A FRAMEWORK FOR ENTREPRENEURSHIP EDUCATION, TRAINING AND SUPPORT FOR SOUTH AFRICAN ARCHITECTS

by

CHRISTO VOSLOO
75249198

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PART 1

(This document is Part 1 of a two part set of documents. Part 2 contains Addenda A-D)

SUPERVISOR: PROF. P.T. VOSLOO
CO-SUPERVISOR: PROF. A. ANTONITES

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DECLARATION OF ORIGINAL WORK

I, Christo Vosloo, declare that this thesis which I hereby submit for the degree PhD(Architecture) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution and complies with the University's Policy on Research Ethics and Integrity and has in general observed the principles of honesty, objectivity, the duty of care and fairness in giving credit and appropriate acknowledgement to the work of others

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SIGNATURE DATE

ETHICS STATEMENT

The author, whose name appears on the title page of this thesis, has obtained, for the research described in this work, the applicable research ethics approval.

The author declares that he has observed the ethical standards required in terms of the University of Pretoria's Code of Ethics for researchers and the Policy guidelines for responsible research.

SUMMARY

Many South African architects' firms are finding it difficult to prosper in the changing economic and business environment. While all the contributing factors are not obvious, it is suggested that the lack of entrepreneurship education, training and support is possibly a contributing factor.

This thesis reports the findings and recommendations of a study undertaken to propose an integrated education, training and support framework that can improve the entrepreneurial performance of South African Architects' firms while contributing to the current discourse on entrepreneurial education and training. The proposed entrepreneurship education, training and support framework should fit into the existing education and training system for South African architects.

The research design comprised a mixed methods empirical process which followed 'convergent parallel mixed methods design' (Creswell 2014:220). The results, amongst other findings, indicated that the entrepreneurial education and training available is inadequate and that the entrepreneurial orientation of architects is low, hence that entrepreneurial education and training could alleviate this situation.

The study recommends a phased approach. The first phase should aim at changing perceptions, attitudes and mindsets about entrepreneurship and intrapreneurship while the second phase should develop in participants the required socio-emotional skills and cover the entrepreneurial process. The third phase should focus on becoming an entrepreneur. All of the foregoing should be framed by the specific needs of architects. The final phase should comprise learning by doing but with support such as mentoring, administrative support and technical assistance.

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LIST OF ABBREVIATIONS

AIA	American Institute of Architects
ALS	Architectural Learning Site
BBSDP	Black Business Supplier Development Programme
BBBEE	Broad-Based Black Economic Empowerment
BEE	Black Economic Empowerment
CASIDRA	Cape Agency for Sustainable Integrated Development in Rural Areas
CIS	Co-operative Incentive Scheme
CAA	Commonwealth Association of Architects
CPIC	Companies and Intellectual Property Commission
CPD	Continuous Professional Development
CHE	Council on Higher Education
CSIR	Council for Scientific and Industrial Research
DoHET	Department of Higher Education and Training
DSBD	Department of Small Business Development
DST	Department of Science and Technology
DTI	Department of Trade and Industry
ECDC	Eastern Cape Development Corporation
EDD	Economic Development
EE	Entrepreneurship Education
EET	Entrepreneurship Education and Training
ED	Entrepreneurial Disposition
EO	Entrepreneurial Orientation
ET	Entrepreneurship Training
ECIC	Export Credit Insurance Corporation of South Africa
FSDC	Free State Development Corporation
GEP	Gauteng Enterprise Propeller
GGDA	Gauteng Growth and Development Agency
HEQSF	The Higher Education Qualifications Sub-Framework
HSRC	Human Sciences Research Council
IDC	Industrial Development Corporation
LIBSA	Limpopo Business Support Agency
MEGA	Mpumalanga Economic Growth Agency
NQF	National Qualifications Framework
NRF	National Research Foundation
NSDPSB	National Strategy for the Development and Promotion of Small Business
NIBUS	National Informal Business Upliftment Strategy

NYDA	National Youth Development Agency
NIPMO	National Intellectual Property Management Office
NWDC	North West Development Corporation
OBC	Outline Business Case
PPE	Professional Practice Examination
RIBA	Royal Institute of British Architects
SACCI	South African Chamber of Commerce and Industry
SACAP	South African Council for the Architectural Profession
SAIA	South African Institute of Architects
SAASTA	The South African Agency for Science and Technology Advancement
SEIF	Shared Economic Infrastructure Facility
SMME	Small, Medium or Micro Enterprise
SEDA	Small Enterprise Development Agency
SEFA	Small Enterprise Finance Agency
SCCT	Social Cognitive Career Theory
TIA	Technology Innovation Agency
TUT	Tshwane University of Technology
UP	University of Pretoria
UCT	University of Cape Town
UJ	University of Johannesburg
UKZN	University of Natal (now KwaZulu-Natal)
UFS	University of the Orange Free State (now Free State)
NMU	Nelson Mandela University
UNISA	University of South Africa
WESGRO	Western Cape Investment and Trade Promotion Agency

CHAPTER 1 INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

'The traditional role and service of the architect is rapidly changing and practitioners need to keep pace with the changes in social and economic patterns in order to remain relevant' (Kievet 2015:49). Odile Decq, the prominent French architect and founder of the Confluence Institutes, believes that 'we have to train the students to become architectural entrepreneurs' (cited in Dezeen 2016:1). These statements should be considered in the light of the need for professional firms in the Built Environment to function well in order that they might create employment opportunities and attract and retain professional staff. South Africa's efforts to create employment opportunities through infrastructural projects (SA, National Planning Commission 2012:26-34) are, and will continue to be, hampered by periodic skills shortages in this sector. A positive and supportive built environment with the infrastructure that can facilitate economic and social development is a prerequisite for long term economic growth; poor infrastructure amplifies the cost of doing business. It also detracts from the ideal of job creation (Turton & Herrington 2012:14).

