live-Projects in their programme is their inability to locate ones appropriate for students' aptitude and stage of learning. In addition, it demonstrates that Live-Projects and Design-Build programmes, as they are traditionally known and used in academia, do not offer meaningful practical exposure to real-world situations. This is where a significant original contribution of this study can be found, as it emphasises training architecture students in client-centric skills rather than design-centric aptitude and enunciates the need for real-world client interaction in architectural education. Besides exploration of how digital technology can bridge the gap between 'client-language' and 'architectural-language' during the various stages of a project, it has contributed to the debate over how to use technology to inform alternative routes of procurement in practice.

Typically, architectural knowledge is advanced through a process of synthesis and systematic critique and not necessarily through original contribution (Brown, 2012; Kelly, 2010; Manaugh, 2010). Despite interrogations of its credibility or reliability, the principle of peer review remains the cornerstone of academic critique (Commons Select Committee, 2011). A cohort of academicians, practitioners and critics who guard the philosophical boundaries and schools of thought in architecture. This research initially aimed to understand the role played by digital technologies in effective learning, and alternate models of practice, towards reshaping the ACR. However, not only was the research plan over-ambitious but, since these involved broad topics in their own right, such as the effect of digital technologies on effective learning at architectural schools and alternative practice models for emerging architects, studying them was deemed to be beyond the scope of a time-bound PhD. Hence, the research outcome and main contribution of this study is a conceptual framework that facilitates academic tutors and practicing architects to play a proactive role in educating students.

7.8   TRANSFORMATIONAL EFFECT ON THE RESEARCHER

At this time, I can look back on almost sixteen years of experience working with architectural design and management of several large-scale and complex building projects in India. In 2009, I also started tutoring in Design Studio and Building Construction modules at an architecture school, as a visiting faculty member. I entered the world of architectural academia and research because I enjoy sharing my experience of real-world situations in professional practice with students; I believe these are an invaluable resource for emerging architects. These lecturing experiences and interactions with students led me to discover that I equally enjoy theory work, especially theoretical fields that see wide use of empirical research, such as critical theory and constructivism.

I also entered architectural academia because throughout my professional practice and teaching, I personally experienced the disparity that prevails within the discipline. I discovered that while it was challenging to become established as a successful practitioner, there was not enough mentorship, help or endorsement available to emerging architects. There were no well-established routes for students, especially in the architectural curriculum, to engage with building professionals and clients where they could learn usable onsite skills. Moreover, traditional methods of training, such as an internship with a practicing architect, Live-build projects, in-house workshops, etc., had become inadequate and/or obsolete. Apart from drafting and office management, internship programmes with architects were not able to offer either meaningful real-world experience or client management skills in the current architectural landscape, on top of which, digital tools were revolutionising the way people work, engage and interact.

While I was happy about being an architect, I was also concerned about the negative trend with respect to the working conditions and marginalisation of architects by other building professionals. Moreover, I also experienced clients' dissatisfaction and mistrust in architects shown through their belief that good contractors and skilled labourers are more important than architects for achieving timely completion, quality and strict budgets. After this, I felt the growing need to better understand architect-client relationships and why it is important to use these tools early in architects' education. Additionally, my profession was more and more confronted with the spin-off effects of the rapid development of new digital technologies. In the last few decades, architects were rather suffering from the challenges than enjoying the benefits. I could see that the new digital tools had under-

utilised potential to support our efforts to create good architecture and to reinstate an architect's role in society. Nevertheless, this potential was playing a rather secondary role. The dilemma of emerging architects, who were facing challenges such as debt-laden education, job insecurity, lack of practical skills and real-world client interaction, was still of prime consideration in ascertaining the significance and direction of this study.

Studying the ACR called for a broader understanding and reasonable knowledge of all aspects of an architect's professional life. As such, the scope of this thesis was not limited to architects, clients and emerging architects, but also attempted to explore digital technology, architectural education and practice through a lens of social and ethical obligations of a service-oriented knowledge-based profession. Despite its limitations, the study certainly adds to our understanding of the architect-client relationship and how it reshapes the professional and academic domains of the discipline. Hence, in this study, I was more engrossed in identifying the gaps and articulating the problems faced by clients and emerging architects.

Nonetheless, some questions are still open to debate. For example, given my previous experience of both practice and architectural education, how can I overcome my own 'prejudice and subjectivity' when confronted with numerous viewpoints? However, on the positive side, when I decided to leave my established practice, which was mainly due to a number of reasons identified above, I was aware of this disposition and have treated it as an asset rather than a weakness. While, I maintained a personal research journal during the various phases of this research, I chose instead to seek substantiation of propositions not from personal triangulation, but by returning the findings to the respondents of the empirical research- as discussed in Section 7.2. Moreover, sixteen years of practical experience of running my own practice and teaching have been instrumental to the progression of this study, and it is this experience that has enabled me to rationally navigate and present progressive conclusions.

Clients play such an instrumental role in this study that without them this thesis would not have been meaningful. I am also indebted for the support and mentorship I received from peers in academia and practice, who agreed to face-to-face interviews and in-depth discussions, in some cases lasting up to two hours. Nobody has been more important to me in the pursuit of this project than the members of my family, who have not only made compromises at every step in the last three years but also sacrificed family time for me to

study. I thank all my tutors, examiners, friends and well-wishers for their valuable feedback, timely motivation, emotional and financial support, and, most of all, believing in me. To all of these I owe my deep gratitude!

BIBLIOGRAPHY

Abbott, A. (1988) *The system of Professions*. Available at: http://tmie.hypotheses.org (Accessed: 7 February 2018).

Ackerman, J. (1980) 'The history of design and design of history', *Journal of University of Pennsylvania*, Via-4.

Ackerman, J. (1969) 'Listening to Architecture', *Harvard Educational Review*, 39(4), pp. 4–10.

Agapiou, A. (2006) 'An Evaluation of a Contract Management Simulation Game for Architecture Students', *Transactions*, 3(2), pp. 38–51. doi: 10.11120/tran.2006.03020038.

Agapiou, A. and Salama, A. M. (2016) 'Charrette: editorial Shaping the Future of Architectural Education in Scotland', *Charrette*, 3(1),

Aho, I. (2013) 'Value-added business models: linking professionalism and delivery of sustainability', *Building Research & Information*, 41(1), pp. 110–114. doi: 10.1080/09613218.2013.736203. pp. 1–5.

AIA (2018) *20 Questions to ask your architect*, *AIA Practice Management Digest*. Available at: https://www.aia.org/articles/198836-find-an-architect-before-you-begin-your-pro (Accessed: 6 July 2018).

Akalin, A. *et al.* (2009) 'Architecture and engineering students' evaluations of house façades: Preference, complexity and impressiveness', *Journal of Environmental Psychology*. Elsevier BV, 29(1), pp. 124–132. doi: 10.1016/j.jenvp.2008.05.005.

Akin, O. (1983) 'Role Models in Architectural Education', in Burgess, P. (ed.) *The role of the architect in society*. Pittsburgh PA.

Alberti, L. B. (1988) *On the art of building in ten books*. Cambridge, Mass: MIT.

Alexander, C. (1991) 'Perspectives: manifesto 1991', *Progressive Architecture*, pp. 108–112.51691.

Alexander, C. (2007) 'Empirical Findings from The Nature of Order'. Available at: http://www.livingneighborhoods.org/library/empirical-findings.pdf (Accessed: 2 June 2017).

ALEXANDER, C. (2004) *THE NATURE OF ORDER*. Available at: http://cnqzu.com/library/Philosophy/neoreaction/_extra authors/Alexander, Christopher/Book 4_ An Essay on the Art of Building and the Nature of the Universe.pdf (Accessed: 2 June 2017).

Allen, S. (2008) *Practice - architecture, technique and representation*. 2nd edn. New York: Routledge.

Alles (2002) 'A Critical Analysis of the Innovators Dilemma Why Should New Technologies Cause Great Firms to Fail', *The International Journal of Digital Accounting Research*, 2(4), pp. 235–266. doi: 10.4192/1577-8517-v2_8.

Allsopp, B. (1974) *Towards a humane architecture.* London: Frederick Muller.

Alofsin, A. (2002) *The Struggle for Modernism:* W.W. Norton.

Anderson, L. W. (1996) 'If You Don't Know Who Wrote It, You Won't Understand It: Lessons Learned from Benjamin S. Bloom', *Peabody Journal of Education*, 71(1), pp. 77–87. doi: 10.2307/1492555.

Anderson, L. W. (1988) 'Benjamin Bloom: His Research and Influence on Education', *Teaching Education*, 2(1), pp. 54–59. doi: 10.1080/1047621880020112.

Anderson, T. (2016) 'Theories for Learning with Emerging Technologies', in Veletsianos, G. (ed.) *Emergence and Innovation in Digital Learning: Foundations and Applications.* Athabasca University Press., pp. 35–50. doi: 10.15215/aupress/9781771991490.01.

Anderson, T. (2009) 'THE DANCE OF TECHNOLOGY AND PEDAGOGY IN SELF-PACED DISTANCE EDUCATION', in *17th ICDE World Congress.* Maastricht. Available at: https://auspace.athabascau.ca/handle/2149/2210 (Accessed: 31 May 2018).

Anderson, T. (2003) 'Getting the Mix Right Again: An Updated and Theoretical Rationale for Interaction', *The International Review of Research in Open and Distributed Learning; Vol 4, No 2 (2003).* Available at: http://www.irrodl.org/index.php/irrodl/article/view

Anderson, T. and Whitelock, D. (2004) 'The Educational Semantic Web: Visioning and Practicing the Future of Education', *Journal of Interactive Media in Education*, 1, pp. 1–15. doi: 10.5334/2004-1/149/230.

Ang, G., Wyatt, D. and Hermans, M. (2001) 'A SYSTEMATIC APPROACH TO DEFINE CLIENT EXPECTATIONS OF TOTAL BUILDING PERFORMANCE DURING THE PRE-DESIGN STAGE', *CIB World Building Congress.* Available at: http://www.irbnet.de/daten/iconda/CIB2813.pdf (Accessed: 4 February 2018).

Anthony, K. H. (1991) *Design juries on trial: the renaissance of the design studio.* Van Nostrand Reinhold. Available at: https://books.google.co.uk/books?id=NhVQAAAAMAAJ.

Appointments, R. (2017) *Architecture jobs and recruitment.* Available at: http://www.ribaappointments.com/.

Arayici, Y. *et al.* (2009) 'BIM implementation for an architectural practice', *Managing IT in Construction / Managing Construction for Tomorrow*, pp. 689–696. Available at: http://usir.salford.ac.uk/9675/.

Arayici, Y., Egbu, C. and Coates, P. (2012) 'Building information modelling (Bim) implementation and remote construction projects: Issues, challenges, and

critiques', *Electronic Journal of Information Technology in Construction*, 17(May), pp. 75–92. doi: ISSN 1874-4753.

Archer, B. (1995) 'The Nature of Research', *Co-design, interdisciplinary journal of design*, pp. 6–13. doi: 10.1007/s10165-008-0069-5.

Architizer (2018) *End of an Era: Architecture For Humanity Closes Its Doors* -, *Architizer Journal*. Available at: https://architizer.com/blog/inspiration/industry/end-of-an-era/ (Accessed: 25 February 2018).

Asplund, M. and Sandin, R. (1999) 'The Survival of New Products', *Review of Industrial Organization*, 15, pp. 219–237. Available at: https://link.springer.com/content/pdf/10.1023%2FA%3A1007708612713.pdf (Accessed: 14 February 2018).

Australian institute of Architects (2017) *Understanding Research Excellence in Architecture*. Available at: http://www.architecture.com.au/docs/default-source/schools-education/understanding-research-excellence-in-architecture.pdf?sfvrsn=2 (Accessed: 19 December 2017).

Awan, N., Schneider, T. and Till, J. (2011) *Spatial Agency: Other Ways of Doing Architecture*. Routledge. Available at: https://books.google.co.uk

Ayman, a E. (2007) 'Sustainable architecture: an investigation into the architect's social responsibility', (May), pp. 1–17.

Badanes, S. (2008) 'Building Consensus in Design/ Build Studios', in Bell, B. and Wakeford, K. (eds) *Expanding architecture: design as activism*. Metropolis Books, pp. 248–255.

Baillieu, A. (2015) *Most clients would dispense with architects if they could | Opinion | Building Design*, *Building Design online*. Available at: https://www.bdonline.co.uk/comment/opinion/most-clients-would-dispense-with-architects-if-they-could/5077453.article (Accessed: 27 May 2018).

Ball, M. (1998) *Rebuilding Construction: Economic Change and the British Construction Industry*. Edited by M. Ball. London: Routledge.

Ballard, G. (2010) 'Target Value Design & Integrated Project Delivery Target Value Design and Integrated Project Delivery'.

Banerjee, A. V and Duflo, E. (2008) 'What is Middle Class about the Middle Classes around the World?', *Journal of Economic Perspectives*, 22(December), pp. 3–28.

Banham, R. (1975) *Age of the Masters: Personal View of Modern Architecture*. Architecture Press.

Banham, R. (1996) *A Critic Writes: Essays by Reyner Banham*. University of California Press.

Barber, T. C. (2011) 'The online crit: The community of inquiry meets design education.', *Journal of Distance Education*, 25(1), p. 13. Available at: http://eric.ed.gov/ERICWebPortal/recordDetail?accno=EJ916701.

Barnlund, D. C. (1970) 'A transactional model of communication', *Communication Theory*, 23, pp. pp23-45. doi: 00318248.

Barrett, P. and Sexton, M. (2006) 'Innovation in small, project-based construction firms', *British Journal of Management*, 17(4), pp. 331–346. doi: 10.1111/j.1467-8551.2005.00461.x.

Barry, A. J. (1953) 'Report on the American Battle Between Good and Bad Modern Houses', *House Beautiful*.

Bartlett, J. E., Kotrlik, J. W. and Higgins, C. C. (2001) 'Organizational Research: Determining Appropriate Sample Size in Survey Research', *Information Technology, Learning, and Performance Journal*, 19(1), pp. 43–50. doi: 10.1109/LPT.2009.2020494.

Bashier, F. (2014) 'Reflections on architectural design education: The return of rationalism in the studio', *Frontiers of Architectural Research*, 3(4), pp. 424–430. doi: 10.1016/j.foar.2014.08.004.

Basta, C., Moroni, S. and SpringerLink (Service en ligne) (2013) 'Ethics, Design and Planning of the Built Environment', *Urban and Landscape Perspectives 12*, p. 1 texte électronique. doi: 10.1007/978-94-007-5246-7.

Baudrillard, J. (2006) *The system of objects*. Translated by J. Benedict. London: Verso Books.

Baudrillard, J. (1970) 'Consumer Society', in Poster, M. (ed.) *Jean Baudrillard: Selected Writings*. Cambridge: Polity Press., pp. 17–26.

Bazjanac, V. (2004) 'Virtual Building Environments (VBE) - Applying Information Modelling to Buildings', *eWork and eBusiness in Architecture, Engineering and Construction: Proceedings of the 5th European Conference on Product and Process Modelling in the Building and Construction Industry - ECPPM 2004*, p. 8. doi: 10.1016/j.autcon.2012.02.008.

BBC news (2008) *BBC NEWS | World | Europe | Rome mayor vows to remove museum*. Available at: http://news.bbc.co.uk/1/hi/world/europe/7379564.stm (Accessed: 30 June 2018).

Bell, B., Wakeford, K. and Fisher, T. (2008) *Expanding Architecture: Design as Activism*. Metropolis Books. Available at: https://books.google.co.uk/books?id=jydXMwAACAAJ.

Benedikt, M. (1999) 'Less for Less Yet', *Harvard Design Magazine*, (7), pp. 1–7.

Benzies, K. M. *et al.* (2006) 'State-of-the-Evidence Reviews: Advantages and Challenges of Including Grey Literature', *Worldviews on Evidence-Based Nursing*. Blackwell Publishing Inc, 3(2), pp. 55–61. doi: 10.1111/j.1741-6787.2006.00051.x.

Bergdoll, B. (2007) 'Of Crystals, Cells, and Strata: Natural History and Debates on the Form of a New Architecture in the Nineteenth Century', *Architectural History*, 50(2007), pp. 1–29. doi: 10.2307/40033846.

Berman, A. (2012) 'THIS YEAR WE ASKED THIS QUESTION: DO ARCHITECTS HAVE A DUTY TO ANYONE BUT THEIR CLIENT?', *Architects' Journal*, pp. 30–32.

Bernard, R. M. *et al.* (2009) 'A Meta-Analysis of Three Types of Interaction Treatments in Distance Education', *Review of Educational Research*, 79(3), pp. 1243–1289. doi: 10.3102/0034654309333844.

Bernhardt, K. L. (1972) 'Housing - new trends and concepts.', *Ann Arbor: Industrial Development Division, Institute of Science*

Bertens, H. (1995) *THE IDEA OF THE POSTMODERN*, *Taylor & Francis e-Library, 2005*. London and New York: Routledge. doi: 10.1017/CBO9781107415324.004.*and Technology, University of Michigan*.

Bhatt, R. (2000) 'The Significance of the Aesthetic in Postmodern Architectural Theory', *Journal of Architectural Education*, 53(4), pp. 229–238. doi: 10.1162/104648800564644.

Biggs, M. A. R. and Büchler, D. (2007) 'Rigor and Practice-based Research.', *Design Issues*, 23(3), pp. 62–69. doi: 10.1162/desi.2007.23.3.62.

Billett, S. (2012) 'Learning through practice: beyond informal and towards a framework for learning through practice', *UNESCO-UNEVOC | Revisiting global trends in TVET*, pp. 1–163.

Bines, H. and Watson, D. (1992) *Developing professional education: A polytechnic perspective.*, *Buckingham: Society for Research into Higher Education*. Open University Press.

Bishop, G. F. (1987) 'American Association for Public Opinion Research Experiments With the Middle Response Alternative in Survey Questions', *Source: The Public Opinion Quarterly*. Oxford University Press, 51(2), pp. 220–232. Available at: http://www.jstor.org/stable/2748994 (Accessed: 19 December 2017).

Blair, B. (2007) 'At the end of a huge crit in the summer, it was crap. I'd worked really hard but all she said was fine and I was gutted.?', *Art, Design & Communication in Higher Education*, 5(2), pp. 83–95. doi: 10.1386/adch.5.2.83_1.