Architects' firms[1], as one of the Built Environment professional firms, must operate well for South Africa to have a well-functioning and enabling built environment. For architects' firms to perform effectively and efficiently, they must be started and managed in ways that will enhance their probability of profitability and endurance (Moreno 2008:82): the Royal Institute of British Architects (RIBA), during 1962, undertook a study titled *The Architect and his Office* (Ostine, Stanford, Hickson-Smith, Fairhead & Waddell 2010:32). Their study identified a requirement for an increased awareness amongst architects of the significance of the business managerial aspect of an architects' firm. Earlier the American Institute of Architects (AIA) established the need for direction on the business and administrative aspects of architects' firms, and hence published related guidelines in 1920 (AIA 2008:vi). In the latest edition of the AIA's *The architect's handbook of professional practice,* the call is amplified: increased prominence is given to the need for 'an entrepreneurial approach' when starting a new firm (Choi & Klein 2014:185).

Internationally, university schools in architecture and other institutions are starting to recognise the need for entrepreneurship education, training or support. An internet search conducted on 28 June 2017 revealed four examples of this trend. The first is the DesignX initiative launched by the Massachusetts Institute of Technology's School of Architecture and

[1] This study will refer to architectural businesses, often called architects' practices as architects' firms to avoid confusion between practice referring to 'being professionally engaged' and practice referring to 'to do or perform often, customarily, or habitually' (Merriam-Webster Dictionary 2015).

Planning in May 2017. DesignX constitutes an academic accelerator workshop which offers participants financial support to develop their ventures and mentorship by experienced entrepreneurs, coupled with a program of lectures, visits to innovative firms and networking opportunities (DesignX 2017:[sp]). The second is Odile Decq's Confluence Institute in Lyon, France (Confluence 2017:[sp]). The third is the Archipreneur Academy, started on 27 June 2017, that offers online video interviews with experts and associated business-model case studies (Archipreneur Academy 2017:[sp]), and the fourth is EntreArchitect, an online support site that provides small firm architects with business resources, live expert training and a support group of entrepreneur architects working together to grow successful businesses (EntreArchitect 2017:[sp]).

Related books and journal articles have been published by, amongst others, the AIA (2008), Chappell and Willis (1992), Piven and Perkins (2003), Littlefield (2005), Davis (2008), Ostine et al (2010), Foxell (2015), Reinholt (2015) and Maescher (2016). However, in South Africa, the only profession-specific guidelines available for the establishment or management of a South African architects' firm is the *Practice Manual* published by the South African Institute of Architects (SAIA) (SAIA 2007). The SAIA manual (Section 2: Practice Organisation) unfortunately contains only limited information regarding the style of firm from which architects can choose, the advantages and disadvantages of each, and related aspects including articles of association and the need for a mission statement that can guide many future decisions relating to the firm.

The situation is worsened by limitations regarding education and training: a cursory overview of the contents of architectural programmes at South African universities revealed that aspects such as entrepreneurship and managing an architects' firm (entrepreneurial performance) do not receive enough attention in current architectural programmes - possibly because of time limitations. There is more emphasis on theory and those aspects that cannot be learnt in practice (University of Cape Town 2013:[sp]; Nelson Mandela Metropolitan University 2013:[sp]; University of KwaZulu-Natal 2013:[sp]; University of the Free State 2013:[sp]; University of Pretoria 2013:[sp]; University of the Witwatersrand 2013:[sp]; University of Johannesburg 2012:81; Tshwane University of Technology 2013:[sp]). Firm establishment and management also do not form part of the curriculum for the South African Council for the Architectural Profession's (SACAP) Professional Practice Examination (SACAP 2013a) nor are they listed under the Continuing Professional Development activities of either SACAP or SAIA (SACAP 2013b, SAIA 2013b).

Generally, it has been found that firms started by persons with an entrepreneurial disposition and orientation will have an increased chance of success than firms started out of necessity (Turton & Herrington 2012:41). Furthermore, Hårsman and Daghbashyan (2012:23) believe that the probability of becoming an entrepreneur is strongly influenced by education and that persons with an art-oriented education are more likely to become entrepreneurs than engineers. Similarly, Elwell points to the fact that entrepreneurship is important because it provides a mechanism for realising the concepts that designers create every day (Elwell 2013:1). Elwell continues that becoming entrepreneurs constitutes the best way for designers to take ownership of the ideas they invent. The purpose of this study is to propose an effective integrated education, training and support system that can improve the entrepreneurial performance of South African architects' firms.

This chapter provides the background to this study, describes its goals and objectives, defines the research problem and states the research hypothesis. Thereafter it expounds the research design, research delimitations and definition of terms before providing an introductory literature review of the topic. Subsequently it states the research questions that are to be answered; describes the research methodology followed and the value or significance of the study; states the limitations of the study and assumptions made and, finally, provides a chapter outline.

1.2 Background

While Entrepreneurship has attracted significant attention worldwide, local research has shown that 'Architects who continue with the traditional methods of practice struggle to make it in such a challenging market. Therefore, employing architecture firms are more likely to seek new graduate architects who are schooled in the new issues affecting the architectural market to ensure their survival' (LHA Management Consultants 2001) as cited by Saidi (2005:114). Gutmann (1988:111) believes that the problems associated with running an architects' firm are caused by great institutional changes that occurred in recent times. These include changes to the system of building production and the methods clients use to procure architectural services.

At the same time, while the contents of architectural *curricula* remain a topic of debate, the current discourse about architectural education is largely silent on the aspect of architectural entrepreneurship: Francis Carter, in his overview of the history of architectural education in South Africa (2013:45) proposes three alternative *curricula* for South African Universities does not mention entrepreneurial education at all. At the same time others such as Cooke (2013:1) and Dewar and Louw (2013:57) call for a more multi-disciplinary approach, again

without making any mention of the need for well-established and managed practices and hence for entrepreneurial education and support for architects. Workplace-based learning is gaining new traction with the Open Architecture programme currently being developed by SAIA and others. While this initiative holds great potential for the incorporation of entrepreneurial education, it is not addressed in the curriculum (Morkel 2013:20-21). In a recent issue of *Architecture South Africa* (November/December 2015), themed 'Rethinking architectural pedagogy', not one of the articles make any reference to the need for an increased awareness of entrepreneurship in South African architectural education (Kotze, Fisher & Wolf 2015). The same omission occurs in more recent articles regarding architectural education in South Africa: neither Janse van Rensburg (2016:37-45) nor Delport-Voulgarelis and Perold (2016:42-47) mentions any need for an increased awareness of the entrepreneurial aspects of architects' offices. The only exceptions are the author of this study's articles published during 2015 and 2016 (Vosloo 2015:60-64; 2016a:7-26; 2016b).