Blaschke, L. M. (2014) 'Using social media to engage and develop the online learner in self-determined learning', *Research in Learning Technology*, 22(1063519). doi: 10.3402/rlt.v22.21635.

Bloom, B. (2009) 'A conversation with Benjamin Barber', *Educational Leadership*, pp. 157–162. doi: 10.1057/cpt.2009.1.

Bloom, B. (1956) 'Bloom's Taxonomy', *Learning*, 2010, p. 1956.

Bloor, M. (1978) 'On the analysis of observational data: A discussion of the worth and uses of inductive techniques and respondent validation', *Sociology*, 12(3), pp. 545–552. doi: 10.1177/003803857801200307.

Bogdan, R. and Biklen, S. (1998) 'Qualitative research in education: An introduction to theory and methods', *Foundations of qualitative research in education*, pp. 1–48.

Borson, B. (2016) 'The Architect's Ego'. Available at: http://www.lifeofanarchitect.com/the-architects-ego/.

Boudon, P. *et al.* (1979) *Lived-in architecture: Le Corbusier's Pessac revisited*. Cambridge, MA: MIT Press.

Bourdieu, P. (2013) *Distinction: A Social Critique of the Judgement of Taste*. Taylor & Francis (Routledge Classics).

Bowen, G. A. (2008) 'Naturalistic inquiry and the saturation concept: a research note', *Qualitative Research*, 8(1), pp. 137–152. doi: 10.1177/1468794107085301.

Bowley, M. (1966) *The British building industry*. Cambridge, United Kingdom: Cambridge University Press.

Boyle, C. O. and Riekstina, S. (2013) *An exploration of the contemporary role of the architect in the UK: delivering and analysing the Friday lecture series for the 2012/13 winter term at the Mackintosh School of Architecture*. Mackintosh School of Architecture. Available at: http://capitadiscovery.co.uk/gsa/items/212333.

Boyle, G. (2014) 'Making Work Together: Lecture in Glasgow school of art', *YouTube*. YouTube. Available at: https://www.youtube.com/watch?v=3-q-YuUvnng.

Braidwood, E., Waite, R. and Sergison, J. (2013) 'Are there too many architecture schools? | News |', *The Architects Journal*. Architects Journal. Available at: https://www.architectsjournal.co.uk/home/students/are-there-too-many-architecture-schools/8651271.article.

Bromley, D. B. (1986) 'The case-study method in psychology and related-disciplines', *Chichester: John Wiley & Sons*.

Broome, B. and Pearson, C. A. (2011) 'designing for the toughest client: yourself', *Architectural Record. Apr2011, Vol. 199 Issue 4, p45-50. 6p.*, pp. 45–51

Brown, A. *et al.* (2010) '"Invisible walls" and "silent hierarchies": a case study of power relations in an architecture firm', *Human relations*, 63(4), pp. 525–549. doi: 10.1177/0018726709339862.

Brown, J. (2007) 'Feedback: The student perspective', *Research in Post-Compulsory Education*, 12(1), pp. 33–51. doi: 10.1080/13596740601155363.

Brown, J. B. (2012) *A critique of the live project*. Queen's University Belfast.

Brown, R. (2004) 'The Social Environment of Learning', Enhancing Curricula: Towards the Scholarship of Teaching in Art, Design and Communication in Higher Education', in *2nd International Conference, Centre for Learning and Teaching in Art and Design (CLTAD)*, pp. 217–237.

Brown, S., Parvin, A. and Schneider, T. (2011) *Architecture Schools should be dissolved. . . - Design playgrounds*. Available at: http://designplaygrounds.com/tv/architecture-schools-should-be-dissolved/ (Accessed: 6 July 2018).

Brown, S. (2010) *Likert Scale Examples for Surveys*, *Iowa State University*. doi: 10.1002/9780470479216.corpsy0508.

Bruggen, C. Van (1998) *Frank O. Gehry: Guggenheim Museum Bilbao*. 01 edn. Harry N. Abrams, Inc.

Bryant, A. and Charmaz, K. (2007) *The SAGE Handbook of Grounded Theory*, *SAGE Publication Limited*. doi: 10.4135/9781848607941.

Buchanan, K. *et al.* (2014) *Life after studio: an exploration into the relationship between architectural education and architectural practice*. Mackintosh School of Architecture. Available at: http://capitadiscovery.co.uk/gsa/items/222478.

Buchanan, P. (2007) 'The Tower: An anachronism awaiting rebirth', *Harvard Design Magazine*, 26(Spring/Summer 2007), pp. 1–5.

Buchanan, P. (2012) 'THE BIG RETHINK: ARCHITECTURAL EDUCATION', *Architectural Review*, 232(1388), pp. 91–101. Available at: http://www.architectural-review.com/education/the-big-rethink-part-9-rethinking-architectural-education/8636035.article.

Buckingham, R. (2001) *Customer Once, Client Forever: 12 Tools for Building Lifetime Business Relationships*. Kiplinger Books (MasterFILE Premier).

Burgess, P., Mayo, J. and Littman, E. (1981) 'Political knowledge and the architectural studio', *Journal of Architectural Education*, 34, pp. 24–28.

Burr, K. L. and Jones, C. B. (2010) 'The Role of the Architect: Changes of the Past, Practices of the Present, and Indications of the Future', *International Journal of Construction Education and Research*. Taylor & Francis Group, 6(2), pp. 122–138. doi: 10.1080/15578771.2010.482878.

Calman, L. (no date) 'What is Grounded Theory?' Available at: http://hummedia.manchester.ac.uk/institutes/methods-manchester/docs/gt.pdf (Accessed: 16 December 2017).

Campbell, G. (2013) *Demand Horizon: A Revolutionary Approach to Creating Great Products*. Advantage Media Group.

Canfora, A. (no date) 'Making Constructive Discoveries', *Re. building*. doi: 10.1227/00006123-197907010-00111.

Canizaro, V. B. (2012) 'Design-Build in Architectural Education: Motivations, Practices , Challenges , Successes and Failures', 6(3), pp. 20–36. doi: 10.26687/archnet-ijar.v6i3.113.

Caplan, B. (2016) *Buildings are for people: human ecological design.*

Carless, D. *et al.* (2011) 'Developing sustainable feedback practices', *Studies in Higher Education*, 36(4), pp. 395–407. doi: 10.1080/03075071003642449.

Carmichael, S. (2002) *A guide to successful client relationships*, *RIBA*. London: RIBA Publications.

Carmon, Z., Wertenbroch, K. and Zeelenberg, M. (2003) 'Option Attachment: When Deliberating Makes Choosing Feel like Losing', *Journal of Consumer Research*, 30(1), pp. 15–29. doi: 10.1086/374701.

CDC (2016) 'Suicide rates by occupational group — 17 states, 2012 weekly / July 1, 2016 / 65(25);641–645', *MMWR. Morbidity and Mortality Weekly Report*. CDC, 65. doi: 10.15585/mmwr.mm6525a1.

Celento, D. (2007) 'Innovate or perish: New technologies and Architecture's Future', *Harvard Design Magazine*. The President and the Fellows of Harvard College, 26(Spring/Summer 2007), pp. 1–9. Available at: http://www.harvarddesignmagazine.org/issues/26/innovate-or-perish-new-technologies-and-architectures-future.

Celik, P. Y. and Aydinli, Y. (2007) 'Creativity in design education: From problem-solving to puzzle-solving', *ITU A|Z*, 4(2), pp. 38–51. Available at: https://www.journalagent.com/itujfa/pdfs/ITUJFA-27880-DOSSIER_ARTICLES-YALCIN_CELIK.pdf (Accessed: 6 March 2018).

Chadwick, S. and Crotch, J. (2006) 'Mutual respect: working towards a modern review model', *Art, Design & Communication in Higher Education*, 5(2), pp. 145–151. doi: 10.1386/adch.5.2.145/6.

Chappell, D. (David M. and Dunn, M. (Michael H. (2016) *The architect in practice*. 11th edn. Translated by Wiley-Blackwell.

Charlesworth, E. (2014) *Humanitarian architecture: 15 stories of architects working after disaster*, *Humanitarian Architecture: 15 Stories of Architects Working After Disaster*. doi: 10.4324/9781315776545.

Charmaz, K. (2006) *Constructing grounded theory: a practical guide through qualitative analysis*, *Sage Publications Ltd, London*. doi: 10.1016/j.lisr.2007.11.003.

Charmaz, K. (2005) 'Charmaz Grounded Theory in the 21st Century', *The SAGE Handbook of Qualitative Research*, pp. 507–536.

Chen, L. (2004) *Architectural Visualization An Analysis from Human Visual Cognition Process*. Monash University Australia. Available at: https://pdfs.semanticscholar.org/37d9/2ba5fc0e32105aa7fc267d49cc35e978b4ce.pdf (Accessed: 5 February 2018).

Cheney, G. *et al.* (2004) *Organizational Communication in an Age of Globalization: Issues, Reflections, Practices*, *Waveland Press, Inc.* Chicago. doi: 10.1177/1080569904672018.

Chickering, A. W. and Gamson, Z. F. (1987) 'Seven principles for good practice in undergraduate education', *AAHE Bulletin*, 39(7), pp. 3–7. doi: 10.1016/0307-4412(89)90094-0.

Chickering, A. W. and Gamson, Z. F. (1987) 'Washington Center News Seven Principles For Good Practice in Undergraduate Education A Focus for Improvement'. Available at: http://www.lonestar.edu/multimedia/sevenprinciples.pdf (Accessed: 3 July 2018).

Choi, A. (2016) *Dear architects I am sick of your shit*. Available at: http://www.reades.com/pdf/deararchitects.pdf.

Christensen, C. M. (1997) *Innovator's Dilemma: When new technologies cause great firms to fail*, *Harvard Business School Press Books*. Harvard Business School Press. doi: 10.1515/9783110215519.82.

Class, R. A. and Koehler, R. E. (1977) *Current techniques in architectural practice*, *Architectural Record*. Washington: American

Cobb, H. (1992) 'Ethics and Architecture', *Harvard architecture Review*, 8(44), pp. 47–48. Institute of Architects.

COHEN GEHRING, A. (2014) 'When Is Small Big Enough?', *FORM: Pioneering Design*, pp. 8–9.

Cohen, L., Manion, L. and Morrison, K. (2007) *Research Methods in Education*. sixth, *Education*. sixth. Taylor & Francis e-Library. doi: 10.1111/j.1467-8527.2007.00388_4.x.

Cole, Z. D., Donohoe, H. M. and Stellefson, M. L. (2013) 'Internet-based Delphi research: case-based discussion.', *Environmental management*, 51(3), pp. 511–23. doi: 10.1007/s00267-012-0005-5.

Collier, J. (2006) 'The art of moral imagination: Ethics in the practice of architecture', *Journal of Business Ethics*, 66(2–3), pp. 307–317. doi: 10.1007/s10551-005-5600-4.

Connaughton, J. and Meikle, J. (2013) 'The changing nature of UK construction professional service firms', *Building Research & Information*. Routledge, 41(1), pp. 95–109. doi: 10.1080/09613218.2013.742366.

Conrads, U. (1971) *Programs and manifestoes on 20th-century architecture*. Edited by U. Conrads. Translated by M. Bullock. Massachusetts Institute of Technology.

Cook, J. W. and Klotz, H. (1975) *Conversations with architects*. New York: Holt Rinehart & Winston.

Cooke, J. (2013) 'LEARNING FROM PETER BUCHANAN', *JOURNAL OF THE SOUTH AFRICAN INSTITUTE OF ARCHITECTS*, 95(64).

Corbin, J., & Strauss, A. (2008) 'Corbin 2008a 6205 week 4.pdf', in *Basics of qualitative research*, pp. 65–86.

Corbusier, L. (1947) *When The Cathedrals Were White: A Journey in the Country of the Timid People*, *Journal of Aesthetics and Art Criticism*. Translated by J. Francis Hyslop. New York: Reynal and Hitchcock.

Corbusier, L. (1995) *Vers une architecture*. Paris: Flammarion.

Corrigan, P. (1997) *The sociology of consumption: an introduction*. Sage Publications.

Coughlan, J. and Macredie, R. D. (2002) 'Effective communication in requirements elicitation: A comparison of methodologies', *Requirements Engineering*, 7(2), pp. 47–60. doi: 10.1007/s007660200004.

Cousins, M. (2015) *Architect's legal pocket book*. Routledge.

Cox, S. (2002) 'A Guide to Sound Practice'.

Crals, E. and Vereeck, L. (2005) *Regulation of Architects in Belgium and the Netherlands: A law and economics approach*. Crals, E Vereeck, L. Available at: https://books.google.co.uk/books?id=546sCFXhko0C.

Creswell, J. W., Sobczak, A. J. and Lee, M. (2003) *RESEARCH DESIGN and Mixed Methods Quantitative. Qualitative, Approaches.*

Cuff, D. (2000) *The provisional city: Los Angeles stories of architecture and urbanism*. Cambridge, Mass: Massachusetts Institute of Technology.

Cuff, D. (1991) *Architecture: the story of practice*. Cambridge, Mass: Massachusetts Institute of Technology.

Curedale, R. (2015) *Design Thinking: Templates and Exercises*. 2nd edn, *Journal of Chemical Information and Modeling*. 2nd edn. doi: 10.1017/CBO9781107415324.004.

D'anjou, P. (2011) 'An Ethics of Freedom for Architectural Design Practice', *Journal of Architectural Education*, 64(2), pp. 141–148. doi: 10.1111/j.1531-314X.2010.01137.x.

Daley, S. (2013) 'Santiago Calatrava Collects Critics as Well as Fans - The New York Times', *The New York Times*, 13 September. Available at: http://www.nytimes.com/2013/09/25/arts/design/santiago-calatrava-collects-critics-as-well-as-fans.html (Accessed: 27 February 2018).

Dalkey, N. (1972) 'The Delphi method: An experimental study of group opinion.', in *Studies in the quality of life: Delphi and decision-making*, pp. 13–54.

Danvers, J. (2003) 'Towards a Radical Pedagogy: Provisional Notes on Learning and Teaching in Art & Design', *International Journal of Art*, 22(1), pp. 47–57. doi: 10.1111/1468-5949.00338.

Davidson, C., Lizarralde, G. and Johnson, C. (2008) 'Myths and Realities of Prefabrication for Post- disaster Reconstruction', *4th International i-Rec Conference 2008 Building resilience: achieving effective post-disaster reconstruction (TG 63 - Disaster and The Built Environment)*, (March), p. 14.

Davies, A. and Reid, A. (2000) 'Uncovering problematics in design education - learning and the design entity', *Re-inventing Design Education in the University*, pp. 178–184. Available at: http://ualresearchonline.arts.ac.uk/620/.

Davies, H. (1993) *How Clients See Architects: The Strategic Study of the Profession*. London, United Kingdom.

De Botton, A. (2006) *The Architecture of Happiness*. New York, NY: vintage books. Available at: http://www.memaranehgroup.com/books/new/10-[Alain De Botton]-The Architecture of Happiness(Memaranehgroup.com).pdf (Accessed: 17 March 2017).

De Soto, H. (2009) *Rebuilding after disasters: From emergency to sustainability*. New York: Taylor & Francis.

Deakin, H. and Wakefield, K. (2014) 'Skype interviewing: reflections of two PhD researchers', 14(5), pp. 603–616. doi: 10.1177/1468794113488126.

Dean, A. O. *et al.* (2002) *Rural Studio: Samuel Mockbee and an architecture of decency*. New York: Princeton Architectural Press.

Den Otter, A. and Emmitt, S. (2008) 'Design team communication and design task complexity: The preference for dialogues', *Architectural Engineering and Design Management*, 4(2), pp. 121–129. doi: 10.3763/aedm.2008.0072.

Dia, H., Hassan, R. and Chong, E. (2015) 'Using Social Media to Enhance Learning Outcomes in Engineering Courses', in *The 12th annual conference of the International Society for the Scholarship of Teaching and Learning (ISSTL), Melbourne, Australia, 27-30 October*. Melbourne.

Dibner, D. (1973) 'AIA- You and Your Architect.' Available at: http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED083672.

Dickinson, D. (no date) *Architects Design Just 2% of All Houses–Why? – Common Edge*. Available at: http://commonedge.org/architects-design-just-2-of-all-houses-why/ (Accessed: 9 March 2018).

Dingwall, R. (1983) 'Introduction', in Lewis, P. and Dingwall, R. (eds) *The Sociology of the Professions: Lawyers, Doctors and Others*, p. 276.

Downes, S. (2006) 'Learning Networks and Connective Knowledge'. Available at: https://philpapers.org/archive/DOWLNA.pdf (Accessed: 9 March 2018).

Duffy CBE, F., Rabeneck, A. and Du, F. (2013) 'Professionalism and architects in the 21st century', *Building Research & Information*, 41(1), pp. 115–122. doi: 10.1080/09613218.2013.724541.

Dyer, R. F. and Liebrenz-Himes, M. (2006) *Client Attraction and Retention in the Design and Building Industry: Client Relationship Management for Professional Services Firms*, *Society*.

Easterby-Smith, M. *et al.* (2008) *Management Research*. SAGE Publications (SAGE series in Management Research).

Edwards, A. (2005) 'Let's get beyond community and practice: the many meanings of learning by participating', *Curriculum Journal*, 16(1), pp. 49–65. doi: 10.1080/0958517042000336809.

Edwards, B. (2010) 'Rough Guide to Sustainability A Design Primer', *Futures*. doi: 10.1177/0739456X11428319.

Edwards, M. L. and Smith, B. C. (2016) 'The effects of the neutral response option on the extremeness of participant responses', *Journal of Undergraduate Scholarship, Longwood University*, 6(63), pp. 7–8. doi: 10.1017/CBO9781107415324.004.

Egan, J. (1998) *'Rethinking Construction: The Report of the Construction Task Force to the Deputy Prime Minister, John Prescott, on the scope for improving the quality and efficiency of UK Construction*, *'Rethinking Construction: The Report of the Construction Task Force to the Deputy Prime Minister, John Prescott, on the scope for improving the quality and efficiency of UK construction*. doi: Construction Task Force. Uk Government.

Eigbeonan, A. B. (2013) 'Creativity Methods in Teaching the Arch-Design Studio', *DIMENSI (Jurnal Teknik Arsitektur)*, 40(1), pp. 1–9. doi: 1

Eisenman, P. (1984) 'The End of the Classical: The End of the Beginning, the End of the End', *Perspecta*. The MIT Press, 21, pp. 155–173. doi: 10.2307/1567087.0.9744/dimensi.40.1.1-10.

Eli, B. A. (2013) 'On beginnings in design studio teaching, a poetic approach.', in *AAE Conference*.

Elliott, R. and Timulak, L. (2005) 'Descriptive and interpretive approaches to qualitative research', in *A HANDBOOK OF RESEARCH METHODS FOR CLINICAL AND HEALTH PSYCHOLOGY*, pp. 147–160. Available at: http://nideffer.net/classes/GCT_ RPI_S14/readings/interpretive.pdf (Accessed: 24 September 2017).

Ellis, R. and Cuff, D. (1989) *Architects' people*. New York.

Ellison, N. B., Steinfield, C. and Lampe, C. (2007) 'The Benefits of Facebook "'Friends:'" Social Capital and College Students' Use of Online Social Network Sites', *Journal of Computer-Mediated Communication*, 12, pp. 1143–1168. doi: 10.1111/j.1083-6101.2007.00367.x..

Emmitt, S. and Gorse, C. A. (2003) *Construction communication*. Willey Blackwell Pub.

Erdogan, E. *et al.* (2010) 'Students' evaluations of different architectural styles', *Procedia - Social and Behavioral Sciences*, 5, pp. 875–881. doi

Evans, B. (2013) 'Enhancing Undergraduate Teaching and Feedback using Social Media – an Engineering Case Study', *Engineering Education*, 8(2), pp. 44–53. doi: 10.11120/ened.2013.00015.: 10.1016/j.sbspro.2010.07.202.

Evans, C. (2013) 'Making Sense of Assessment Feedback in Higher Education', *Review of Educational Research*, 83(1), pp. 70–120. doi: 10.3102/0034654312474350.

Evans, G. W., & McCoy, J. M. (1998). (1998) 'When buildings don't work: the role of architecture in human health. Journal of Environmental psychology, 18(1), 85-94.', *Journal of Environmental psychology*, 18(1), pp. 85–94. doi: 10.1006/jevp.1998.0089.

Evetts, J. (2011) 'A new professionalism? Challenges and opportunities', *Current Sociology*, 59(4), pp. 406–422. doi: 10.1177/0011392111402585.

Ewing, S. (2016) 'Tales and tools: the Design Studio Brief in Architecture ' s expanded field .', *Charrette*, 3(1).

Faber, R. (2010) 'Architects as service providers', *IEEE Software*, 27(2), pp. 33–40. doi: 10.1109/MS.2010.37.

Fairs, M. (1999) 'ARB seeks new powers', *Building Design*.

Fan, W. and Yan, Z. (2009) 'Factors affecting response rates of the web survey: A systematic review', *Computers in Human Behavior*, 26, pp. 132–139. doi: 10.1016/j.chb.2009.10.015.

Fawcett, W., Ellingham, I. and Platt, S. (2008) 'Reconciling the Architectural Preferences of Architects and the Public: The Ordered Preference Model', *Environment and Behavior*, 40(5), pp. 599–618. doi: 10.1177/0013916507304695.

Feireiss, K., Brillembourg, A. and Klumpner, H. (2005) *Informal City*. 01 edn. Prestel Publishing Ltd.

Feiss, C. (1958) 'The Future Role of the Architect', *Journal of Architectural Education*, 13(1), pp. 13–16. doi: 10.1080/10464883.1958.11102386.

Fielding, N. C. and Fielding, J. L. (1986) 'Linking Data', in *Qualitative Research Methods*, pp. 19–47. doi: 10.4135/9781412984775.

Fisher, T. (2010) *Ethics for architects 50 dilemmas of professional practice*. Princeton Architectural Press.

Fleming, S. (2007) 'The End of Architecture?', *Architectural Theory Review*, 12(2), pp. 195–208. doi: 10.1080/13264820701730900.

Fløistad, G. (2014) *Ethics or Moral Philosophy*. 11th edn. Edited by G. Fløistad. New York London: Springer Science+Business Media Dordrecht.

Foote, J. (2012) 'Design-build: Build-design', *Journal of Architectural Education*, 65(2), pp. 52–58. doi: 10.1111/j.1531-314X.2011.01197.x.

Forlati, S., Isopp, A. and Piber, A. (2012) *Manual for emerging architects*. New York.

Forster, A. M. *et al.* (2017) 'The fall and rise of experiential construction and engineering education: decoupling and recoupling practice and theory', *Higher Education Pedagogies*. Routledge, 2(1), pp. 79–100. doi: 10.1080/23752696.2017.1338530.

Forty, A. (2000) *Words and buildings: A vocabulary of modern architecture*, *Words and Buildings: A Vocabulary of Modern Architecture*. New York, NY: Thames & Hudson.

Foster, J. and Yaoyuneyong, G. (2016) 'Teaching innovation: equipping students to overcome real-world challenges', *Higher Education Pedagogies ISSN:*, 1(1), pp. 42–56. doi: 10.1080/23752696.2015.1134195.

Foxell, S. (2015) *Starting a practice: a plan of work*. 2nd edn. RIBA Publications.

Foxell, S. (The A. P. (2006) 'Good Practice Guide: Starting a Practice', *RIBA Publishing*. Available at: http://www.ihsti.com/tempimg/290F2A4-PICIS888614800281043.pdf.

Frampton, K. (1983) 'Prospects for a Critical Regionalism', *Perspecta: The Yale Architectural Journal*, 20(1983), pp. 147–162. Available at: http://www.jstor.org/stable/1567071.

Frayling, C. (1993) 'Research in Art and Design', *Royal College of Art Research Papers*, pp. 1–5. doi: 2016.01.18.

Frearson, A. (2016) *Patrik Schumacher calls for scrapping of social housing and public space*, *all*. Dezeen. Available at: https://www.dezeen.com/2016/11/18/patrik-schumacher-social-housing-public-space-scrapped-london-world-architecture-festival-2016/.

Freire, P. (2000) *Pedagogy of the Oppressed: 30th Anniversary Edition*. Bloomsbury Academic (Critical pedagogy today series).

Friday Lectures, G. S. A. (2014) 'The big debate - the future of architectural education', *YouTube*. YouTube. Available at: https://www.youtube.com/watch?v=ekn7q6FV-kg.

Friedman, K. (2008) 'Research into, by and for design', *Journal of Visual Arts Practice*, pp. 153–60. doi: 10.1386/jvap.7.2.153/1.

Frost, P. and Warren, P. (2000) 'Virtual reality used in a collaborative architectural design process', *2000 IEEE Conference on Information Visualization. An International Conference on Computer Visualization and Graphics*, pp. 568–573. doi: 10.1109/IV.2000.859814.

Fuad-Luke, A. and Alastair, F.-L. (2009) *Design activism: Beautiful strangeness for a sustainable world*. London: Earthscan Publications.

Fund, H. L. (2012) *Evaluation Good-Practice Guidance*.

Furco, A. (1996) 'Service-learning: A balanced approach to experiential education', *Expanding Boundaries: Serving and Learning*, 1, pp. 1–6.

Gaber, B. (1966) *Die Entwicklung des Berufsstandes der freischaffenden Architekten: Dargestellt an der Geschichte des Bundes Deutscher Architekten BDA*. Essen: R. Bacht.

Gadamer, H.-G. (1981) *Reason in the age of science*. 9th edn. Cambridge, MA: MIT Press.

Gadamer, H.-G. (1996) *The Enigma of Health: The Art of Healing in a Scientific Age*. Stanford University Press.

Gans, H. J. (1977) 'Toward a Human Architecture: A Sociologist's View of the Profession', *Journal of architectural education*, 31(2), pp. 26–31.

Garland, R. (1991) 'The mid-point on a rating scale: Is it desirable?', *Marketing Bulletin*, 2, pp. 66–70. doi: citeulike-article-id:4775464.

Gegg, B. and Sharp, D. (2006) *Good Practice Guide: Employment*. London: RIBA Publishing.

Gerber, D. J. and Lin, S. E. (2013) 'Designing in complexity: Simulation, integration, and multidisciplinary design optimization for architecture', *Simulation*, 90(8), pp. 936–959. doi: 10.1177/0037549713482027.

Ghirardo, D. (1986) 'Past or Post Modern in Architectural Fashion', 39(4), pp. 2–6.

Ghomeshi, M. and Jusan, M. M. (2013) 'Investigating Different Aesthetic Preferences Between Architects And Non-Architects In Residential Facade Designs', *Indoor and Built Environment*, pp. 952–964. doi: 10.1177/1420326X12458513.

Giddens, A. (1984) *The Constitution of Society: Outline of the Theory of Structuration*. University of California Press (Outline of the Theory of Structuration).

Gifford, R. *et al.* (2000) 'Decoding Modern Architecture: A Lens Model Approach for Understanding the Aesthetic Differences of Architects and Laypersons', *Environment and Behavior*, 32(2), pp. 163–187. doi: 10.1177/00139160021972487.

Glaser, B. G. (1978) *Theoretical sensitivity: Advances in the methodology of grounded theory.*, *Sociology Pr.* doi: Casa.

Glaser, B. and Strauss, A. (1967) 'The discovery of grounded theory. 1967', *Weidenfield & Nicolson, London*. Available at: https://www.coursera.org/.

Glaser, B. G. (2002) 'FORUM: QUALITATIVE SOCIAL RESEARCH SOZIALFORSCHUNG Constructivist Grounded Theory?', *Analysis*, 3(3), pp. 93–105. doi: 10.1111/j.1741-5446.2002.00409.x.

Gleichmann, P. R. and Waldhoff, H.-P. (1977) *Soziologie als Synthese zivilisationstheoretische Schriften über Architektur, Wissen und Gewalt*. Gleichmann. Wiesbaden: VS Verlag für Sozialwissenschaften / GWV Fachverlage GmbH, Wiesbaden.

Glendinning, M. (2018) *Cedric Price: Think the Unthinkable*, *Architects' Journal*. Available at: https://www.architectsjournal.co.uk/cedric-price-think-the-unthinkable/8614302.article (Accessed: 1 March 2018).

Golden, S. M., Montgomery, I. and Rikala, T. M. (2015) 'PUBLIC INTENTIONS FOR PRIVATE SPACES: EXPLORING ARCHITECTS ' TACTICS TO SHAPE SHARED SPACE IN PRIVATE-LED DEVELOPMENT', *Archnet-IJAR*, 9(2), pp. 170–184.

Golzen, G. (1984) *How Architects Get Work*. Architecture & Building Practice Guides.

Goodman, R. (1972) *After the Planners*. Penguin Books (Pelican Books).

Gottdiener, M. *et al.* (2000) *New Forms of Consumption: Consumers, Culture, and Commodification*. Rowman & Littlefield Publishers (Postmodern Social Futures).

Gouyon, J.-B. (2010) 'Digital conservation', *BioSocieties*, 5(2), pp. 295–298. doi: 10.1057/biosoc.2010.8.

Graell-Colas, M. (2009) *exploring visual means for communication and collaboration in multidisciplinary teams an interpretation and implementation for design education*. The Ohio State University. Available at: https://etd.ohiolink.edu/rws_ etd/document/ get/osu1230621313/inline (Accessed: 5 February 2018).

Graell-Colas, M. and Gill, C. (2008) 'Multidisciplinary Team Communication Through Visual Representations', in *International Conference on Engineering and Product Design Education, E and PDE 2008*, pp. 1–6.

Gray, C. and Hughes, W. (2000) *Building Design Management*. Oxford, Llrc London, Amsterdam Boston York, New San, Paris San, Diego Singapore, Francisco Tokyo, Sydney: Butterworth-Heinemann.

Gray, L. A. (2011) 'Hollywood Shrugged: Ayn Rand's Impossible Epic', *Adaptation*.

Gray, T. (no date) 'Straw-Bale Eco-Center Building Within the Academy: A Case Study', *Re. building*, pp. 61–66.

Griffith, T. L., Sawyer, J. E. and Neale, M. a (2003) 'Virtualness and Knowledge in Teams: Managing the Love Triangle of Organizations, Individuals, and Information Technology.', *MIS Quarterly*, 27(2), pp. 265–287. doi: 10.2307/30036531.

Groat, L. N. and Wang, D. (2013) *Architectural research methods, Second edition.* Hoboken, N.J: John Wiley & Sons.

Groff, J. (2013) 'TECHNOLOGY-RICH INNOVATIVE LEARNING ENVIRONMENTS'. Available at: http://www.oecd.org/education/ceri/Technology-Rich Innovative Learning Environments by Jennifer Groff.pdf (Accessed: 30 June 2018).

Grubbauer, M. and Steets, S. (2014) 'The Making of Architects: Knowledge Production and Legitimation in Education and Professional Practice', *Architectural Theory Review*, 19(1), pp. 4–9. doi: 10.1080/13264826.2014.899069.

GSD, H. (2017) 'Lecture: Jonathan Sergison and Stephen Bates, "on continuity"', *YouTube*. YouTube. Available at: https://www.youtube.com/watch?v=PgOk0qCbkSc.

Guba, E. G. and Lincoln, Y. S. (1994) 'Competing Paradigms in Qualitative Research', *Handbook of qualitative research*, pp. 105–117. doi: http://www.uncg.edu/hdf/facultystaff/Tudge/Guba%20&%20Lincoln%201994.pdf.

Guest, G., Bunce, A. and Johnson, L. (2006) 'How Many Interviews Are Enough? An Experiment with Data Saturation and Variability', *Family Health International*, 18(1), pp. 59–82. doi: 10.1177/1525822X05279903.

Guy, R. F. and Norvell, M. (1977) 'The Neutral Point on a Likert Scale', *The Journal of Psychology*, 95(2), pp. 199–204. doi: 10.1080/00223980.1977.9915880.

Halper, J. B. (1966) 'The influence of mortgage lenders on building design', *Law and Contemporary Problems*. JSTOR, 32(2), p. 266. doi: 10.2307/1190867.

Harder, E. (ed.) (2005) 'Writings in architectural education', in *EAAE PRIZE 2003-2005 : Writings in architectural education*.

Harrie, J. (2010) 'The Logic of Qualitative Survey Research and its Position in the Field of Social Research Methods', *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*. Deutsche Forschungsgemeinschaft, 11(2).

Harries, K. (1983) 'Thoughts on a non-arbitrary architecture.', in Seamon, D. (ed.) *Dwelling, Seeing, and Designing: Toward a Phenomenological Ecology*. 1993rd edn. State University of New York Press, pp. 41–59.

Harries, K. (1997) *The ethical function of architecture*, *MIT Press*. doi: 10.1080/10464883.1975.10758007.

Harrison, A. (2012) 'The changing role of the architect in the UK: how architects have lost their status and can they regain it?' Glasgow: Mackintosh School of Architecture. Available at: http://capitadiscovery.co.uk/gsa/items/204049.

Hase, S. and Kenyon, C. (2000) 'From andragogy to heutagogy', *Ulti-BASE In-Site*. Available at: https://epubs.scu.edu.au/gcm_pubs/99 (Accessed: 10 March 2018).

Hattie, J. and Timperley, H. (2007) 'The power of feedback. [References]', *Review of Educational Research*, .77(1), pp. 16–7. doi: 10.3102/003465430298487.

Haug, M. R. (1972) 'Deprofessionalization: An Alternate Hypothesis for the Future', *The Sociological Review*. Blackwell Publishing Ltd, 20(1_suppl), pp. 195–211. doi: 10.1111/j.1467-954X.1972.tb03217.x.

Hayes, R. W. (2007) *The Yale building project: the first 40 years*. Yale School of Architecture.

Healy, J. P. (2016) 'The Components of the "Crit" in Art and Design Education', *Irish Journal of Academic Practice*, 5(1). Available at: http://arrow.dit.ie/ijap (Accessed: 27 February 2018).

Heidegger, M. (1971) 'Building, Dwelling, Thinking', in Heidegger, M. (ed.), Hofstadter, A. (tran.) *POETRY, LANGUAGE THOUGHT*. Perennial. New York, NY: HarperCollins Publishers, pp. 141–160.

Hershberger, R. G. (1969) *A Study of Meaning and Architecture*. University of Pennsylvania.

Hertzberger, H. (1984) 'The Interaction of Form and Users', in Hatch, R. C. (ed.) *The scope of social architecture*. New York: Van Nostrand Reinhold International.

Heynen, H. (2006) 'Unthinkable doctorates? Introduction', *The Journal of Architecture*. Routledge, 11(3), pp. 277–282. doi: 10.1080/13602360600931565.

Hill, D. (2016) 'Charrette: project Contextual Explorations Through the City : Short Stories from the Architectural Design Studio', *Charrette*, 3(1), pp. 67–77.

Hill, J. (2003) *Actions of architecture: Architects and creative users*, *Taylor & Francis*. London and New York: Routledge. doi: 10.1017/CBO9781107415324.004.

Hill, J. (2001) 'The Use of Architects', *Urban Studies*, 38(2), pp. 351–365. doi: 0.1080/00420980123765.

Hill, S. *et al.* (2010) 'Practice Futures Foreword', *RIBA*. RIBA. Available at: http://www.buildingfutures.org.uk/assets/downloads/Practice_Futures.pdf.

Hill, S. *et al.* (2013) 'Professionalism and ethics in a changing economy', *Building Research & Information*, 41(1), pp. 8–27. doi: 10.1080/09613218.2013.736201.

Hinsley, H. (no date) 'FUTURE PRACTICE'. RIBA Publications.

HOGUE, C. (2010) 'Chapter 3- Architectural Insanity', in *The profitable architect: How to attract new projects and work with clients that understand the value of good design*. United States: A dvantage Media Group, pp. 41–49. doi:10.1073/pnas.0703993104.

Hoon, M. and Kehoe, M. (2003) 'Enhancing Architectural Communication with Gaming Engines', *ACADIA 03 Connecting - Crossroads of Digital Discourse*, pp. 347–353.

Hope, J. *et al.* (2016) 'It's true: People don't know what architects do'. Architects Journal. Available at: http://www.architectsjournal.co.uk/news/daily-news/its-true-people-dont-know-what-architects-do/8633240.art

Hounsell, D. (2003) 'Student feedback, learning and development', in *Higher Education And The Lifecourse*, p. 237.

Hoxely, M. (2009) 'Good Practice Guide: Building Condition Surveys', p. 158.