Despite the publications that appeared in other countries, and the general, but useful, pointers they contain, many South African architects' firms are still finding it difficult to achieve acceptable entrepreneurial performance levels: SAIA[2], in a survey conducted in 2001 found that, at the time:

- There were about 1700 architects' firms, all with the full-time presence of an architect.
- The number of sole-proprietor firms had more than doubled since 1991. In 2001, 40% of firms were 'one-man shows'.
- There was, during the preceding decade, a noteworthy reduction in the number of medium-sized firms: from more than 30% to around 18%.
- There was, by contrast, growth (from 8% to 18%) in the number of firms that comprised 10 persons or more.
- A marked decline, from 15% to 5%, in the number of firms of more than 30 persons took place over the preceding decade.
- Very few firms comprised more than 50 persons.
- The average income of architects continued at the level that it was a decade ago. In real terms this means a substantial decline in income.
- By contrast to the above, turnover increased during the period.
- The composition of firms changed during the period: large firms grew bigger and the number of support staff employed by them increased in relative terms.

2 SAIA is a voluntary association and not all architects are registered with it. All practicing Professional Architects must register with the South African Council for the Architectural Profession (SACAP).

However, in all the smaller firm categories firms the number of support staff declined.

- Not many architects can boast competence in all of the 'areas of competencies' (needs assessment, design, documentation and contract administration) expected by a modern-day architects' firm.
- Not many firms have diversified the scope of their services offering.

(SAIA 2001a:1-5.)

While the survey referred to has not been repeated since, the dire situation outlined by the President of the Border-Kei Institute of Architects (Corbett 2015:43-44) suggests that the situation has not improved since then. This negative state of affairs is also reflected in recent figures obtained from the South African Council for the Architectural Profession (SACAP) which show that the number of registered architects is declining: in 2007, a total of 3 519 Professional Architects were registered with SACAP[3] (SACAP 2007:[sp]). By the end of February 2014, the number decreased to 3 266 (SACAP 2014a:[sp]). In 2007 there were 2 312 registered architects' firms (SACAP 2007:[sp]), while the number of firms rose only slightly to 2 510 in 2014 (SACAP 2014a:[sp]). This was during a period in which the South African economy grew by an average of 3.13% per year (African Economic Outlook [s.a.]:[s.p.]), and the eight South African Architectural Learning Sites together produced approximately 220 graduates each year who met the academic requirements for registration as Professional Architects.

The foregoing indicates that many qualified persons are no longer registered as architects. While there might be a variety of reasons for this, it is known that many South African architects' firms are under pressure (Van Wyk 2004:1; Corbert 2015:45). Van Wyk continues that the Built Environment professions are under stress due to a shortage of work, resulting in large firms disintegrating to form smaller firms. However, it is notable that the survey referred to above also found that large firms increased in size during the period surveyed (refer to the ninth bullet above). This fact is depicted graphically in Figure 1.1 which indicates the extent to which larger firms managed to increase their turnover during the decade from

[3] It is not compulsory for architects to register their firms with SACAP or SAIA hence registration figures will vary. Because all practicing architects must register with SACAP the figures reported for individual registrations constitute more reliable indicators of the state of the profession. However, as many as 50% of architectural professionals are unregistered (Council for the Built Environment, 2014:[sp]). The reasons for this situation are not clear and could be varied, but considering that SACAPs annual registration fees are currently less than R 2 500.00 it would seem that persons who believe that this is more than the value of being registered in the profession they spent seven or more years training for, could be struggling financially.

1990 to 2000. Therefore, while economic conditions could play a role, these cannot be the only reasons why firms are closing down and architects are leaving the profession.

The unsatisfactory levels of entrepreneurial performance and the tendency for smaller and medium sized firms to disintegrate, is leading to a loss of employment opportunities (Van Wyk 2004:1). Because team managed businesses tend to outperform individually managed ones (Schjoedt & Kraus 2009:513), this tendency may itself contribute to a downward spiral in the performance of architects' firms. Van Wyk holds that lower fees negotiated by clients have resulted in declining income margins. This in turn has resulted in salaries in this sector falling behind salaries paid in similar sectors by up to 40 percent.

The result of this is that 'innovation has been replaced by replication' which has negative implications for the quality of the South African built environment, the achievement of the goals of the National Development Plan (NDP) (SA, National Planning Commission 2012:26-34) and our cities as destinations for investment and tourism. Furthermore, the smaller firms established in the process are by implication necessity-driven rather than opportunity-driven, a factor that will impede the entrepreneurial performance of these firms and their potential to support the aim of employment creation and skill retention (Turton & Herrington 2013:41). The situation also has consequences for the future of the profession: Corbett (2015:44) points to the implications this will have for students in architecture: 'Current trainees entering the industry will battle to find employment and the training of graduates and support of students will be a thing of the past.'

While all the causes of the situation are not known, it is important that steps be introduced to address the entrepreneurial performance of firms with the view to improving the current situation and to protect the time and money invested in the training of architectural professionals and to create more employment opportunities (Vosloo 2015:60). Where might the problem lie? Internationally the increased importance of business management has been highlighted by the RIBA (Ostine et al 2010:32), AIA (2008:vi), Purnell (2008:v) and others. However, in a recent issue of *Architecture South Africa* (November/December 2015), themed 'Rethinking architectural pedagogy', not one of the articles made any reference to the need for an increased awareness about entrepreneurship in architects' firms, a topic that is already ignored in *curricula* and by support systems.