Hsu, C. and Sandford, B. (2007) 'The delphi technique: making sense of consensus', *Practical Assessment, Research & Evaluation*, 12(10), pp. 1–8. doi: 10.1016/S0169-2070(99)00018-7.

Huberman, A. M. . and Miles, M. B. (1994) 'Qualitative data analysis', *Thousand Oaks: Sage Publications*.

Hufton (2016) 'Renzo piano building workshop - projects - by type - central st. Giles court mixed-use development'. Available at: http://www.rpbw.com/project/60/central-st-giles-court-mixed-use-development/#.

Hughes, W. and Hughes, C. (2013) 'Professionalism and professional institutions in times of change', *Building Research & Information*, 41(1), pp. 28–38. doi: 10.1080/09613218.2013.737096.

Hunter, W. (2012) 'Alternative Routes For Architecture', *The Architectural Review*, 36(1388 October 2012), pp. 88–90.

Hurst, W. (2015) 'What the client really wants from you', *Architects' Journal*, pp. 52–54.

Hurtt, S. W. (2004) 'The Architecture Studio-Tutorial-Learn By Doing Experience', in Bothwell, S. E. (ed.) *Windsor Forum on Design Education: toward an ideal curriculum to reform architectural education*. Vero Beach, Florida: New Urban Press, Miami, FL, p. 437.

Husserl, E. (1970) *The crisis of European sciences and transcendental phenomenology: An introduction to phenomenological philosophy*. 8th edn. Evanston, IL: Northwestern University Press.

Huxtable, A. L. (1981) 'Architecture view; LE CORBUSIER'S HOUSING PROJECT-FLEXIBLE ENOUGH TO ENDURE', *Arts*, 3 March. Available at: http://www.nytimes.com/1981/03/15/arts/architecture-view-le-corbusier-s-housing-project-flexible-enough-endure-ada.html?pagewanted=all.

Huyssen, a. (2006) 'Introduction: Modernism after Postmodernity', *New German Critique*, 33(3 99), pp. 1–5. doi: 10.1215/0094033X-2006-008.

Hwang, B. G., Liao, P. C. and Leonard, M. P. (2011) 'Performance and practice use comparisons: Public vs. Private owner projects', *KSCE Journal of Civil Engineering*, 15(6), pp. 957–963. doi: 10.1007/s12205-011-1115-y.

Hyde, R. (2012) *Future practice: Conversations from the edge of architecture*. New York: Routledge.

Hyland, F. (1998) 'The impact of teacher written feedback on individual writers', *Journal of Second Language Writing*, 7(3), pp. 255–286. doi: 10.1016/S1060-3743(98)90017-0.

Igea Troiani, S. E. and D. P. (2013) 'Architecture and Culture: Architecture's Disciplinarity', *Architecture and Culture*, 1(1).

Inns, T. (2007) *Designing for the 21st Century*, *Gower*. Aldershot.

International, C. (2017) *Global Rich List*, *CARE International*. Available at: http://www.globalrichlist.net/.

Ivory, C. (2004) 'Client, User and Architect Interactions in Construction: Implications for Analysing Innovative Outcomes from User-Producer Interactions in Projects', *Technology Analysis & Strategic Management*, 164(4), pp. 495–508. doi: 10.1080/0953732042000295801.

Jackobson, L. (1970) 'Toward Pluralistic Ideology in Planning Education', in Erber, E. (ed.) *Urban Planning in Transition*. New York, NY: Grossman.

Jacobs, J. (1961) *The Death and Life of Great American Cities*, *New York*. doi: 10.2307/794509.

Jamieson, S. (2004) 'Likert scales: how to (ab)use them', *Medical Education*, 38(12), pp. 1217–1218. doi: 10.1111/j.1365-2929.2004.02012.x.

Jencks, C. (1990) 'Death for Rebirth', in Papadakēs, A. (Andreas) (ed.) *Post-modernism on trial*. London: Academy Editions (Architectural design profile ; 88.).

Jenkins, F. (1961) *Architect and patron*. United Kingdom: Oxford University Press.

Jette, D. U., Grover, L. and Keck, C. P. (2003) 'A qualitative study of clinical decision making in recommending discharge placement from the acute care setting.', *Physical therapy*, 83(3), pp. 224–236. doi: 10.1093/ptj/83.3.224.

Joerns, J. and Leinhardt, G. (2006) 'Going the Distance with Online Education', *Review of Educational Research*, 76(4), pp. 567–605. doi: 10.3102/00346543076004567.

Johanson, B., Fox, A. and Winograd, T. (2002) 'The interactive workspaces project: Experiences with ubiquitous computing rooms', *IEEE Pervasive Computing*, 1(2), pp. 67–74. doi: 10.1109/MPRV.2002.1012339.

Johns, R. (2005) 'One Size Doesn't Fit All: Selecting Response Scales For Attitude Items Robert', *Journal of Elections, Public Opinion and Parties*, 15(2), pp. 237–264. doi: 10.1080/13689880500178849.

Johnson, P. (1955) 'The Seven Crutches of Modern Architecture', *Perspecta*, 3(1955), pp. 40–45. doi: 10.2307/1566834.

Jones, P. and Card, K. (2011) 'Constructing "Social Architecture": The Politics of Representing Practice', *Architectural Theory Review*, 16(3), pp. 228–244. doi: 10.1080/13264826.2011.621543.

Kalay, Y. (2004) *Architecture's new media: Principles, theories, and methods of computer-aided design*, *MIT*.

Kalb, J. (2014) 'Life in design: Christopher Alexander and the nature of order', *Archnet-IJAR*, 8(2), pp. 94–98.

Kaltenbach, F. (2014) 'DETAIL "The client is more important than the architect" - An Interview with Alvaro Siza www.detail.de', pp. 666–673. Available at: www.detail.de.

Kant, I. (1892) *The Critique of Judgement*, *Library*. doi: 10.1093/bjaesthetics/20.2.135.

Kaplan, A. M. and Haenlein, M. (2010) 'Users of the world, unite! The challenges and opportunities of Social Media', *Business Horizons*. Paris, France: Elsevier, 53(1), pp. 59–68. doi: 10.1016/J.BUSHOR.2009.09.003.

Kaplan, J. and Yankelovich, N. (2011) 'Open Wonderland: An Extensible Virtual World Architecture', *IEEE Internet Computing*, 15(5), pp. 38–45. doi: 10.1109/MIC.2011.76.

Kaplan, R. S. and Norton, D. P. (2001) 'the Strategy- Focused Organization', *Harvard Business School Press*, 23(1), pp. 1–8. doi: 10.5465/AMLE.2005.19086796.

Kelbaugh, D. (2004) 'Seven Fallacies in Architectural Culture', *Journal of Architectural Education*, 58(1), pp. 66–68. doi: 10.1162/1046488041578167.

Kemerling, G. (2016) 'Idealism'. Available at: http://www.philosophypages.com/hy/5k.htm.

Keyser, S. (2010) 'How to understand what the client really wants'. Available at: www.invitation2tender.com.

Keyton, J. (2006) *Case Studies for Organizational Communication: Understanding Communication Processes*. Roxbury Pub Co.

Keyton, J. and S-Zalabak, P. (2006) *Case studies for organizational communication: understanding communication processes*. Roxbury Pub. Co.

Keyton, J. and Shockley-Zalabak, P. (2010) *Case Studies for Organizational Communication: Understanding Communication Processes*, *Understanding Communication Processes*. Available at: http://www.worldcat.org/title/case-studies-for-organizational-communication-understanding-communication-processes/oclc/699068627.

Kieran, S. and Timberlake, J. (2003) *Refabricating architecture: How manufacturing methodologies are poised to transform building construction*. United States: McGraw-Hill Companies, The.

Kimbell, L. (2009) 'Beyond design thinking: Design-as-practice and designs-in-practice', in *CRESC Conference*, pp. 1–15. doi: 10.1108/02756660910942454.

Kirk, R. (1982) 'The Architecture of Servitude and Boredom', *MODERN AGE - A quaterly review*, (Spring), pp. 114–121. Available at: https://isistatic.org/journal-archive/ma/26_02/kirk.pdf (Accessed: 12 November 2017).

Klaufus, C. (2006) 'Globalization in residential architecture in Cuenca, Ecuador: social and cultural diversification of architects and their clients', *Environment and Planning D: Society and Space*, 24, pp. 69–89. doi: 10.1068/d0103.

Klettner, A. (2013) 'One-fifth of UK architects unemployed'. Building Design. Available at: http://www.bdonline.co.uk/one-fifth-of-uk-architects-unemployed/5051355.article.

Kolb, D. A. and Fry, R. (1975) 'Towards an applied theory of experiential learning.', in Cooper, C. L. (ed.) *Theories of group processes.* New York: Wiley, pp. 33–58.

Koolhaas, R. and Böck, I. (2015) *Six Canonical Projects by Rem Koolhaas*. jovis Verlag GmbH.

Rem, K. and Bruce, M. (1995) *S, M, L, XL*. New York: Monacelli Press.

Kostof, S. (1977) *The architect: Chapters in the history of the profession*. New York: Oxford University Press.

Kowaltowski, D. C. C. K. C. K., Bianchi, G. and de Paiva, V. T. (2010) 'Methods that may stimulate creativity and their use in architectural design education', *International Journal of Technology and Design Education*. Springer Netherlands, 20(4), pp. 453–476. doi: 10.1007/s10798-009-9102-z.

Kruft, H.-W. (1994) *A history of architectural theory: from Vitruvius to the present*. London: Zwemmer, New York.

Lago-Novás, J. (2014) 'Stop Designing Architecture, Design Your Practice!', *Construction and Building Research*. Edited by C. Llinares-Millán et al. Dordrecht: Springer Science + Business Media, (Springer International Publishing Switzerland 2014), pp. 225–232. doi: 10.1007/978-94-007-7790-3_1.

Langevin, J. (2011) 'Reyner Banham: In Search of an Imageable, Invisible Architecture', *Architectural Theory Review*, 16(1), pp. 2–21. doi: 10.1080/13264826.2011.560389.

Larson, M. S. (1979) *The Rise of Professionalism: A Sociological Analysis*. University of California Press (Campus (Berkeley, Calif.)).

Lasswell, H. (1948) 'The structure and function of communication in society.', in *The communication of ideas*, pp. 215–228.

Latham, M. (1994) 'Constructing the team: joint review of procurement and contractual arrangements in the United Kingdom construction industry', *Hmso*, 53(9), pp. 1689–1699. doi: 10.1017/CBO9781107415324.004.

Lather, P. (1992) 'Critical frames in educational research: Feminist and post-structural perspectives', *Theory Into Practice*. Routledge, 31(2), pp. 87–99. doi: 10.1080/00405849209543529.

Latour, B. (1993) *We have never been modern*. Cambridge, Mass: Harvard University Press.

Lau, J. C. K. (2014) 'Make architects: lecture in Glasgow Achool of Art', *YouTube*. YouTube. Available at: https://www.youtube.com/watch?v=EBMzvQeLr2o.

Lavalley, M. (no date) *Architecture and Ego: The Architect's Unique Struggle with 'Good' Design — Evolving Architect*. Available at: https://www.evolvingarchitect.com/blog/architecture-and-ego-the-architects-unique-struggle-with-good-design (Accessed: 23 March 2018).

Law, J. (2004) *After method: Mess in social science research*. New York: Taylor & Francis.

Lawrence, A. R. (2015) 'Radical Acts of Influence: Thoughts on Anxiety, History, and the Culture of the Copy', *Journal of Architectural Education*, 69(1), pp. 13–15. doi: 10.1080/10464883.2015.987067.

Lawson, B. (1980) *HOW DESIGNERS THINK, 82 ILLUS. BIBLIOG. (General)*. LONDON: ARCHITECTURAL PRESS; WESTFIELD, NEW JERSEY: EASTVIEW EDITIONS (1980).

Lawson, B. (2002) 'The subject that won't go away But perhaps we are ahead of the game. Design as research', *arq: Architectural Research Quarterly*. Cambridge University Press, 6(02), pp. 109–114. doi: 10.1017/S1359135502001574.

Lawson, B. and Loke, S. M. (1997) 'Computers, words and pictures', *Design Studies*, 18(2), pp. 171–183. doi: 10.1016/S0142-694X(97)85459-2.

Leatherbarrow, D. (2009) *Architecture oriented otherwise*. New York: Princeton Architectural.

Ledewitz, S. (1983) 'Community design: Creating public architecture', in Burgess, P. (ed.) *The role of the architect in society*. Pittsburgh PA: Carnegie Mellon University.

Lee, D. T. F., Woo, J. and Mackenzie, A. E. (2002) 'The cultural context of adjusting to nursing home life: Chinese elders' perspectives', *Gerontologist*, 42(5), pp. 667–675. doi: 10.1093/geront/42.5.667.

Lee, Y. (2008) 'Design participation tactics: the challenges and new roles for designers in the co-design process', *CoDesign*, 4(1), pp. 31–50. doi: 10.1080/15710880701875613.

leecalisti (2015) *Must we – create the better?* think | architect. Available at: https://thinkarchitect.wordpress.com/2015/11/20/must-we-create-the-better/.

Lefebvre, H. (1991) *The production of space*. Oxford: Blackwell.

Leonard, L., Perkins, H. and Thorns, D. (2004) 'Presenting and creating home: The influence of popular and building trade print media in the construction of home', *Housing, Theory and Society*, 21(3), pp. 97–110. doi: 10.1080/14036090410000480.

Libeskind, D. (1995) *Educating architects*. Edited by M. Pearce and M. Toy. Academy Editions.

Liddell, A. *et al.* (1993) 'The architect's tragic ego: the master builders'. Glasgow: Mackintosh School of Architecture. Available at: http://capitadiscovery.co.uk/gsa/items/93241.

Lincoln, Y. S. and Guba, E. G. (1985) 'Post positivism and the Naturalistic Paradigm', in *Naturalistic Inquiry*.

Linda Stevens, Bobbie Williams, B. (2014) *Client and Architect, developing the essential Relationship*, *RIBA Journal*. Available at: https://www.architecture.com/Files/RIBAProfessionalServices/ClientServices/ RIBACLIENTSUPP[1].pdf (Accessed: 2 December 2015).

Linder, M. (2005) 'Transdisciplinarity', *Hunch 9*, pp. 12–15.

Ling, F. Y. Y. *et al.* (2004) 'Predicting Performance of Design-Build and Design-Bid-Build Projects', *Journal of Construction Engineering and Management*, 130(1), pp. 75–83. doi: 10.1061/(ASCE)0733-9364(2004)130:1(75).

Liu, Y. (2010) *Critical factors for managing project communication among participants at the construction stage.*, *Dissertation Abstracts International Section A: Humanities and Social Sciences*.

London, K. and Ostwald, M. (2004) 'Architectural Research Methods', *Nexus Network Journal*, 6(1), pp. 51–53. doi: 10.1007/s00004-004-0006-7.

Long, M. J. and Wilson, C. S. J. (2002) 'Talk to your client about architecture', *Journal of Architecture*. doi: 10.1080/1360236032000040848.

Lonnman, B. (2010) 'Constructing Design in the Studio: Projects That Include Making BRUCE LONNMAN The Chinese University of Hong Kong', in Goodwin, B. and Kinnard, J. (eds) *98th ACSA Annual Meeting Proceedings, Rebuilding*, pp. 67–76.

Luder, O. (2012) 'Good Practice Guide: Keeping Out of Trouble'.

Lunenburg, F. C. (2010) 'Communication: The Process, Barriers , And Improving Effectiveness', *Schooling*, 1, pp. 1–11.

MacAndrew, D. (2012) 'IT'S CLEAR THAT IF WE WANT TO KEEP ON WINNING CONTRACTS WE ARE GOING TO HAVE TO GO BEYOND OUR TRAINING', *Architects' Journal. 11/22/2012, Vol. 236 Issue 19, p42-43. 2p.*, pp. 42–44.

Mackay, H. *et al.* (2000) 'Reconfiguring the User:: Using Rapid Application Development', *Social Studies of Science*, 30(5), pp. 737–757. doi: 10.1177/030631200030005004.

Macmillan, S. (2005) 'Better designed building: improving the valuation of intangibles', *Cambridge: Eclipse Research Consultants*, (June), pp. 1–9.

Macomber, H., Howell, G. and Barberio, J. (2007) 'Target-Value Design: Nine Foundational Practices for Delivering Surprising Client Value', *AIA Practice Management Digest*, pp. 2–4. Available at: http://www.leanconstruction.org/media/docs/3-Target-Value-Design-LPC.pdf (Accessed: 5 March 2017).

Mahmoodi, A. S. (2001) *The design process in architecture: a pedagogic approach using interactive thinking.*

Maister, D. (2003) 'Notes on Strategy'.

Maister, D. H. (1982) 'Balancing the Professional Service Firm', *Sloan Management Review*, pp. 15–29.

Maister, D. H. (1994) 'Managing the professional service firm', *Public Relations Review*, 20(3), pp. 304–305. doi: 10.1016/0363-8111(94)90049-3.

Man, C. W. S. (2010) *Empowering Architecture Citizen Participation in the Design of Urban Public Spaces.*

Manfreda, K. L. *et al.* (2008) 'Web surveys versus other survey modes: A meta-analysis comparing response rates', *International Journal of Market Research*, 50(1), pp. 79–104. doi: 10.2501/IJMR-53-1-075-094.

Marjanović, I. *et al.* (2004) *The practical experience: An architecture student's guide to Internship and the year out.* Oxford: Architectural Press.

Mark Middleton (2016) *False distinction between design and delivery architects is killing the profession | Opinion | Building Design.*

Marquart, F. and Montlibert, C. De (1970) 'Division du travail et concurrence en architecture', *Revue française de sociologie.* Persée - Portail des revues scientifiques en SHS, 11(3), pp. 368–389. doi: 10.2307/3320610.

Marshall-Ponting, A. and Aouad, G. (2004) 'An nD modelling approach to improved communication processes in construction', *Automation in Construction, Elsevier.* Available at: http://usir.salford.ac.uk/15781/1/International_conference_on_construction_IT_(2004).pdf.

MARTIN, R. (2005) 'Architecture' s Image Problem : Have We Ever Been Postmodern ?', *Grey room*, 22(winter), pp. 6–29.

Martins, A. N. and Guedes, M. C. (2015) 'Incorporating Social Innovation into Humanitarian Architecture', in *7th i-Rec Conference 2015: Reconstruction and Recovery in Urban Contexts*, pp. 1–26. Available at: https://www.bartlett.ucl.ac.uk/dpu/i-rec/thematic-roundtables/roundtable-3/Martins.

Mason, M. (2010) 'Sample Size and Saturation in PhD Studies Using Qualitative Interviews', *Forum Qualitative Sozialforschung / Forum: Qualitative Social*

Research. Deutsche Forschungsgemeinschaft, 11(3), p. Art 8. doi: ISSN 1438-5627.

Mau, B. (2000) *Life style*. London: Phaidon.

McCarthy, C. (2011) *Redesigning the Design Crit Executive Summary*. Available at: https://akoaotearoa.ac.nz/download/ng/file/group-6/redesigning-the-design-crit.pdf (Accessed: 27 February 2018).

McDonnell, J. (2009) 'Collaborative negotiation in design: A study of design conversations between architect and building users', *CoDesign*. Taylor & Francis, 5(1), pp. 35–50. doi: 10.1080/15710880802492862.

McGowan, S. (2012) 'Obstacle or Opportunity? Digital Thresholds in Professional Development', *The Journal of Faculty Development*, 26(3), p. 25.

McIntosh, W. L. *et al.* (2016) 'Suicide rates by occupational group — 17 states, 2012', *MMWR. Morbidity and Mortality Weekly Report*. Centers for Disease Control MMWR Office, 65(25), pp. 641–645. doi: 10.15585/mmwr.mm6525a1.

Mclachlan, J. (2015) *Debate: should architecture schools produce 'oven-ready' architects? The Architects Journal*.

McLachlan, J. (2015) 'Is a new breed of architect emerging that is more concerned with ethics and less in thrall to the corporate world? The AJ talks to three up-and-coming practices about their grassroots approach', *Architects' Journal*, pp. 48–49.

Meller, T. (2014) 'Tracy Meller RSH+P at Friday lecture in Glasgow school of art', *YouTube*. YouTube. Available at: https://www.youtube.com/watch?v=p2a7kKM-PAg.

Merleau-Ponty, M. and Landes, D. A. (2013) *Phenomenology of perception*, *Phenomenology of Perception*. doi: 10.4324/9780203720714.

Michelson, W., Marans, R. W. and Bechtel, R. B. (1987) *Methods in environmental and behavioral research*. New York: Van Nostrand Reinhold.

Mike, M., Seaman, J. and Tinti-Kane, H. (2011) 'Teaching, Learning, and Sharing: How Today's Higher Education Faculty Use Social Media'. Available at: http://files.eric.ed.gov/fulltext/ED535130.pdf (Accessed: 20 November 2017).

Miller, J. (2012) *Humanitarian Architecture: Concepts and Application*, *Built Environment Design and Theory*. doi: 10.1017/CBO9781107415324.004.

Mitchell, W. J. T. (1995) *Interview with Homi Bhabha*, *Artforum v.33*. Available at: https://prelectur.stanford.edu/lecturers/bhabha/interview.html (Accessed: 9 March 2016).

Mitra, D., Lewis, T. and Sanders, F. (2012) 'Architects, captains, and dreamers: Creating advisor roles that foster youth-adult partnerships', *Journal of Educational Change*, 14(2), pp. 177–201. doi: 10.1007/s10833-012-9201-6.

Moen, J. (2015) 'Residential', *Architects' Journal*, pp. 54–61.

Montanana, A., Llinares, C. and Navarro, E. (2013) 'Architects and non-architects: differences in perception of property design', *Journal of Housing and the Built Environment*, 28(2), pp. 273–291. doi: 10.1007/s10901-012-9312-7.

Moore, M. G. (1989) 'Editorial: Three Types of Interaction', *American Journal of Distance Education*, pp. 1–7. doi: 10.1080/08923648909526659.

Mori, T. (2002) 'Immaterial / Ultramaterial: Architecture, Design, and Materials'. Cambridge, MA: Harvard Design School in association with George Braziller, p. xvii.

Morita, P. P. and Burns, C. M. (2012) 'Understanding "interpersonal trust" from a human factors perspective: insights from situation awareness and the lens model', *Theoretical Issues in Ergonomics Science*, (March 2014), pp. 1–23. doi: 10.1080/1463922X.2012.691184.

Moum, A. (2008) *Exploring Relations between the Architectural Design Process and ICT Learning from Practitioners' Stories*. Norwegian University of Science and Technology.

Mp, G. B. and Honourable, R. (2008) 'Practice Small Practice Small'.

Mueller, J. S., Melwani, S. and Goncalo, J. a. (2012) 'The Bias Against Creativity: Why People Desire but Reject Creative Ideas', *Psychological Science*, 23(1), pp. 13–17. doi: 10.1177/0956797611421018.

Mullins, G. and Kiley, M. (2002) 'It's a PhD, not a Nobel Prize': how experienced examiners assess research theses', *Studies in Higher Education*, 27(4). doi: 10.1080/0307507022000.

Murphy, E. and Dingwall, R. (2003) 'Judging the Quality of Qualitative Research', in *Qualitative Methods and Health Policy Research*, pp. 171–204.

Murphy, E. and Evans, M. (2009) 'The times they are changin' – perspectives on design industry business models', in *The Value of Design research*. Boulogne Billancourt, France.

Murphy, E. and Hands, D. (2012) 'Wisdom of the Crowd: How Participatory Design Has Evolved Design Briefing.', *Swedish Design Research Journal*, 2(12), pp. 28–37.

Murray, C. and Waite, R. (2013) 'Too many architecture students are simply unemployable', *The Architects Journal*. Architects Journal.

Murray, M. and Langford, D. (2008) 'The Public Client and the Construction Industries: The Wood Report (1975)', in Ive, G. (ed.) *Construction Reports 1944–98*. Blackwell Science Ltd, pp. 105–113. doi: 10.1002/9780470758526.ch8.

Nasar, J. L. (1989) 'Symbolic meanings of house styles', *Environment and Behavior*. SAGE Publications, 21(3), pp. 235–257. doi: 10.1177/0013916589213001.

Nasar, J. L. and Kang, J. (1999) 'House style preference and meanings across taste cultures', *Landscape and Urban Planning*, 44(1), pp. 33–42. doi: 10.1016/S0169-2046(98)00109-1.

Newman, O. (1980) 'Community of interest', *Society*, 18(1), pp. 52–57. doi: 10.1007/BF02694845.

Nicol, D. and Pilling, S. (2000) *Changing Architectural Education: Towards a New Professionalism*, *Ebook*. London: Taylor & Francis. doi: 10.1017/CBO9781107415324.004.

Norouzi, N. *et al.* (2015) 'Classification and Utilization of Design Supportive Tools in Architectural Design Process', *Journal of Applied Sciences*, 15(8), pp. 1037–1044. doi: 10.3923/jas.2015.1037.1044.

Norouzi, N. *et al.* (2015) 'A new insight into design approach with focus to architect-client relationship', *Asian Social Science*, 11(5), pp. 108–120. doi: 10.5539/ass.v11n5p108.

Norouzi, N. *et al.* (2015) 'The architect, the client and effective communication in architectural design practice', *Procedia - Social and Behavioral Sciences*, 172, pp. 635–642. doi: 10.1016/j.sbspro.2015.01.413.

Novitski, B. J. (2009) 'Got Work? Get Paid', *Architectural Record. Dec2009, Vol. 197 Issue 12, p32-32. 1p.*, pp. 32–33.

Oak, A. (2009) 'Performing architecture: Talking "architect" and "client" into being', *CoDesign*. Taylor & Francis, 5(1), pp. 51–63. doi: 10.1080/15710880802518054.

Ockman, J. (1993) 'In the nature of Materials: A Philosophy Frank Llyod Wright', in *Architecture Culture 1943-1968*. New York: Rizzoli, pp. 30–41.

Orr, K. and Gao, Y. (2013) 'Becoming an Architect: The Role of Work-Based Learning in Architect Training', *Vocations and Learning*, 6(2), pp. 221–235. doi: 10.1007/s12186-012-9093-x.

Orr, S., Yorke, M. and Blair, B. (2014) 'The answer is brought about from within you: A student-centred perspective on pedagogy in art and design', *International Journal of Art and Design Education*, 33(1), pp. 32–45. doi: 10.1111/j.1476-8070.2014.12008.x.

Otter, A. Den and Prins, M. (2002) 'Architectural design management within the digital design team.', *Engineering Construction & Architectural Management (Wiley-Blackwell)*, 9(3), pp. 162–173. doi: 10.1108/eb021212.

Ouchi, G. (1981) 'Organizational Paradigms: A Commentary on Japanese Management and Theory Z Organizations'.

Owen, G. (2012) *It's almost impossible for architects to design for the client's needs only, nor should they try*, *Architects' Journal*.

Owner, T. and Documents, C. (1997) 'Standard Form of Agreement Between Owner and Contractor', *New York*, pp. 1–9.

Oxman, R. (2017) 'Thinking difference: Theories and models of parametric design thinking', *Design Studies*, 52, pp. 4–39. doi: 10.1016/j.destud.2017.06.001.

Oxman, R. (2008) 'Digital architecture as a challenge for design pedagogy: theory, knowledge, models and medium', *Design Studies*, 29(2), pp. 99–120. doi: 10.1016/j.destud.2007.12.003.

Paio, A. *et al.* (2012) 'Prototyping Vitruvius, New Challenges: Digital Education, Research and Practice', *Nexus Network Journal*, 14(3), pp. 409–429. doi: 10.1007/s00004-012-0124-6.

Palinscar, A. S. (1998) 'Social Constructivist Perspectives on Teaching and Learning', *Annual Review of Psychology*, 49, pp. 345–375. doi: 10.1146/annurev.psych.49.1.345.

Palladio, A. and Ware d. 1766., I. (1977) *The four books of architecture, 1738 ed. reprinted]*. New York: Dover Publications [etc.].

Parasuraman, A., Zeithaml, V. and Berry, L. (1985) 'A Conceptual Model of Service Quality and its Implications for Future', *Journal of Marketing*, 49(4), pp. 41–50. doi: 10.2307/1251430.

Parvin, A. (2014) *Architecture (and the other 98%)*. Alastair Parvin. Available at: https://www.alastairparvin.com/single-post/2014/12/04/Architecture-and-the-other-98.

Parvin, A. (2013) 'Architecture for the people by the people', *Technology, Entertainment, Design (TED)*. Google+. Available at: http://www.ted.com/talks/alastair_parvin_architecture_for_the_people_by_the_people?language=en.

Parvin, A. (2014) 'G S A Friday Lectures, in Glasgow school of art', *YouTube*. YouTube. Available at: https://www.youtube.com/watch?v=6cyEU3dXuaM.

Parvin, A. (2014) 'Alastair Parvin: If architecture is the answer, what's the question?' Available at: http://www.gsa.ac.uk/life/gsa-events/events/a/alastair-parvin-fri-lecture/?source=archive.

Parvin, A. T. P. (2012) *Architecture schools should be dissolved.*, *TV*. Designplaygrounds. Available at: http://designplaygrounds.com/tv/architecture-schools-should-be-dissolved/.

Payne, A., Kuttner, A. and Smick, R. (2000) *ANTIQUITY AND ITS INTERPRETERS*. Cambridge University Press.

Pearson, J. (2002) *University-Community Design Partnerships Innovations*, *Group*.

Percy, C. (2004) 'Critical absence versus critical engagement. problematics of the crit in design learning and teaching', *Art, Design & Communication in Higher Education*, 44(0), pp. 143–154. doi: 10.1386/adch.2.3.143/0.

Pérez-Gómez, A. (1983) *Architecture and the Crisis of Modern Science*. MIT Press. Available at:

https://cpfourthosis.files.wordpress.com/2010/09/perez_gomez_crisis_intro1.p df (Accessed: 16 January 2018).

Perkes, D. (no date) 'Practicing Experience', *Re. building*, pp. 34–42.

Pevsner, N. (1991) *An outline of European architecture*. 7th edn. London, United Kingdom: Penguin (Non-Classics).

Phillips, P. L. (2004) *Creating a perfect design brief: how to manage design for strategic advantage*. New York: Allworth.

Piano, R. (1998) 'Renzo Piano 1998 Laureate Acceptance Speech', in *The Pritzker Prize*. Available at: https://www.pritzkerprize.com/sites/default/files/inline-files/1998_Acceptance_Speech.pdf (Accessed: 30 June 2018).

Pierce, K. (2011) 'Records: A Case Study Documenting Present-Day Practice', *Art Documentation*, 30(2).

Prak, N. L. (1984) *Architects: The noted and the ignored*. United Kingdom: John Wiley & Sons.

Price, L. (1978) 'on Organization Development'.

Proctor, R. (2006) 'The architect's intention: Interpreting post-War modernism through the architect interview', *Journal of Design History*, 19(4), pp. 295–307. doi: 10.1093/jdh/epl024.

Pugnale, A. and Parigi, D. (2012) 'Approaching Technical Issues in Architectural Education', in *IASS-APCS 2012 Conference Proceedings: from spatial structures to space structures*. Available at: internal-pdf://66.0.0.68/Approaching_Technical_Issues_in_Architectural_.pdf.

Rahim, A. (2005) *Catalytic formations: Architecture and digital design*. London: Taylor & francis.

Raisbeck, P. (2008) 'Perceptions of architectural design and project risk: understanding the architects' role in a PPP project', *Construction Management and Economics*, 26(11), pp. 1145–1157. doi: 10.1080/01446190802512342.

Ramaraj, A. and Nagammal, J. (2017) 'Art of Facilitating "Problem-Driven Outcomes" in an Architectural Design Studio', *New Trends and Issues Proceedings on Humanities and Social Sciences*, 4(11), p. 93. doi: 10.18844/prosoc.v4i11.2863.

Ramsden, P. (2003) *Learning to teach in higher education*. RoutledgeFalmer.

Ramzy, N. S. (2010) 'Between the École Des Beaux-Arts and the Bauhaus: Modern Architecture as an Outcome of the Enlightenment Philosophy', *Ain Shams Journal of Mechanical Engineering*, 2, pp. 53–65.

Reading, M. (2015) 'PUT YOURSELF THE CLIENTS SEAT', *Architects' Journal*, pp. 52–54.

Reed, D. (2002) 'The use of ill-defined problems for developing problem-solving and empirical skills in CS1', *J. Comput. Small Coll.*, 18, pp. 121–133. Available at: http://portal.acm.org/citation.cfm?id=771141.771167&coll=Portal&dl=GUIDE& CFID=18627937&CFTOKEN=93277742.

RIBA (2013) 'Good Practice Guide: Inspecting Works', pp. 2–4.

RIBA (2013) *A client's guide to engaging an architect*. Available at: http://www.hougharchitecture.co.uk/assets/clientsguidetoengaginganarchitect. pdf (Accessed: 11 July 2018).

RIBA (2012) *Survey 2012*.

RIBA (2013) 'Good Practice Guide: Fee Management', pp. 2–4.

RIBA (2010) *RIBA Fees Calculator*. Available at: www.architecture.com (Accessed: 18 February 2017).

RIBA (2013) 'Good Practice Guide: Extensions of Time', pp. 2–4.

RIBA, R. (1962) *The architect and his office, The architect and his office. A survey of organisation, staffing, quality of service and productivity presented to the council of the royal institute on 6th February 1962. [By J.M. Austin-Smith, Andrew Derbyshire, and others.]*. London: Royal Institute of British Architects,

Riba, Collins, J. and Moren, P. (2009) 'Good Practice Guide: Negotiating the Planning Maze'.

Rieger, A. (2002) *Architecture in the Global Tension of Increasing Cultural Interaction*. Vienna University of Technology.

Rifkin, J. (2011) *The third industrial revolution: How lateral power is transforming energy, the economy, and the world*. New York: Palgrave Macmillan.

Riordan, T. and Loacker, G. (2009) 'Collaborative and systemic assessment of student learning: From principles to practice', in *Assessment, Learning and Judgement in Higher Education*, pp. 175–192. doi: 10.1007/978-1-4020-8905-3_10.

Ritchie, J., Lewis, J. and Elam, G. (2003) 'Designing and Selecting Samples', *Qualitative Research practices: a guide for social science students and researchers*, pp. 77–111. doi: 10.1017/CBO9781107415324.004.

Rittel, H. W. and Webber, M. M. (1973) 'Dilemmas in a General Theory of Planning', *Policy Science*, (4), pp. 155–169. Available at: https://www.cc.gatech.edu/fac/ellendo/rittel/rittel-dilemma.pdf (Accessed: 1 March 2018).

Robertson, A. (2010) 'Working out in Architecture out of work experience'. Architectural Association.

Robinson, D. *et al.* (2010) *The Future for Architects? Building futures RIBA*. Available at: http://www.buildingfutures.org.uk/projects/building-futures/the-future-for-architects/the-future-for-architects-report/.

Rodger, J. (2016) '"The stalest windbag"? Teaching by the "Year System " at the Mackintosh School of Architecture', *Charrette*, 3(1), pp. 45–53.

Rogers, D. (2012) *Architects demand return of fee scales | News | Building Design*, *Building Design online*. Available at: https://www.bdonline.co.uk/news/architects-demand-return-of-fee-scales/5046693.article (Accessed: 29 April 2018).

Roth, A. (1973) *Begegnungen mit Pionieren: Le Corbusier, Piet Mondrian, Adolf Loos, Josef Hoffmann, Auguste Perret, Henry van de Velde.* Basel: Birkhäuser.

Roxburgh, M. (2003) 'Negotiating Design: Conversational Strategies Between Clients and Designers', pp. 1–16. Available at: http://epress.lib.uts.edu.au/research-publications/handle/10453/5960.

Rudofsky, B. (1970) 'Architecture without Architects: A Short Introduction to Non-Pedigreed Architecture', *Art Education*, 23(7), p. 71. doi: 10.2307/3191516.

Ruskin, J. (1847) *John Ruskin (1819-1900). Seven Lamps of Architecture. Keller, ed. 1917. The Reader's Digest of Books*. Available at: http://www.bartleby.com/library/readersdigest/1755.html (Accessed: 27 August 2015).

Rykwert, J. and Noever, P. (2000) *Visionary clients for new architecture*. Munich: Prestel.