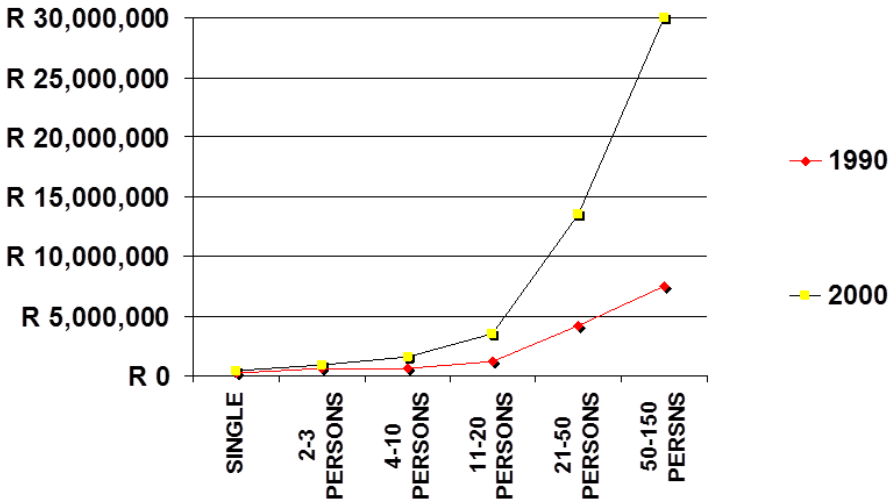


Figure 1.1 South African architects' firms: Average annual turnover by firm size (1990-2000) (SAIA 2001b)

In spite of this, figure 1.1 and section 1.2 above (the fourth and ninth bullets) indicate that some firms are doing well while the majority of firms are struggling. This seems to imply that the economic situation cannot be the only reason for the problem. Therefore, it is suggested that the limited managerial and entrepreneurial education and training for architects is, at least partly, responsible for the present problem.

Littlefield (2005:5) holds that:

> Too many architects make too bad a living, a problem that is largely the result of believing that quality design will inevitably lead to decent clients and a fair income. The truth is that the business dimension of an architectural practice is no less important than producing the drawings.

This aforementioned shortcoming must be attended to in order to contain the trend outlined above: architects must be supported through education and training that will enhance their entrepreneurial performance. Guidelines on the successful establishment and management of a South African architects' firm are needed as part of an integrated support system. In order to be effective, such training, guidelines and support must be the result of an empirical investigation, and must investigate current practice and include relevant theory, thereby representing current best practice. As will be shown in 3.8.1 (refer to page 116) there is considerable agreement that a phased approach is appropriate for entrepreneurship

education and training. Hence the study will develop and propose a framework or a basic conceptual structure within which such education and training can take place.

1.3 Goal and objectives

The goal of the study is to contribute to the current scientific discourse regarding entrepreneurial education and training by proposing an effective integrated education, training and support system or framework that can enhance the entrepreneurial performance of South African Architects' firms. To reach this goal the following objectives will be pursued:

Primary objective:

To propose an appropriate entrepreneurship education, training and support framework for South African architects and recommend how the results obtained during the foregoing studies should be incorporated into such a framework.

Secondary objectives:

1. To determine the pertinent aspects of the current discourse on entrepreneurship in architecture and entrepreneurship enablement.
2. To establish what are the current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms.
3. To establish which entrepreneurial actions, practices and orientations enabled enduring South African architects' firms to achieve this status.
4. To determine what constitutes the current system for education and training of South African architects.
5. To find out what is currently available and/or offered to South African architectural students and architects in terms of entrepreneurial education training and support.
6. To determine what do South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework.
7. To determine which issues are highlighted in the current discourse on entrepreneurship education and training.
8. To establish what will constitute an appropriate education, training and support framework for South African architects and how the results obtained during the foregoing studies should be incorporated into such a framework.

The study will also establish what constitutes the unique issues that need to be emphasised in relation to promoting entrepreneurship in architecture practice in South Africa.

1.4 Problem definition and statement

Many South African architects' firms are battling to survive and grow (SAIA 2001a:1-5). While all the reasons are not known, it is proposed that the absence of an effective integrated entrepreneurship education, training and support system is, at least partly, to blame for the present problem. The situation requires that steps be taken to improve the entrepreneurial performance of firms in order to reverse the current situation, to protect the money and time invested in the training of architectural graduates and to create and protect employment opportunities in the profession.

1.4.1 Research hypothesis

The entrepreneurial performance of South African architects' firms can be enhanced by an effective integrated entrepreneurship education, training and support system for architects.

1.4.2 Research design

A mixed methods approach will be used. According to Creswell and Plano-Clark (2011:8) this approach is suited to problems where a single source is insufficient, results must be explained, exploratory findings must be generalised, a second method is required to enhance the primary method, a theoretical stance must be used or when the overall research objective can best be addressed using multiple phases or projects (as in this case).

The research will follow a convergent parallel mixed methods design (Creswell 2014:220). This design has the researcher concurrently collecting both qualitative and quantitative data. The data are then analysed separately where after the results are compared to determine the extent to which the two sets of results do or don't confirm each other. Equal emphasis is given to the data resulting from both types of research process. The investigation will comprise of three stages (literature review, empirical research, analysis and synthesis) with successive phases building on the results of the previous phase. The research design is illustrated in figure 1.2.