Saft, C. and Lasala, H. (no date) 'Taking Design Out of Studio', *Re. building*, pp. 43

Salama, A. (1995) *New Trends in Architectural Education: Designing the Design Studio*, *The Anglo-Egyptian Bookstore, Cairo Egypt*. Tailored Text and Unlimited Potentials. –48.

Salama, A. M. (2011) 'Anti- Vitruvian Architects and Contemporary Society', *Architects for Peace*, Architects (September, Melbourne, Australia). Available at: http://archpeace2.blogspot.co.uk/2011/09/anti-?-vitruvian-?-architects-?-and.html.

Salama, A. M. A. and Wilkinson, N. (2007) *Design studio pedagogy: horizons for the future*. ARTI-ARCH.

Salheen, M. A., Abdellatifen, M. M. and Keleg, M. (2014) 'What to Take and What To Leave? Balancing Between Experimentation and Responsibility in Live Projects', in *AAE 2014 CONFERENCE PROCEEDINGS*, pp. 41–45.

Salingaros, N. A. and Alexander, C. (2008) *Anti-architecture and Deconstruction: With Christopher Alexander, Michael Blowhard, James Stevens curl, Brian Hanson, James Kalb, Michael Mehaffy, terry M. Mikiten, Hillel Schocken, and Lucien Steil*. 3rd edn. Solingen: Intercollegiate Studies Institute.

Samuel, F. (2014) 'Architect Types and their Skillsets', *Sheffield University*. Sheffield, pp. 1–5. Available at: www.culturalvalueofarchitecture.org.

Samuel, F., Awan, N. and Butterworth, C. (2014) *Cultural Value Of Architecture in Homes and Neighbourhoods*. Available at: http://www.culturalvalueofarchitecture.org/#!database/cj5l.

Samuelson, P. (1948) 'Consumption theory in terms of revealed preference', *Economica*, 15(60), pp. 243–253. doi: 10.2307/2549561.

Sánchez Riera, A., Redondo, E. and Fonseca, D. (2015) 'Geo-located teaching using handheld augmented reality: good practices to improve the motivation and qualifications of architecture students', *Universal Access in the Information Society*, 14(3), pp. 363–374. doi: 10.1007/s10209-014-0362-3.

Sanders, E. B.-N. and Stappers, P. J. (2014) 'Probes, toolkits and prototypes: three approaches to making in codesigning', *CoDesign*. Taylor & Francis, 10(1), pp. 5–14. doi: 10.1080/15710882.2014.888183.

Sandler, I. (1980) 'Modernism, Revisionism, Pluralism, and Post-Modernism', *Art Journal*, 40(1), pp. 345–347. Available at: http://www.jstor.org/stable/776598.

Sanoff, H. (2011) 'Multiple Views of Participatory Design, Focus: Vol. 8: Iss. 1, Article 7', *International Journal of Architectural Research*, 23(1), pp. 131–143. doi: 10.15368/focus.2011v8n1.1.

Sanoff, H. (1991) 'Visual Research Methods in Desgin'.

Sanoff, H. (1992) *Integrating Programming, Evaluation and Participation in Design (Routledge Revivals): A Theory Z Approach.* Routledge.

Sapers, C. (1988) 'The Liability of Architects and Engineers in Nineteenth-Century America', *Journal of Architectural Education*, 41(2), pp. 39–45. doi: 10.1080/10464883.1988.10758474.

Sara, R. (2011) 'Learning from Life – Exploring the Potential of Live Projects in Higher Education', *Journal for Education in the Built Environment*, 6(218), pp. 8–25. Available at: http://eprints.uwe.ac.uk/16805 (Accessed: 8 March 2018).

Sariyildiz, S. and Veer, P. Der (1998) 'The role of ICT as a partner in Architectural Design Education', *Design Studio Teaching EAAE*. Available at: http://papers.cumincad.org/data/works/att/e629.content.pdf (Accessed: 5 February 2018).

Saunders, B., Kitzinger, J. and Kitzinger, C. (2015) 'Anonymising interview data: challenges and compromise in practice.', *Qualitative research : QR*. SAGE Publications, 15(5), pp. 616–632. doi: 10.1177/1468794114550439.

Saunders, W. S. (1996) *Reflections on architectural practices in the nineties*. New York: Princeton Architectural Press.

Scheer, D. R. (2014) *The Death of Drawing - Architecture in the Age of Simulation*. Available at: http://deathofdrawing.com/ (Accessed: 24 August 2015).

Schoenmaekers, S. (2011) *The Regulation of Architects in Belgium and the Netherlands: A Comparative Analysis*. Intersentia (Ius Commune reeks).

Schön, D. (1985) *The design studio: An exploration of its traditions and potentials (architecture and the Hig..* London: RIBA Publications for RIBA Building Industry Trust.

Schon, D. A. (1982) 'Some of What a Planner Knows A Case Study of Knowing-in-Practice', *Journal of the American Planning Association*, 48(3), pp. 351–364. doi: 10.1080/01944368208976184.

Schön, D. A. (1987) *Educating the reflective practitioner: toward a new design for teaching and learning in the professions*. Jossey-Bass.

Schramm, W. (1955) 'The Process of Communication', in *The Process and Effects of Mass Communication*, pp. 3–26.

Scott, G. W. (2017) 'Active engagement with assessment and feedback can improve group-work outcomes and boost student confidence', *Higher Education Pedagogies*, 2(1), pp. 1–13. doi: 10.1080/23752696.2017.1307692.

Scott, W. R. (2001) 'Institutions and Organizations', *New York*, 48(2), p. 255. doi: 10.1109/MPER.2002.4312460.

Seaman, J. and Tinti-Kane, H. (2013) *SOCIAL MEDIA FOR TEACHING AND LEARNING*. Available at: http://www.onlinelearningsurvey.com. (Accessed: 20 November 2017).

Sedláková, M. (2009) 'Edward Winters. Aesthetics and Architecture', *Estetika: The Central European Journal of Aesthetics*, XLVI(I), pp. 111–116.

Sergison, J. (2013) 'Are there too many architecture schools? | News | Architects Journal', *The Architects' Journal*. Available at: https://www.architectsjournal.co.uk/news/students/are-there-too-many-architecture-schools/8651271.article (Accessed: 30 June 2018).

Sexton, M. and Barrett, P. (2003) 'Appropriate innovation in small construction firms.', *Construction Management & Economics*, 21(6), pp. 623–633. doi: 10.1080/0144619032000134156.

Shariff, Y. and Tankard, J. (2010) *Towards a new architect: The guide for architecture students*. Amsterdam: Architectural Press/Elsevier.

Shavelson, R. J. *et al.* (no date) 'On the Science of Education Design Studies', *Source: Educational Researcher*, 32(1), pp. 25–28. Available at: http://www.jstor.org (Accessed: 19 December 2017).

Shavelson, R. J. and Towne, L. (2002) *Scientific Research in Education*, *Environmental Science Policy*. doi: 10.17226/10236.

Shepherd, A. (1999) 'Proper use of the term "architect"', *RIBA Journal, 106(9)*.

Siemens, G. (2005) *Connectivism: A Learning Theory for the Digital Age*. Available at: http://www.elearnspace.org/Articles/connectivism.htm (Accessed: 10 March 2018).

Silverman, D. (1993) 'Theory and Method in Qualitiave Research', in *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction*. Sage Publications., pp. 1–19.

Simon, H. A. (1988) 'The Science of Design: Creating the Artificial', *Design Issues*. The MIT Press, 4(1/2), pp. 67–82. doi: 10.2307/1511391.

Sinclair, H. K. and Cleland, J. A. (2007) 'Undergraduate medical students: Who seeks formative feedback?', *Medical Education*, 41(6), pp. 580–582. doi: 10.1111/j.1365-2923.2007.02768.x.

Sirowy, B. (2013) 'Architectural Ethics: A Phenomenological Perspective', in Fløistad, G. (ed.) *Ethics or Moral Philosophy*. Springer Science+Business Media Dordrecht, pp. 177–194. doi: 10.1007/978-94-007-6895-6.

Siva, J. P. S. and London, K. (2011) 'Investigating the Role of Client Learning for Successful Architect–Client Relationships on Private Single Dwelling Projects', *Architectural Engineering and Design Management*, 7(3), pp. 177–189. doi: 10.1080/17452007.2011.594570.

Smith, V. (2010) 'Review article: Enhancing employability: Human, cultural, and social capital in an era of turbulent unpredictability', *Human Relations*, 63(2), pp. 279–300. doi: 10.1177/0018726709353639.

Sokol, D. (2008) 'Teaching by Example: Design- build Educators Talk Pedagogy and Real Politick.', *Architectural Record.*, October, p. 125.

Soliman, A. M. (2017) 'Appropriate teaching and learning strategies for the architectural design process in pedagogic design studios', *Frontiers of Architectural Research*, 6, pp. 204–217. doi: 10.1016/j.foar.2017.03.002.

Somol, R. and Whiting, S. (2002) *Notes around the Doppler Effect and Other Moods of Modernism*, *Perspecta*. doi: 10.2307/1567298.

Souleles, N. (2013) 'The Evolution of Art and Design Pedagogies in England: Influences of the Past, Challenges for the Future', *International Journal of Art and Design Education*, 32(2), pp. 243–255. doi: 10.1111/j.1476-8070.2013.01753.x.

Speaight, A. and Stone, G. (2004) *Architect's legal handbook: the law for architects, 8th ed.* Oxford: Architectural Press.

Spector, T. (2001) *The ethical architect: The dilemma of contemporary practice*. New York, NY: Princeton Architectural Press.

Spiller, N. and Clear, N. (2014) *Educating Architects: How Tomorrow's Practitioners Will Learn Today*. Edited by N. Spiller and N. Clear. Thames & Hudson.

Spiller, N. (2014) 'Maverick Deviations: Friday lecture in Glasgow school of art', *YouTube*. YouTube. Available at: https://www.youtube.com/watch?v=rBI1qVghPvM.

Stake, R. (1995) 'Data Gathering', in. Sage, pp. 49–68.

Stater, B. (2010) 'It's just not cricket', *The Journal of Architecture*, 7(4), pp. 361–369. doi: 10.1080/1360236032000040866.

Stevens, G. (1995) 'Struggle in the Studio: A Bourdivin Look at Architectural Pedagogy', *Journal of Architectural Education*. doi: 10.1080/10464883.1995.10734672.

Stewart, C. (2016) 'Charrette: freespace Think not what the Student can do for the Practice.', *Charrette*, 3(1), pp. 89–93.

Straus, D. and Doyle, M. (1978) 'The architect as a facilitator: A new role', *Journal of Architectural Education*, 31(4), pp. 13–15.

Suchman, M. C. (1995) 'MANAGING LEGITIMACY: STRATEGIC AND INSTITUTIONAL APPROACHES.', *Academy of Management Review*, 20(3), pp. 571–610. doi: 10.5465/AMR.1995.9508080331.

Sutton, R. and Staw, B. (1995) 'What theory is not', *Administrative Science Quarterly*, 40(3), pp. 371–384. Available at: papers://2911b5a8-8ff0-42ea-8bc2-2a09b4907db5/Paper/p5543.

Tafel, E. (1979) *Apprentice to genius: Years with Frank Lloyd Wright*. New York: McGraw-Hill Inc.,US.

Talks, Ted. (2010) 'TEDxBerlin - Daniel Dendra - open SimSim', *YouTube*. YouTube. Available at: https://www.youtube.com/watch?v=vBWf6vHlPzY.

Tessema, Y. A. (2008) *BIM for improved building design communication between architects and clients in the schematic design phase*. Texas Tech University.

Thagard, P. and Shelley, C. (1997) 'Abductive Reasoning: Logic, Visual Thinking, and Coherence', in *Logic and Scientific Methods*. Dordrecht: Springer Netherlands, pp. 413–427. doi: 10.1007/978-94-017-0487-8_22.

Thomas R. Gossen, AIA, P. (no date) *Compensation Methods for Architectural Services*. Available at: www.dennisglynn.com/.../Compensation_Methods_for_Architectural_Se...

Thomas, S. R., Tucker, R. L. and Kelly, W. R. (1998) 'Critical Communications Variables', *Journal of Construction Engineering and Management*, 124(1), p. 58. doi: 10.1061/(ASCE)0733-9364(1998)124:1(58).

Thompson, M. (2012) 'It's true: people don't know what architects do', *Architects' Journal*, (July).

Thomsen, C. B. (1999) *The 21st century master builder*.

Thorpe, A. (2012) *Architecture & Design versus Consumerism, Architecture and Design versus Consumerism: How Design Activism Confronts Growth*. doi: 10.4324/9780203119518.

Till, J. (2007) 'Architecture and contingency', *Field*, 1(1), pp. 120–135. Available at: http://westminsterresearch.wmin.ac.uk/7947/.

Till, J. (2005) 'RIBA: What is architectural research?', in *Architectural Research Futures.* Edinburgh, pp. 1–6. doi: 10.1080/09613210701811015.

Till, J. (2009) *ARCHITECTURE DEPENDS.pdf*. Cambridge, Mass: MIT Press.

Tochtermann, W. (1986) 'Training Architects: Some Comments', in Ahmet, E. (ed.) *Architectural Education in the Islamic World.* Concept Me, pp. 174–178. Available at: https://archnet.org/system/publications/contents/3639/original/DPC0238.pdf?1384775839 (Accessed: 2 March 2018).

Toffler, A. (1970) 'Gli adolescenti', *Future shock*, 2(1), pp. 1–9.

Tomala, M. (2017) *Adoption of Emerging Technology in the UK Construction Industry: Adoption Factors and their Interdependence.*

Tran, H. and Carmichael, D. G. (2013) 'A contractor's classification of owner payment practices', *Engineering, Construction and Architectural Management.* doi: 10.1108/09699981311288664.

Troiani, I. and Ewing, S. (2014) 'Inside Architecture from the Outside: Architecture's Disciplinary Practices', *Architecture and Culture*, 2(2), pp. 151–166. doi: 10.2752/205078214X14030010182308.

Tschumi, B. (1994) *Architecture and disjunction.*

Turner, J. F. C. F. (1976) *Housing by people: Towards autonomy in building environments.* United Kingdom: Marion Boyars Publishers.

Tusa, J. (2002) 'From the viewpoint of a client', *Journal of Architecture.* doi: 10.1080/1360236032000040857.

Tzortzopoulos, P. *et al.* (2006) 'Clients' activities at the design front-end', *Design Studies*, 27(6), pp. 657–683. doi: 10.1016/j.destud.2006.04.002.

Varnelis, K. (2007) 'Is there research in the studio?', *Journal of Architectural Education*, 61(1), pp. 11–14. doi: 10.1111/j.1531-314X.2007.00121.x.

Veblen, T. (2005) *Conspicuous Consumption.* Penguin Books Limited (Great ideas).

Venturi, R. (1966) *Complexity and contradiction in architecture, New York.* doi: 10.1080/10464883.2012.714912.

VeselÁ, R. (2013) 'The Battle over Modern Architecture', *Bitevní pole: moderní architektura.*, 61(3), pp. 232–256.

Vincent and Johnson, P. (1973) *Conversations with architects: Philip Johnson, Kevin Rache, Paul Rudolph, Bertrand Goldberg, Morris Lapidus, Louis Kohn, Charles Maore, Robert Venturi and Denise Scott Brown.* London: Lund Humphries Publishers.

Vitruvius (1914) *The Project Gutenberg eBook of Ten Books on Architecture, by Vitruvius.* 2006th edn. Translated by M. H. Morgan. Cambridge, MA: Harvard University Press. Available at: file:///Volumes/750G/# setting/%23 Papers2

Library/Papers2/Files/Project Gutenberg eBook of Ten Books on Architecture, by Vitruvius., The - Wei Zhi.pdf%5Cnpapers2://publication/uuid/6B3A077F-CF4E-4003-BBE3-016679A3C77A.

Walker, A. and Newcombe, R. (2000) 'The positive use of power on a major construction project', *Construction Management and Economics*, 18(1), pp. 37–44. doi: 10.1080/014461900370933.

Wallis, L. (2007) 'Building the Studio Environment', in Salama, A. M. A. and Wilkinson, N. (eds) *Design studio pedagogy: horizons for the future*. Gateshead, UK: Urban International Press., pp. 201–202.

Wasserman, B. L., Sullivan, P. J. and Palermo, G. (2000) *Ethics and the practice of architecture*. New York: Wiley, John & Sons.

Watson, V. (2002) 'Never talk to your client about architecture', *The Journal of Architecture*, 7(4), pp. 313–317. doi: 10.1080/1360236032000040811.

Weigel, A. L. (2000) 'A Book Review: Lean Thinking by Womack and Jones', *Review Literature And Arts Of The Americas*, (November), p. 5.

Weijer, M. van de, Cleempoel, K. Van and Heynen, H. (2014) 'Positioning Research and Design in Academia and Practice: A Contribution to a Continuing Debate', *Design Issues*. MIT Press, 30(2), pp. 17–29. doi: 10.1162/DESI.

Weilin, S. (2011) 'A BIM-based Pre-occupancy Evaluation Platform (PEP) for Facilitating Designer-Client Communication in the Early Design Stage'.

Wenger, E., McDermott, R. and Snyder, W. M. (2002) 'Cultivating Communities of Practice: A Guide to managing Knowledge - Seven Principles for Cultivating Communities of Practice', *Working Knowledge for Bussiness Leaders*, pp. 1–8.

Westfall [1937-], C. W. (2011) 'Toward the end of architecture', *Journal of architectural education*, 64(2), pp. 149–157. doi: 10.1111/j.1531-314X.2010.01138.x.

Westfall, C. W. (2013) 'Architecture, Liberty and Civic Order', in *Journal of Chemical Information and Modeling*, pp. 1689–1699. doi: 10.1017/CBO9781107415324.004.

Wiggins, G. E. (1989) *Methodology in architectural design*. Massachusetts Institute of Technology. Available at: http://dspace.mit.edu/handle/1721.1/14498 (Accessed: 15 September 2015).

Wigglesworth, S. and Till, J. (2011) *Around and about Stock Orchard Street*. London: Routledge.

Wigley, M. (2001) *White walls, designer dresses: the fashioning of modern architecture*. MIT Press.

Wigley, M. and Johnson, P. (1998) 'Deconstructivist Architecture- An exhibition'. MOMA, p. 104. Available at:

https://www.moma.org/momaorg/shared/pdfs/docs/press_archives/6559/relea
ses/MOMA_1988_0062_63.pdf (Accessed: 3 March 2018).