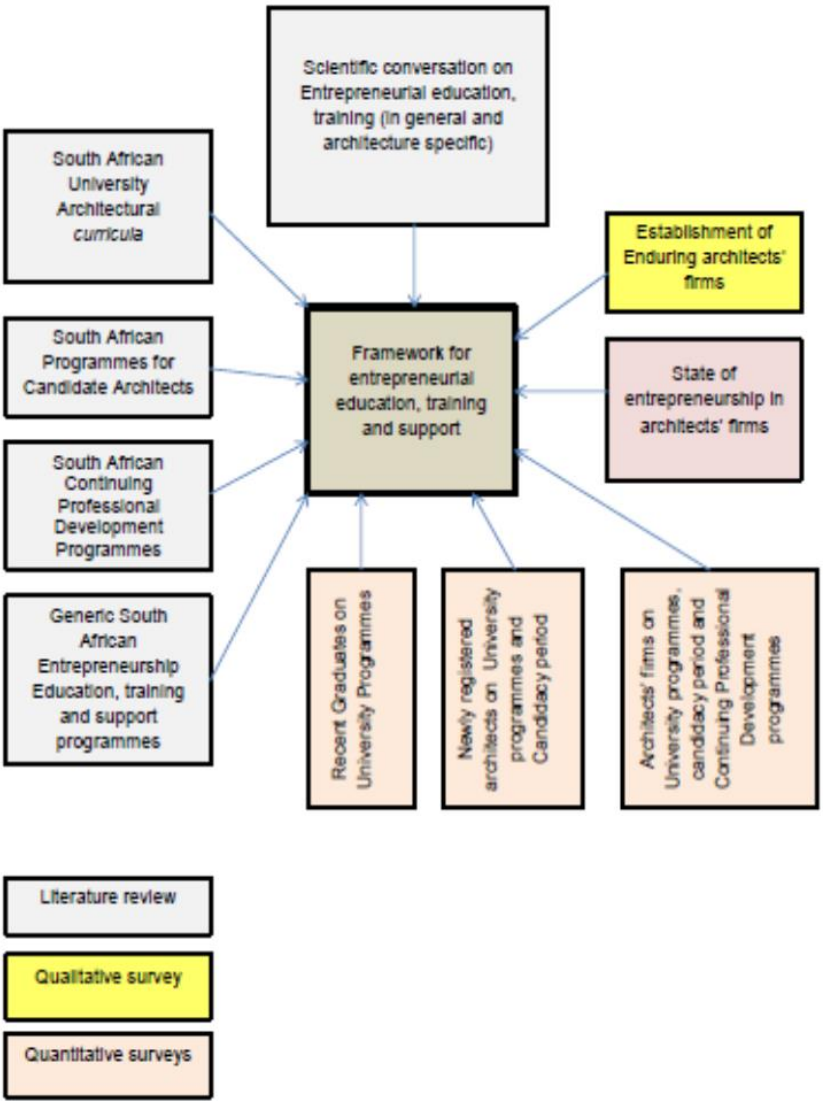


Figure 1. 2 Schematic research design (Figure by author)

The researcher is of the view that research methods must follow from the nature of the research questions involved. This is as a result of a pragmatic epistemological stance that believes data sources should be selected on the basis of their practical suitability. This follows from an ontological view that singular and multiple realities exist. In this instance the functionalist and interpretivist nature of the research objectives require both quantitative and qualitative investigations. Due to the changing nature of the profession (Corbett 2015:44) and the change in perceptions regarding the nature of practicing architecture, as highlighted by Choi (2014:185) and others, it is the researcher's view that a quantitative survey on its own will not uncover all the subtleties associated with entrepreneurship in the architectural profession, particularly during the Keynesian era when codes of practice in this and other

statutory professions prohibited ‘fee-cutting’, advertising and other practices associated with general businesses: It was during this era that many of the enduring firms which this study will examine, were established.

1.4.3 Research limitations and delimitations

The study will focus on entrepreneurship education, training and support to improve the performance of South African architects’ firms. Architecture is primarily about design; the key activity in a professional architects’ firm involves using creative and innovative concepts to create new solutions to satisfy a variety of requirements in the creation of physical facilities. The study acknowledges that financial achievement and firm growth are not the only measures of positive performance and that many architects’ firms will consider themselves successful, based on the material, aesthetical or spatial quality of the work they produce. This aspect and how to achieve consistent design excellence are topics for an investigation in its own right. In order to focus the scope of this investigation, *this study will accept that a well-managed firm is a prerequisite for consistent design excellence:* without a well organised and managed firm for support, no architect will be able to produce notable designs for an extended period (Littlefield 2005:5, Ostine et al 2010:33,133). However, design prominence does play a key role in the entrepreneurial performance of an architects’ firm. Hence the study will accept design as the product or service that the firm offers to its clients and that it is self-evident that design prominence does play an important role in building the firm’s competitive advantage and in marketing the firm and attracting clients.

It is anticipated that it will not always be possible to verify statements made by interviewees during interviews. While alternative qualitative methods such as observation or visiting websites could be employed in order to provide confirmation, such methods will always have certain limitations in this regard. It will also not be possible to define the role that other factors (including chance and coincidence) might have played in successful or unsuccessful attempts to establish a new firm.

The relatively restricted range of directly applicable literature might also result in follow-up surveys or interviews during the qualitative stage, as later interviews might bring to the fore aspects that were not covered during earlier interviews. This is why the referral strategy was chosen.

Transferring the lessons learnt in the South African architects’ firms to other disciplines or firms and in different contexts might equally be restricted by the author’s limited knowledge of those disciplines.

Importantly, Creswell (2014:223) warns that convergent parallel mixed methods research processes often do not yield clean divergent or convergent results that can or cannot confirm convergence. He suggests that this should either lead to further research or that it should be accepted. Confirming or not confirming the findings of the two distinct research processes is only a secondary aim of this study, therefore, if the comparison should yield unclear indications, this will be stated as such and accepted as a limitation.

The goal of this study is to investigate and propose an appropriate framework or system in which entrepreneurship education can be combined with the current education and training framework of South African architects. While the study's recommendations might touch on curricular changes, finer details regarding the specific curriculum this might require, or wide-ranging changes that might be required to the curriculum in general, do not form part of this investigation. The broad brushstrokes proposed will be refined with all participants and undertaken as follow-up research.

Due to the significant role of the context within which architectural entrepreneurs have to operate (refer to 3.8.4 on page 142) the empirical investigation will focus exclusively on architectural entrepreneurship in South Africa. However, because South African architectural practice does not exist in isolation, the literature review might occasionally include related issues as they apply in other countries for the sake of comparison. In view of the need to understand the South African context as part of the broader African context, future studies should explore the interrelationship between South African, African and international contexts and how architects' firms across the continent or the globe were established, how they were grown and how they compete.

1.4.4 Assumptions

It is assumed that Architectural Learning Sites (ALS) have limited time in which to prepare students for practice and hence will focus on those aspects that cannot be learnt or developed in practice.

Furthermore, it is assumed that the combination of the two-year Candidacy period required for registration and SACAP-validated university programmes will provide architects with the technical skills and knowledge required to do the work of an architect.

1.4.5 Definition of terms

The study will use the following definitions:

1.4.5.1 Creativity

The following definition of creativity, derived from the definitions and discussion that follows, will be used in this study: creativity is a unique and valuable human attribute that is part of a process which results in creations, solutions to problems, new initiatives, concepts, processes or services.

Creative behaviour and a creative mindset lead to innovative behaviour and processes and form an integral part of entrepreneurship (Antonites 2014:61). Architecture is a creative profession *per se.* Hence, in the context of this study, creativity represents a very important construct, albeit one for which theorists have been unable to formulate a broadly accepted definition. Kumar (2008:111) states that creativity has been defined in a variety of ways including as a product, a process and as a set of human characteristics. Definitions often describe creativity as the power or ability to create, to originate or to produce.

Couger, the developer of the 'Four P' model of creativity, writing as far back as 1995, produced what is still regarded as the most relevant definition of creativity. According to Couger (1995:35) creativity consists of two elements, namely uniqueness or originality, and utility or functionality. He distinguishes between creativity and innovation by holding that innovation has a much narrower scope in that it is the process by which new ideas are operationalised, whereas creativity is part of a larger process that comprises discovery, invention and finally innovation. Antonites (2014:62) elaborates that the product of creativity is the result of a thinking process, a process that is most often unconventional, and is supported by performance motivation starting with a problem that is initially vague and unstructured. The result of the creative process is normally unusual, uncommon, with surprise value, practical or feasible and usable.

Antonites (2014:63), citing the work of Swayer, distinguishes five types of creativity:

- Expressive creativity as found in artistic works.
- Productive creativity relating to techniques or processes that assists in production.
- Inventive creativity manifested by new ideas or products that are the result of exploration, discovery or invention.
- Innovative creativity related to modification.
- Emergent creativity resulting in new concepts, assumptions and understanding.

The above illustrates that no one view of creativity fits all fields of endeavour, hence the need for a study-specific definition.

1.4.5.2 Education and Training

'Training is about practice, about skill, about learning how to do things. Education is about fostering the mind, by encouraging it to think independently and introducing it to knowledge of the physical and cultural world' (Rickman 2004:[sp]).

Education is defined as 'the process of receiving or giving systematic instruction, especially at a school or university: a course of education' (Oxford University Press 2014:[sp]). Hence education refers to formal instruction as part of a controlled and formalised system or structure. However, it is not necessarily restricted to programmes offered by institutions such as schools or universities.

Training is defined as 'the action of teaching a person or animal a particular skill or type of behaviour: in-service training for staff' (Oxford University Press 2014:[sp]). *The Merriam-Webster Dictionary* (2015:[sp]) defines it as 'a process by which someone is taught the skills that are needed for an art, profession, or job'. Training is thus accepted as specific development offered outside formal education institutions or programmes, that is specific and skills related.

1.4.5.3 Enduring architects' firms

Piven and Perkins (2003:8) hold that it takes between seven and 10 years for an architects' firm to become established. On this basis this study will assume the following field-specific definition for enduring firms: architects' firms that are older than 15 years, whose current ratio is at least 1.5:1[4] and have architectural practice as the main source of income of the owner(s). Firms complying with these requirements would be well established and have survived successive good and bad economic cycles indicating a degree of managerial proficiency.

Parameters that were considered but not included in this definition and the reasons for their non-inclusion are:

- Size: number of employees is often used as a measure of the size of a firm. Including a minimum size would include a measure indicating growth and an entrepreneurial attitude. However, it could exclude many very small firms who have selected to stay small, or even not to employ any staff at all, and have built up expertise regarding firm management and entrepreneurial performance in this firm category.

[4] Current ratio = current assets/current liabilities. As a rule of thumb the current ratio should be in the region of 2:1

- Turnover or profit: turnover is often used as a measure of size. However, it is not a measure of profitability, which could be a better indication of how well a firm is managed. Turnover or profit cannot be determined accurately without access to a firm's financial statements, something that will be difficult if not impossible to achieve in a research project of this nature because firms might regard this aspect as confidential. Furthermore, in qualitative terms, both turnover and profit are relative to firm size, mission and strategy and hence do not provide a size independent, easily comparable indication of a firm's financial performance or status. However, Current Ratio is not reflective of size or strategy and, as a ratio, might, to many owners, be less sensitive than turnover or profit. Therefore, it was decided not to include either turnover or profit as parameters but instead to accept that if a firm managed to exist for 15 years and have a current ratio of at least 1.5:1, their turnover or profit levels would have had to be at a level that could be regarded as adequate.

  Firms seven years and older that do not meet this criterion will be classified as 'established' architects' firms.

1.4.5.4 Entrepreneurship

Lumpkin and Dess (1996:136) hold 'new entry' to be the essential act of entrepreneurship. In the absence of a widely accepted definition of entrepreneurship and in the light of the explanation that follows, this study will accept a definition based on Fayolle and Toutain's (2013:169) definition, namely that 'entrepreneurship is a social and economic phenomenon which occurs at the individual, organisational, institutional and societal levels. At the heart of this phenomenon is the entrepreneur who evolves … to create and develop new economic and social wealth' and benefit.

As will be shown in Chapter 2, defining entrepreneurship remains problematic; a popular description of entrepreneurship would be similar to that used by Nieuwenhuizen (2014:9) as 'the emergence and growth of new businesses'. However, growth *per se* is not always part of the intentions of those who start new businesses. Because of this 'the emergence and establishment of new businesses' might be more appropriate. However, many new initiatives do not aim at starting a new business that has income generation in mind and, increasingly, architects and others start initiatives that have social upliftment as a main objective. Hence this study's attitude towards entrepreneurship is not associated with neoliberal economic and financial philosophy which regard the entrepreneur as some form of hero (Pilotta 2016:37) and the successful entrepreneur with the sovereign consumer and hard-working taxpayer as

the main participants in this prevalent form of capitalism (McGuigan 2014:225). According to Pilotta, within neoliberalism, entrepreneurship is revered due to its philosophy of individualism which values the maximisation of profit above anything else. Neoliberalism replaced the more moderate form of capitalism known as Keynesian demand management when it lost favour during the 1970s (Monbiot 2016:7). The author agrees with Monbiot that neoliberalism is to blame for many modern-day socio-economic problems, that it is on the decline and that it will hopefully evolve into a more ethical or moderate form of free-market economy as proposed by Walters (2004:[sp]).The study's focus on entrepreneurship is based on the foregoing prediction that some form of free-market economy will follow neoliberalism after its demise meaning that, for some time, entrepreneurship's focus on freedom of participation (on an individual or group basis) offers the possibility of identifying and establishing niche operations in areas that centrally planned economic systems might not recognise, and may therefore ignore, to the detriment of sections of society.