Wikforss, Ö. and Löfgren, A. (2007) 'Rethinking communication in construction',
Electronic Journal of Information Technology in Construction, 12, pp. 337–
345. doi: 10.4324/9780203876084.

Wilber, K. (2001) *A theory of everything: an integral vision for business, politics,
science, and spirituality*.

Williams, A., Cooper, R. and Evans, M. (2009) *Design 2020*. Available at:
http://usir.salford.ac.uk/12618/1/Design2020_final.pdf.

Wilson, I. M. and Stern, R. D. (2001) *Approaches to the Analysis of Survey Data*,
Biometrics Advisory and Support Service to DFID. Available at:
https://www.reading.ac.uk/ssc/resources/ApproachesToTheAnalysisOfSurvey
Data.pdf (Accessed: 14 May 2017).

Wilson, O. (2016) *5 Ways To Get Ripped Off By An Architect | Boiled Architecture*.
Available at: http://boiledarchitecture.com/5-ways-to-get-ripped-off-by-an-
architect/ (Accessed: 20 December 2015).

Winch, G. and Schneider, E. (1993) 'Managing the knowledge-based organization:
the case of architectual practice', *Journal of Management Studies*,
30(November), pp. 923–937. Available at:
http://search.epnet.com/login.aspx?direct=true&db=buh&an=9409090619.

Wink, J. (2005) *Critical pedagogy: notes from the real world*. Pearson/Allyn & Bacon.

Winston, A. (2014) *'98% of what gets built today is shit' says Frank Gehry*, *dezeen*.
Dezeen. Available at: https://www.dezeen.com/2014/10/24/98-percent-of-
architecture-is-bad-says-frank-gehry-middle-finger/.

Winters, E. (2011) 'A dance to the music of architecture', *Journal of Aesthetics and
Art Criticism*, 69(1), pp. 61–67. doi: 10.1111/j.1540-6245.2010.01447.x.

Wodehouse, A. and Ion, W. (2010) 'Digital information support for concept design',
CoDesign: International Journal of CoCreation in Design and the Arts, 6(1),
pp. 3–23. doi: 10.1080/15710880903393100.

Womack, J. P., & Jones, D. T. (1996) 'Lean Thinking by Womack and Jones', *Review
Literature And Arts Of The Americas*, (November), p. 5.

Woolgar, S. (1991) 'Configuring the user: the case of usability trials', *A sociology of
monsters: essays on power, technology, and domination?* Blackwell
Publishing Ltd, 38(1_suppl), pp. 57–102. doi: 10.1111/j.1467-
954X.1990.tb03349.x.

Worringer, W. (1997) *Abstraction and Empathy*. Edited and translated by M. Bullock.
Chicago: ELEPHANT PAPERBACK. Available at:
https://monoskop.org/images/a/a2/Worringer_Wilhelm_Abstraction_and_Emp
athy_1997.pdf (Accessed: 17 March 2017).

Wright, A. (2013) *Pathways and gateways: The structure and regulation of architectural education (Preliminary Report).* Available at: http://people.bath.ac.uk/absaw/files/.

Wright, F. L. and Pfeiffer, B. B. (1987) *Letters to clients.* London: Architectural Press.

Wyatt, R., Smith, J. and Love, P. E. D. (2004) 'Philosophical Differences: The Case of Architects' Reluctance to Use Strategic Planning Software', *Systemic Practice and Action Research*, 17(2), pp. 127–142. doi: 10.1023/B:SPAA.0000018907.88310.c3.

Yin, R. K. (2012) 'A (VERY) BRIEF REFRESHER ON THE CASE STUDY METHOD', in Yin, R. K. (ed.) *Applications of case study research.* Thousand Oaks, Calif: SAGE. Available at: http://www.sagepub.com/sites/default/files/upm-binaries/41407_1.pdf (Accessed: 28 July 2015).

Yin, R. K. (2013) 'Identifying Your Case (s) and Establishing the Logic of Your Case Study', *Case Study Research: Design and Methods*, pp. 25–66. doi: 10.1097/FCH.0b013e31822dda9e.

Yin, R. K. (2009) *Case study research: design and methods*, *Applied social research methods series;* doi: 10.1097/FCH.0b013e31822dda9e.

Yin, R. K. (2011) 'Case study research: design and methods', *Evaluation & Research in Education*, 24(3), pp. 221–222. doi: 10.1080/09500790.2011.582317.

Young, P. L. and Lee, P. Y. (1998) 'Modern Architecture and the Ideology of Influence', *Assemblage*. JSTOR, 34(34), pp. 6–29. doi: 10.2307/3171251.

Zaha Hadid Architects, Z. (2016) *An open letter from Zaha Hadid architects.* Available at: http://zahahadidarchitects.cmail19.com/t/ViewEmail/j/2BF62A7A680DF2CD/67E7203FD525F0AB1A01488700E2614F.

APPENDICES

Appendix 1.

Definitions

Following formal definitions of certain words, terms and propositions used in this thesis has been provided to clarify the intention of using them. Appendices

Architect:	Proprietor of a small architecture practice or a design studio or an accredited freelance professional.
Client:	A person using the services of an architect; the ultimate user, for whom a building related product, interiors or a house is designed.
Relationship:	The way in which two or more people or groups regard and behave towards each other.
Emerging architects:	Current students (Part-2 and Part-3), recent graduates and architects with under 2 years of experience.
Peers:	Peer mentors; the developmental relationships that matter to emerging architects; for example, design jury system is judged by your peers.
Project:	A private residential building designed for a client or a group or a family.
Digital technologies:	Electronic tools, systems, devices and resources that generate, store or process data. These include social media, online games and applications, multimedia, productivity applications, cloud computing, inter-operable systems and mobile devices.
The practice of architecture:	Architectural design process related to practice and situations in real-life projects' (Moum, 2008, p. 5).
Practitioners:	Actors involved in the AEC industry. The main focus is, however, architects and their interactions with other actors involved in the architectural design process.
Information Communication Technologies	Computer-based tools and devices which apply to the practice of architectural design, including communication sharing of information.
Acceptance of Digital technologies:	Actions and activities putting the use of (DT) into effect by the actors involved in the education practice of architecture in their work and interactions; individually and within a discipline, and collectively across the disciplines.

Appendix 2.

Research ethics: consent form

Full title of project: Can digital technologies reshape architect-client relationship through effective learning at school and alternative practice models for emerging architects. (old title).

Name, position and contact address of researcher:

AKASH ANGRAL, Ph.D. Student, The Glasgow School of Art, 167, Renfrew Street, Glasgow. G3 6RQ. Tel: 0044 141 566 1478

Email: a.angral1@student.gsa.ac.uk

Please check the box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.

3. I agree to take part in the above study.

4. I agree to the interview being audio recorded.

5. I agree to the use of anonymised quotes in publications.

_____   _____   _____

Name of Participant   Date   Signature

AKASH ANGRAL

_____   _____   _____

Name of Researcher   Date   Signature

Appendix 2.

Invitation letter for participation in study

Subject	**Invitation to Participate and Request to Share an Online Survey**
Sender Information	AKASH ANGRAL, Ph.D. Candidate, The Glasgow School of Art, 167, Renfrew Street, Glasgow, United Kingdom. G3 6RQ. Tel: 0044 141 566 1478 Email: a.angral1@student.gsa.ac.uk
Full title of project	**The architect-client relationship in the digital age: a critical assessment.**
Appeal for help	I am writing to you to request the participation of your institution / organisation in a brief survey about the architect-client relationship. **Anyone can participate in this survey as it has been designed for both architects and non-architects.** I would be grateful if you could kindly recommend and share the following link with the staff and students of your institution.
What it's about	This piece of research will highlight the under-theorised and lesser known viewpoint of private residential clients. Even though an architect-client relationship is the most critical aspect of professional practice, it remains much-neglected area within the architectural education. Therefore, new knowledge about the 'informed-client', their expectations and the role of technologies viz-a-viz transparent operations, mutual trust and alternative rules of procurements is required.
Usefulness of survey	Responses to this survey will help in consensus building and articulating the respondent's opinion and their viewpoint on the architect-client relationship. The dilemma of new architects, who are facing challenges, such as debt-laden education, job insecurity, lack of practical skills, real-world client interaction etc. are also of prime consideration in ascertaining the significance of this research.
How to access the survey	The survey will only take about 10 minutes to complete. Please click the link below to go to the survey Website (or copy and paste the link into your Internet browser) and you can also share this link on your social media pages.
Clickable link	https://goo.gl/forms/0sUPcFk5LDCmfKMp2
Confidential and voluntary	This research study has been approved by the Ethics and Research Committee in April 2017, at The Glasgow School of Art, United Kingdom. All information provided in this questionnaire will be treated as confidential. Security of the research data is assured during and after completion of the study. Your participation in the survey is completely voluntary and it will not ask for any of your personal details.
Results	Upon completion of the study, I will be happy to provide you with a digital copy of the results of this survey. Moreover, if you require any further information, please do not hesitate to contact me on +44 141 566 1478 and E: @student.gsa.ac.uk W: https://arch**.wordpress.com/
Thank you	Thank you very much for your time and cooperation. Participation of your institution is essential for the success of this study.
Importance	

Kind regards

T: 0141 566 1462 E: a.angral1@student.gsa.ac.uk

Appendix 3.

Problems and solutions in Internet-based surveys

Cohen *et al.* (2007, p. 230)

Potential Problems	Suggested solution	Action taken
Sampling Some subsample groups may be under-represented in the respondents. Non-response and volunteer bias.	Adjust the results by weighting the sample responses. Disclose the sample characteristics in reporting.	Incorporated all suggestions
Ethics Anonymity and privacy concerns Credibility of the study Informed consent.	Direct respondents to a website rather than using email correspondence. Disable email collection or asking personal details. Use pointer to remind this to respondents. Include the researcher's affiliation (e.g. university), with a logo if possible. Include a 'Withdraw' button at the foot of each screen.	Incorporated all suggestions
Technical - hardware and software Slow network connections or limited bandwidth can slow downloading Software/browser Version issues	Test the survey on different computer systems/browsers to ensure consistency. Opt for simplicity Use commercially available web-based surveying systems and packages.	Incorporated all suggestions
Respondents Unfamiliar or inexperienced with the Internet and the media. Multiple responses Language and tone of the questions Difficulty in navigating the pages of the online survey.	Keep questionnaire simple and easy to complete. Keep a security device that tracks and limits multiple responses Cross-check the consistency of replies Provide clear instructions	Incorporated all suggestions Cross-checked during analysis stage
Layout and presentation Portrait or landscape format Text and instructions assume greater importance Layout uses a lot of grids and matrices. Instructions may be unclear Order of items affects response rates.	Design in sections to contain complete scenario in one screen. Opt for clarity and simplicity. Avoid grids and matrices Email address or contact details of the researcher. Pilot the instrument. Include 'warm-ups' and early 'high hurdles' to avoid dropout.	Incorporated all suggestions
Reliability Tampering instrument itself. More control to the respondents Forced to answer every question Credibility of response/ misinterpretation	Disable editing Procedures to identify altered instruments. Pilot the survey. Avoid Binary options Cross-check replies	Incorporated all suggestions Cross-checked during analysis stage
Dropout Loss of interest to complete Uncertainty about the length of survey Easier for someone to quit or cancel (simply a click of a button). Diminishing returns (the survey response drops off quite quickly). Messages removed, relegated or archived after a period of time (e.g. a week),	'Submit' button at the foot of each screen Adopt a 'one-item-one-screen' technique. A progress indicator. Short, clear and easy to complete Increase incentives to participate (e.g. financial incentives, lottery tickets, if they are permitted in the country). Ensure that the web site is re-posted each week during the data collection period. Personal informational questions at the start of the survey. State reasons why the error was made and how to rectify it.	Error messages (e.g. if an item has not been completed) cause frustration and may cause respondents to abandon the questionnaire.

Appendix 4.

Advantages and disadvantages of other methods

Source: Cohen *et al.* 2007

Methods	Description	Advantages	Disadvantages
Focus group discussions	Group conversation not only with the interviewer, but also each other.	Consistency: the same question can be asked to all respondents. Burden of transcription passed to the researcher: maximises the use of respondents' time. Provides an opportunity for debate and consensus. If questions are less structured/open-ended: a greater opportunity for discussion to cover unforeseen topics.	Dependent on the interaction of different members of the focus group. Introduces issues of reactivity: respondents may respond differently in a group situation with their peers/competitors. Not suited for comparative multi-site study: all respondents (across samples) required to be consulted together. Passes logistical burden to respondents. Difficulty in scheduling interviews with multiple participants. Transcription of multiple voices time consuming.
Written accounts or tests	Researcher invites respondents to complete a written test or an account of his experience.		Better suited for descriptive questions or explanatory accounts. Inconsistent responses based on achievement, aptitude, personality, intelligence etc. Requires significant amount of preparation and input by respondents; response rates likely to be affected.(Brown, 2012)
Nominal preference-ordering method	Decision-making based on the opinion of individual participants at successive stages while moving towards a consensus. (Morrison, 1993; Cohen et al, op cit)	Respects all contributions, regardless of age, status or experience.	May lead towards consensus; not necessarily an appropriate research outcome. All respondents (across samples) are required to be consulted together. Difficulty of scheduling interviews with multiple participants. Written responses: time-consuming to respondents (Brown, 2012).
Observational /ethnographic research	The researcher makes direct observations of the subject being studied. (Cohen et al, ibid)	Researcher may gather data from naturally occurring situations.	Extremely difficult to schedule; at different points in the academic calendar at different institutions. Lack of experience of the researcher may influence data. Reactivity: observation by researcher may cause changes in participant behaviour (Brown, 2012).
Interactive Workshops	Researcher provide a stimulus and makes it possible for the audience to participate actively: Participants might help set the agenda.		

Conferences presentations and Q&A sessions	Researcher presents a series of short papers in a 1- session on a topic or theme, each followed by questions from the house.		
Architectural bloggers group	A discussion or informational website is published on the internet consisting of discrete, often informal diary-style text entries.	Allows visitors to leave online comments, and it is this interactivity that distinguishes them from other static websites Often build social relations with their readers and other bloggers. More qualitative and revelatory data source.	Not recognised as robust or credible source by academicians.

Appendix 5

Interview techniques.

Source: Cohen *et al.* 2007

Interview technique	Description	Advantages	Disadvantages
Informal conversational interview	Unstructured conversation with no predetermined questions, topics or wording.	Salient and relevant questions to individual respondents. Questions emerge from respondents' situations. Interview can be matched to the respondent.	Different information collected from different questions. Not systematic. Not comprehensive. Difficult analysis of data.
Interview guide approach	Semi-structured conversation with topics and issues specified in advance, but order is determined during the interview.	More systematic and comprehensive than informal conversational interviews. Researcher can move to fill gaps in the data being collected. Interview remains conversational and situational.	Salient and relevant questions can be accidentally omitted. Researcher's flexibility in the ordering of questions can lead to substantially different responses, limiting comparability.
Standardised open-ended interview	Structured conversation, topics, issues, questions and order determined in advance; all respondents are asked same questions in same order.	More systematic and comprehensive than informal conversational interviews or the interview guide approach. Facilitates the analysis of data. Permits the instrumentation used in the research to be evaluated by others.	Little flexibility in relating interview schedule to the individual respondents or their circumstances. Standardised wording of questions may constrain the relevance of questions and answers and limit the spontaneity of the conversation.
Closed quantitative interview	Structured multiple-choice questions and fixed responses determined in advance; all respondents choose from same fixed responses (ibid.).	Data analysis is simple. Different responses are directly comparable. Questions can be asked quickly.	Respondents must fit experiences, feelings, etc. into categories defined by the researcher. Respondents may perceive questions to be impersonal, irrelevant or mechanistic.

Appendix 6. Online survey

Architect-Client Relationship Survey

Thank you for taking the time to participate in this survey. I truly value the information you provide. By participating in this survey, you are helping shape the future of architect-client relationships and that of emerging architects.

This research study has been approved by the Ethics and Research Committee in April 2017, at The Glasgow School of Art, United Kingdom. All information provided in this questionnaire will be treated as confidential. Security of the research data is assured during and after completion of the study. You are free to withdraw from this survey at any time. Once started, you must finish recording your responses by pressing next/submit. You can also write to the researcher at (a.angral1@student.gsa.ac.uk) for any inquiry that you may have.

People typically take 12- 15 minutes to complete this survey.

This survey will not ask for any of your personal details.

*Required

Research title:- The architect-client relationship in the digital age: a critical assessment.

"Architecture is a responsive art. Without a client, there is no architecture. A successful client-architect relationship constitutes the cornerstone of fine architecture" (American Institute of Architects (AIA), 1975).

Such-a-way of thinking should have led to stronger solutions, resulting in a closer, more effective long-term relationships with less time wasted in conflict and the negative aftermath. More time for design could have been generated as a further positive outcome by adopting digital technologies and from making such a change in attitude and action (A Guide to successful client relationships: Susan Carmichael, 2002).

This research has an objective of offering a critique (understood as 'a detailed analysis and assessment of something") on reshaping architect-client relationship. It will suggest there has always been an immediate need to introduce real-world client interaction in architectural education, and that with the advent of digital technologies, the possibility of fulfilling this need now is much easier than ever before. It will question the popular notion that architect-client relationship is central and relevant only to professional practice and argue that clients must be considered as an inseparable part of architectural education, which is currently focused on aesthetics, particularly for the benefit of prospective students.

Informed consent declaration

1. **I understand that this project is for academic research and the privacy of the information I provide will be safeguarded. I am also aware that I am free to withdraw from this survey at any time and any unprocessed data, previously supplied, will be discarded. The data collected during this study may be published as a part of research papers and articles; including dissertation and books. Any information that could be used to identify me will be kept anonymous. Under these conditions, I have given my permission and consent to be a part of this study. ***
Mark only one oval.

◯ Yes

◯ No   *Skip to question 46.*

Your choice

Based on your answers on this page, the survey will auto-customise and only show relevant questions, to save you time. In total there are 12 questions, which should take no longer than 12-15 minutes to complete.

Please note that you will skip some sections, which is normal and it depends upon the category you choose (question 3 on this page). However, you can also submit a second response in a different category, if you wish to do so.