Entrepreneurship, as it is defined in this study, does not share the neoliberal attitude and includes social entrepreneurship or actions undertaken in response to an identified societal need (as opposed to an opportunity in the capitalist sense) not only for the sake of the individual entrepreneur but for the beneficiaries, as proposed by Sharma (2016:2). Furthermore, it does not extol the virtues of large, growth-oriented firms over smaller lifestyle-oriented firms (refer to 2.3 on page 59).

1.4.5.5 Entrepreneurial Disposition (ED)

Maasdorp and Van Vuuren (1998:721) use the term 'Entrepreneurial Orientation' to describe a country's attitude towards entrepreneurial endeavour. They believe that this attitude is crucial if a country is to achieve high levels of entrepreneurial development. To them the factors that influence this attitude are a blend of culture, family and role models, education, work experience (skills) and value systems. Unfortunately, this is quite different to the widely accepted meaning of Entrepreneurial Orientation as described in 1.4.5.6., hence using the term in the way they do might cause confusion. What is true is that their understanding does show significant overlap with the concept called entrepreneurial mindset put forward by Valerio, Parton and Robb (2014:3). To them entrepreneurial mindset refers 'to the socio-emotional skills and overall awareness of entrepreneurship associated with entrepreneurial motivation and future success as an entrepreneur'. This includes aspects such as self-confidence, leadership, creativity, self-efficacy, resilience, etc.; attitudes shaped by many of the aspects that Maasdorp and Van Vuuren associate with high levels of entrepreneurial activity.

In order to avoid confusion, this study will use the term ‘Entrepreneurial Disposition’ to describe the attitude, awareness or mindset individuals or countries might have towards entrepreneurial endeavour. In doing so it agrees that this attitude is shaped by the value system, culture, education system, work experience and skills to be found in the general population as well as the esteem the people of that country have for successful entrepreneurs. However, it bears noting that authors such as Pilotta (2016:37) consider the high esteem in which entrepreneurs are held in some quarters to be a result of the neoliberal viewpoint described above. However, he also believes that entrepreneurship has a ‘hidden side’, comprising the chance of starting creative and positive practices which could play a positive role in society (Pilotta 2016:37). It must also be noted that, traditionally, many of the actions (e.g. marketing and strategy) and attitudes (e.g. competitiveness) ascribed to entrepreneurs were frowned upon and considered ‘unprofessional’ (refer to 1.4.2 on page 9). Nonetheless, changes in the economic environment, particularly in the built environment context (refer to 2.2.3 and 2.2.4 on pages 56 and 58), necessitate architects to become more entrepreneurial as suggested by Choi (2014:185), Decq (cited by Dezeen 2016:1), Ostine (2013:32) and others (refer to 1.1 on page 1). The International Union of Architects (UIA) itself recognises these changes and asserts that societal changes resulted in a situation where the creation of the urban and built environment has become more complex. They believe that this has led to a situation where architects have to deal with an increasingly wide range of urban, aesthetic and legal matters. They are of the opinion that this has necessitated a coordinated approach to building design (UIA 2014:13-14). Hence, they adopted as policy that the UIA ‘encourage and promote the continuing extension of the boundaries of architectural practice’ and ‘the corresponding extension of the knowledge and skills necessary to deal with any extension of boundaries’ (UIA 2014:14). Expanding one’s field of operation is a natural outcome of entrepreneurial endeavour and an Entrepreneurial Disposition.

1.4.5.6 Entrepreneurial Orientation (EO)

The following definition of EO, derived from the definitions and discussion that follows it, based on secondary research evidence, synthesised to serve the purpose of this study, will be used: the strategic posture or attitude and actions, used by organisations or individual entrepreneurs to enact their firm’s organisational purpose, uphold its vision and enlarge competitive advantage in the creation and nurturing of a new venture.

EO is a concept that correlates with entrepreneurship and developed from strategic management literature. Miller (1983) is often cited as an early researcher who dealt with the concept of EO. Covin and Slevin (1991:7-8) elaborated on Miller’s work and described EO

as a ‘strategic posture’ indicating how a firm intends to compete. They argued that focusing on EO at the firm level is more appropriate than at the individual trait level because the firm’s performance will reflect the individual’s effectiveness. Lumpkin and Dess (1996:136) developed the construct further and posit that ‘an EO refers to the processes, practices and decision-making activities that lead to a new entry’. According to these authors it comprises the intentions and actions of persons or organisations involved in the creation of a new venture. The key characteristics of an EO include a predisposition ‘to act autonomously’, a disposition to ‘innovate and take risks’ and a propensity to competitive aggressiveness while being ‘proactive … to marketplace opportunities’ (Lumpkin & Dess 1996:136). Some authors such as Okhomina (2010) use the term ‘Entrepreneurial Posture’ in preference to Entrepreneurial Orientation.

Rauch, Wiklund, Lumpkin and Frese (2004:6) regard EO as ‘the entrepreneurial strategy-making process that key decision makers use to enact their firm’s organisational purpose, sustain its vision and create competitive advantage(s)’. They found that the characteristics most commonly associated with EO are innovativeness, risk taking and proactiveness. EO and Entrepreneurial Performance are related constructs. The relationship between EO and a firm’s performance will depend on the business context while the characteristics or key aspects of EO may apply differently in relation to each other, depending on the context within which it is being considered. However, Anderson, Kreiser, Kuratko, Hornsby and Eshima (2014:1579) propose ‘a formative construction of EO viewing the exhibition of entrepreneurial behaviours and of managerial attitude towards risk as jointly necessary dimensions that collectively form the higher-order EO construct’.

The UIA (2014:14) has undertaken to develop and adopt its policies and procedures to take account of alternative forms of practice that can extend the positive and creative role of the profession for the benefit of society. This implies that architects need an enhanced EO because finding new opportunities for business operations lies at the heart of entrepreneurship.