Your response will not be recorded, unless you complete a page and press next.

2. **1. Do you live or work in the United Kingdom. ***
Mark only one oval.

◯ Yes

◯ No

3. **2. If you are working or have worked in the building industry, please indicate your years of experience. ***
Mark only one oval.

◯ < 1 Year

◯ < 5 Years

◯ < 10 Years

◯ > 10 Years

◯ Not applicable

4. 3. I want to complete this survey as a *

Mark only one oval.

◯	Established Architect - Education or Practice	*Skip to question 5.*
◯	Emerging Architect - Student or recent graduate	*Skip to question 5.*
◯	Client or Non-architect *Skip to question 25.*	
◯	Art or Design professional *Skip to question 5.*	
◯	Other: _____ *Skip to question 25.*	

Dear architects, designers and peers

In this section, you are presented with different scenarios in the form of questions, which require responses based on your experience and judgment. There are no right or wrong answers, as everyone can have their own incidents to reflect from. Please feel free to offer your opinion based on your experiences with architects, clients, architectural education / professional practice.

Use the space provided for your comments or observations.

While filling this survey please consider the following definitions.

1. Architect: Understood as 'proprietor of a small architecture practice or a design studio or an accredited freelance professional'.

2. Client: Understood as, 'a person using the services of an architect; the ultimate user, for whom a building related product, interiors or a house is designed.

3. Relationship: Understood as 'the way in which two or more people or groups regard and behave towards each other'.

4. Emerging architects: Understood as Current students, Graduating students and architects with under 5 years of experience.

5. Project: Understood as 'a private residential building designed for a client or a group or a family.

6. Digital technologies: Understood as 'electronic tools, systems, devices and resources that generate, store or process data. These includes social media, online games and applications, multimedia, productivity applications, cloud computing, inter-operable systems and mobile devices.

Once built, it'll look amazing!

5. 1. What do you think about the following? *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Architects always argue that clients do not understand the hard work it takes to produce a design solution and claim that clients often take out elements from their design to reduce the project cost.	◯	◯	◯	◯	◯
b) Clarity of communication, not the design, is the key factor in winning the trust of clients.	◯	◯	◯	◯	◯
c) Visual and digital content are much easier to understand, communicate and share, than paper drawings.	◯	◯	◯	◯	◯
d) Innovative use of technology enables architects to produce initial design concepts and proposals at relatively low cost and time.	◯	◯	◯	◯	◯
e) Acceptance of digital technologies as a standard practice by architects ensures efficient working, which is the key to better architect-client relationships.	◯	◯	◯	◯	◯

6. Your comments in support of your answers. (optional)

_____
_____
_____
_____

Over commitment leads to under-performance, marking the beginning of mistrust between the client and the architect.

7. 2. What do you think about the following? *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) That architects do not allow much flexibility with their proposed design. Many-a-time, this leads to dissatisfaction where the client starts feeling that their desires are being curtailed and they have a limited control over their project.	◯	◯	◯	◯	◯
b) By making more drawings, the architects try to justify their design fee and recommendations, which impels client into considering the architect's choice of material.	◯	◯	◯	◯	◯
c) Clients expect a finished building, within agreed budget and not a set of drawings or contract documents.	◯	◯	◯	◯	◯
d) Clients are better off investing their money in the quality of materials rather than paying architectural fees.	◯	◯	◯	◯	◯
e) Many people believe that working directly with contractor gives them more control, satisfaction and value for money including a feeling of accomplishment.	◯	◯	◯	◯	◯

8. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

We can't explain ... but you should trust us!

9. 3. What do you think about the following? *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Architects expect clients to make decisions based on rationality, but this is seldom the case as far as clients are concerned.	◯	◯	◯	◯	◯
b) Architects often fail to look beyond the design and formal paperwork, they do not account for the role emotions play, during early stages of the project.	◯	◯	◯	◯	◯
c) Advice from friends and well-wishers disturb and affect the initial negotiations and decision-making process.	◯	◯	◯	◯	◯
d) It is difficult for clients to trust someone, including architects, during the initial stages of a project.	◯	◯	◯	◯	◯
e) The clients are looking for an onsite architect and other pro-bono services. They are willing to invest their trust in architects, who can deliver from concept to completion.	◯	◯	◯	◯	◯

10. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

We're indispensable! Our logic is perfect.

Architect-Client Relationship Survey

11. 4. What do you think about the following? *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Most clients prefer functionality over aesthetics and want that architects should be more affordable and accessible.	◯	◯	◯	◯	◯
b) Good contractors and skilled labourers are more important than architects, for timely completion, quality and strict budgets.	◯	◯	◯	◯	◯
c) Architects tend to impose themselves and use their position for tactical benefits by promoting their affiliated teams.	◯	◯	◯	◯	◯
d) Percentage based fee structures are out-of-date and fail to separate the conceptual value from the production-based materialistic value. This does not encourage clients to approach architects with their projects.	◯	◯	◯	◯	◯
e) Architects should play strictly an advisory role in an average house construction, to avoid conflict of interest.	◯	◯	◯	◯	◯

You don't pay on time and we don't trust you!

12. 5. What do you think about the following? *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) After an initial agreement, architects must allow sufficient time for clients to decide before accepting an advance.	◯	◯	◯	◯	◯
b) Instead of forcing their plans and ideas on clients, architects should rather work in tandem with the client.	◯	◯	◯	◯	◯
c) A substantial amount of the value can be added during the construction stage, particularly in private residential projects.	◯	◯	◯	◯	◯
d) Architects should be also paid based on: the actual completed work or the amount of the running bills.	◯	◯	◯	◯	◯
e) Through mutual trust is important, the timely payment of dues is the hallmark of any successful partnership.	◯	◯	◯	◯	◯

13. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

You don't understand the way we work!

14. 6. What do you think about the following? *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Architects seldom prioritise understanding user's needs against visual aspects and try to fit in their own designs into client's budget while continuously redesigning in the name of value engineering.	◯	◯	◯	◯	◯
b) Many architects lack ethical responsibilities and work to boost their own portfolio rather than responding to clients need?	◯	◯	◯	◯	◯
c) Architects use clients to quickly climb success ladder?	◯	◯	◯	◯	◯
d) That these arguments are applicable to many emerging architects?	◯	◯	◯	◯	◯
e) That these arguments are also applicable to some established architects?	◯	◯	◯	◯	◯

15. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

Architecture is not Art, 'Art is Art'! Architecture is always connected to social justice and affects the people's lives (SUAS, 2011).

16. 7. What do you think about the following? *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Although participatory-design, design-built and learning-by-doing present an understandable substitute for studio based learning, such methods contribute marginally towards students understanding of users and clients.	◯	◯	◯	◯	◯
b) What the students learn during the internships and fieldwork is often not well integrated with the institutional learning.	◯	◯	◯	◯	◯
c) Under the strong influence of competitive environment and professional practice, emerging architects tend to unlearn their academic knowledge, ethical discourse and theoretical understanding rather too quickly.	◯	◯	◯	◯	◯
d) The phase of making an architect of a student; a time when the personality is moulded, is not adequately endorsed either by education or by the practice, that expect both practical skills and sound knowledge.	◯	◯	◯	◯	◯
e) By engaging real-world clients, using digital technologies during education, architecture schools can facilitate meaningful practical exposure.	◯	◯	◯	◯	◯

17. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

Make no mistake, there will be no "back to normal"; we are at the tipping point of a systemically different conversation'. (Practice Futures, RIBA).

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18. 8. Please arrange the following in the order of importance: What are the reasons that might discourage or restrain, the aspirations of emerging architects in the age of digital technologies? (order of importance--- from high to low) *

Mark only one oval per row.

	Not important	Slightly important	Moderately important	Important	Very important
a) High entry and exit barriers to establish themselves as practitioners. (Debt-laden education, job insecurity & lack of practical skills)	◯	◯	◯	◯	◯
b) Legislative and regulatory constraints imposed by professional institutions. (7 years to get licence in UK.)	◯	◯	◯	◯	◯
c) limited interaction with end users and clients during education	◯	◯	◯	◯	◯
d) Confinement to their own assemblage; self-centred work culture.	◯	◯	◯	◯	◯
e) Impressing their peers. (Graduates are not able to demonstrate anything more than just portfolios of nicely drawn imaginary buildings)	◯	◯	◯	◯	◯

19. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

The Industrial Revolutions are often an outcome of the confluence of new energy and new communication technologies (Rifkin, 2011). ...third one long overdue now!

20. 9. Please arrange the following in the order of importance for emerging architects to become successful practitioners in their professional lives. (order of importance--- from high to low) *

Mark only one oval per row.

	Not important	Slightly important	Moderately important	Important	Very important
a) Work as projects manager on large projects.	◯	◯	◯	◯	◯
b) Work as a design-build contractor on small turnkey projects to learn the trade.	◯	◯	◯	◯	◯
c) Work as sole practitioner towards a specific specialisation.	◯	◯	◯	◯	◯
d) Work as apprentice with an established architect.	◯	◯	◯	◯	◯
e) Willingness to embrace the change of being client-centred and not design-centred.	◯	◯	◯	◯	◯

21. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

22. 10. Have you used any social media platform, online tools or mobile apps to manage, communicate or monitor your project(s)? (Such as, Skype, WhatsApp, Construction management, Budget control Apps or progress monitors etc.)

Mark only one oval.

◯ Yes

◯ No

23. **11. How often have such apps been used by you to explain concepts, during the design meetings in the projects you've worked on? (Including academic projects) ***

Mark only one oval per row.

	Never	Rarely (1-10 times)	Often (11-25 times)	Usually (26-50 times)	Always (More than 100 times)
Select one	◯	◯	◯	◯	◯

24. **12. How often do you feel that by using digital technologies, the concepts, ideas and intentions can be made crystal clear to audiences ? (Consider the early stages of the projects you've worked on)please note: this is the last question. ***

Mark only one oval.

◯ Never   *Skip to question 46.*

◯ Rarely (1-10 times)   *Skip to question 46.*

◯ Often (11-25 times)   *Skip to question 46.*

◯ Usually (26-50 times)   *Skip to question 46.*

◯ Always (More than 100 times)   *Skip to question 46.*

Skip to question 46.

Dear clients and non-architects

In this section, you are presented with different scenarios in the form of questions, which require responses based on your experience and judgment. There are no right or wrong answers, as everyone can have their own incidents to reflect from. Please feel free to offer your opinion based on your experiences with architects, clients, architectural education / professional practice.

Use the space provided for you comments or observations.

While filling this survey please consider the following definitions.

1. Architect: Understood as 'proprietor of a small architecture practice or a design studio or an accredited freelance professional'.

2. Client: Understood as, 'a person using the services of an architect; the ultimate user, for whom a building related product, interiors or a house is designed.

3. Relationship: Understood as 'the way in which two or more people or groups regard and behave towards each other'.

4. Emerging architects: Understood as Current students, Graduating students and architects with under 5 years of experience.

5. Project: Understood as 'a private residential building designed for a client or a group or a family.

6. Digital technologies: Understood as 'electronic tools, systems, devices and resources that generate, store or process data. These includes social media, online games and applications, multimedia, productivity applications, cloud computing, inter-operable systems and mobile devices.

Once built, it'll look amazing!

25. **1. What do you think about the following? ***

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Architects always argue that clients do not understand, the hard work it takes to produce a design solution and claim that clients often take out elements from their design to reduce the project cost.	◯	◯	◯	◯	◯
b) Clarity of communication, not the design, is the key factor in winning the trust of clients.	◯	◯	◯	◯	◯
c) Visual and digital content are much easier to understand, communicate and share, than paper drawings.	◯	◯	◯	◯	◯
d) Innovative use of technology enables architects to produce initial design concepts and proposals at relatively low cost and time.	◯	◯	◯	◯	◯
e) Acceptance of digital technologies as a standard practice by architects is the key to better architect-client relationships.	◯	◯	◯	◯	◯

26. **Your comments In support of your answers. (optional)**

_____

_____

_____

_____

_____

Over commitment leads to under-performance, marking the beginning of mistrust between the client and the architect.

27. **2. What do you think about the following? ***
Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) That architects do not allow much flexibility with their proposed design. Many-a-time, this leads to dissatisfaction where the client starts feeling that their desires are being curtailed and they have a limited control over their project.	○	○	○	○	○
b) By making more drawings, the architects try to justify their design's fee and recommendations, which impels client's into considering the architect's choice of material.	○	○	○	○	○
c) Clients expect a finished building, within agreed budget and not a set of drawings or contract documents.	○	○	○	○	○
d) Clients are better off investing their money in the quality of materials rather than paying architectural fees.	○	○	○	○	○
e) Many people believe that DIY activity gives them more satisfaction and value for money including a feeling of accomplishment.	○	○	○	○	○

28. **Your comments In support of your answers. (optional)**

_____

_____

_____

_____

_____

We can't explain ... but you should trust us!

29. **3. What do you think about the following? ***
Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Architects expect clients to make decisions based on rationality, but this is seldom the case as far as clients are concerned.	○	○	○	○	○
b) Architects often fail to look beyond the design and formal paperwork, they do not account for the role emotions play, during early stages of the project.	○	○	○	○	○
c) Advice from friends and well-wishers disturb and affect the initial negotiations and decision-making process.	○	○	○	○	○
d) It is difficult for clients to trust someone, including architects, during the initial stages of a project.	○	○	○	○	○
e) The clients are looking for an onsite architect and other pro-bono services. They are willing to invest their trust in architects, who can deliver from a mere concept to the actual building.	○	○	○	○	○

34. 6. What do you think about the following? *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Architects seldom prioritise understanding user's needs against visual aspects and try to fit in their own designs into client's budget while continuously redesigning in the name of value engineering.	◯	◯	◯	◯	◯
b) Many architects lack ethical responsibilities and work to boost their own portfolio rather than responding to clients need?	◯	◯	◯	◯	◯
c) Architects use clients to quickly climb success ladder?	◯	◯	◯	◯	◯
d) That these arguments are applicable to many emerging architects?	◯	◯	◯	◯	◯
e) That these arguments are also applicable to some established architects?	◯	◯	◯	◯	◯

35. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

Architecture and the act of making a building for a client is a privilege that the architects enjoy like no other product or service.

36. Have you ever used the services of an architect? *

Mark only one oval.

◯ Yes   *Skip to question 37.*

◯ No (please note: this is the last question.)   *Skip to question 46.*

Your experience

37. 7. Design stage experience. *

Mark only one oval per row.

	Yes	NO
a) Were the architects interested enough in your project and made it a priority?	◯	◯
b) Did they take special care to collect information about your needs, goals, etc.?	◯	◯
c) Did they help you to fully understand the scope and sequence of the project?	◯	◯
d) Did they demonstrate through models, drawings, computer animation or any other new technologies?	◯	◯
e) The person who coordinated with you on a regular basis was the same person who designed the project?	◯	◯

38. 8. Value-addition during construction. *

Mark only one oval per row.

	Yes	NO
a) Were you expected to contribute to the design process?	◯	◯
b) Were you encouraged by the architects to work with the contractor directly?	◯	◯
c) Was there a clear feedback or coordination mechanism established by the architects?	◯	◯
d) Did architects offer any Pro-Bono (done for free) services to help you when sustainable design technologies were implemented?	◯	◯
e) Do you believe that architects were able to add exceptional value to your project?	◯	◯

39. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

40. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

What good is the value, that is added on the paper by the architects, but is never executed on site?

41. 9. Value for money. *

Mark only one oval per row.

	Yes	NO
a) Were you happy with the architects fees and billing structure?	◯	◯
b) Were their any surprises or hidden costs that you think could have been anticipated earlier?	◯	◯
c) Was there any additional fees when the scope of the project was altered later in the project, due to practical issues?	◯	◯
d) Do you think their fees were justified and communicated to you clearly (well in advance) to take informed decisions?	◯	◯
e) Did they play a Proactive role from start to finish?	◯	◯

42. Your comments in support of your answers. (optional)

_____

_____

_____

_____

_____

43. 10. Have you used any social media platform, online tools or mobile apps to manage, communicate or monitor your project? (Such as, Skype, WhatsApp, Construction management, Budget control Apps or progress monitors etc.) *

Mark only one oval.

◯ Yes

◯ No

44. 11. How often, such apps were used by your architects to explain concepts, during the design meetings? *

Mark only one oval per row.

	Never	Rarely (1-10 times)	Often (11-25 times)	Usually (26-50 times)	Always (More than 100 times)
Select one	◯	◯	◯	◯	◯

45. 12. How often do you feel that by using digital technologies, design concepts, decisions and intentions can be made crystal clear by architects? (Consider the initial stages of your project) *

Mark only one oval.

◯ Never   *Skip to question 46.*

◯ Rarely (1-10 times)   *Skip to question 46.*

◯ Often (11-25 times)   *Skip to question 46.*

◯ Usually (26-50 times)   *Skip to question 46.*

◯ Always (More than 100 times) (please note: this is the last question.)   *Skip to question 46.*

Thank you for your time!

Please accept my sincere gratitude for helping me in my research. Your valuable comments and answers will allow me to progress and present informed findings to support my hypotheses.

Appendix 7. Response validation questions

Introduction

This research will suggest there has always been an immediate need to introduce real-world client interaction in architectural education, and that with the advent of digital technologies, the possibility of fulfilling this need now is much easier than ever before. It will question the popular notion that **architect-client relationship** is central and relevant only to professional practice and argue that clients must be considered as an inseparable part of architectural education, particularly for the benefit of prospective students.

The questions:

1. Do you agree that real-world client interaction is a neglected area in architectural education?
2. How would you articulate the need of real-world client interaction in architectural education?
3. Once integrated with academic curriculum, do you think digital technologies can afford meaningful practical exposure to students during education?
4. Do you think this will improve architect-client relationship and prospects for emerging architects?

The idea:

To develop a networking platform-an online portal which helps house owners in local neighbourhood to connect with emerging architects and students who live within the same postcode. Clients can post their project requirements or upload relevant images on this portal. While emerging architects can contact potential clients by making reasonable offers for the job, students can express their interest to volunteer.

These small jobs can provide practical experience emerging architects and teach students a vast amount about the profession of architecture, client interaction and construction. Perhaps, this could become a platform for students to interact with practitioners, contractors, users and clients - a component which is missing in the traditional education system, therefore there is a unique opportunity for students to understand and gain a hands-on experience of sites including viewpoint of the user.