Having a high level of EO could be particularly important for small new entrants and this could even constitute the major advantage such a firm might have (Lumpkin & Dess 1996:162-163). Importantly, EO must be differentiated from ‘entrepreneurial disposition’ a term that this study will use when referring to the attitudes that individuals or a society hold toward entrepreneurship, particularly as a career choice.

1.4.5.7 Entrepreneurial Performance:

The following definition of entrepreneurial performance, derived from the definitions and discussion that follow it, will be used in this study: a reflection of a firm's performance that combines a variety of quantitative and qualitative criteria in a comparison between the firm's financial and other achievements and the aims and objectives of its owners.

Aragon-Sánchez and Sánchez-Marin, Audet and Gerald as well as Jauch and Glueck, cited by Agbin et al (2014:254), describe business performance as a phenomenon that comprises multiple aspects and which is difficult to quantify because it is influenced by a number of interrelated factors.

Engelen, Gupta, Strenger and Brettel (2015:1069) believe that Entrepreneurial Orientation (EO) is directly connected to firm performance, but that several factors affect the strength of this relationship.

Lumpkin and Dess (1996:153-155) state that firm or entrepreneurial performance is a multidimensional construct where the various dimensions do not act independently and as such, must be considered collectively and with other factors such as a firm's age.

Rauch, Wiklund, Lumpkin and Frese (2004:9) hold that a distinction must be made between financial and non-financial assessment measures. As far as financial measures are concerned one can differentiate between measures of growth and measures of profitability. Based on the work of Zahra (1983), Quinn and Cameron (1978), Birley (1987), Cameron (1978), Chakravarty (1986) and Kirchoff (1978), Lumpkin and Dess hold that the factors or dimensions that must be considered when measuring performance are accounting factors such as sales growth, market share and most importantly, profitability. However, such quantitative measures must take cognisance of, and be considered with qualitative factors such as the firm's goals, objectives, aspiration levels and the satisfaction levels of the firm's stakeholders. In this regard it is important to remember that in the small business sector, stakeholder satisfaction might be influenced by the desire for independence or maintaining a certain lifestyle, necessitating that performance be judged based on the most basic level by aspects such as monthly cash-flow and mere survival. To many new firms aspects such as public image, reputation, goodwill and the commitment and satisfaction of the firm's employees might also be particularly important. Many of the aforementioned aspects are of particular importance to an architects' firm. Rauch et al (2004:10) point out that assessing performance based on non-financial measures is difficult and not straightforward.

In addition to the above, environmental munificence (the profitability or growth rates achieved by the others in the industry in which the firm operates) must inevitably form the backdrop against which performance is measured and considered.

Gorgievski, Ascalon and Stephan (2011:207) report that small business owners ranked personal satisfaction, profitability and satisfied stakeholders as the most important performance criteria. They posit that performance criteria are either person oriented or business oriented and that performance criteria can be guided by either self-enhancing or self-transcendent value orientations.

1.4.5.8 Entrepreneurship Education and Training (EET):

The difference between education and training is described in 1.4.5.3. This study will adopt the following definition based on that presented by Valerio, Parton and Robb (2014:21) namely: EET consist of academic education and/or formal training offerings that have the overarching objective of developing in individuals the entrepreneurial attitudes [orientation] and skills needed to support and aid participation and performance in a variety of entrepreneurial and associated managerial activities.

Accepting this definition for the purposes of this study is necessary because of Valerio et al*'s* (2014:41) position that a generally accepted definition for EET has not been put forward despite various attempts by a variety of authors. Amongst these are the Global Entrepreneurship Monitor 2010 which accepts the following definition 'entrepreneurship education is the building of knowledge and skills 'about' or 'for the purpose of' entrepreneurship' (cited by Elia, Margherita, Secundo & Moustaghfir 2010:149). Valerio et al (2014:41), in reviewing the work of Charney and Libecab (2000), Farstad (2002), Menzies (2003) and others, find that entrepreneurial education and training generally regards the transferring of certain mindsets and skills associated with entrepreneurship in addition to a variety of other entrepreneurship outcomes.

Within the context of this study, the focus will be to provide architects who choose to start new firms with the skills required to increase their entrepreneurial performance and thereby establish (and grow) enduring firms.

1.4.5.9 Firm Management

As shown in 1.6.3 the majority of architects' firms can be classified as small businesses. Managing an architects' firm is thus akin to small business management.

Hatten (2012:387) describes management as ‘the process of planning, organizing, leading and controlling resources in order to achieve the goals of an organization’.

This study will accept the following definition for architects’ firm management: the day-to-day management of an architects’ firm in order that it may achieve its objectives by performing the functions of planning, organising, leading and controlling its resources, processes, finances and marketing. This definition also draws on Nieuwenhuizen’s (2007:2) definition of small business management as ‘the management of a small business on a day-to-day basis, which includes activities in functional areas, such as marketing, production, finance and human resources’..

1.4.5.10 Innovation

The *Oxford Dictionaries* (2015:[sp]) define innovation as ‘the action or process of innovating*’*. Kumar (2008:119) points out that invention and innovation are sometimes used interchangeably. Antonites (2014:71) describes innovation as the third step in the creative problem-solving process (discovery – invention – innovation – patent). Couger (1995:17) maintains that ‘innovation is concerned with implementation of inventive ideas’; new ideas being put into practice. Burns (2001:31) believes that innovation is the primary tool entrepreneurs use to create or exploit a business opportunity. He holds that innovation is often associated ‘with the development of a new or better product or process’ (Burns 2001:49) while Wickham (2006:221) agrees that innovation goes beyond invention in that it means doing something in a manner that is new, different or better. Innovation is thus about refinement or improvement of ideas, services, products or processes.

1.4.5.11 Small businesses

The study will consider small businesses as those that are relatively small (for various reasons) and comply with the definition by the Department of Trade and Industry (DTI) as ‘a separate and distinct business entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy …’ (SA, Department of Trade and Industry 2008:3). Some of these businesses will be more ambitious with more of an entrepreneurial orientation, seeking growth and profit through constant innovation, while others will be content with staying small, as described by Burns (2002:11). Once established, the overwhelming number of architects’ firms exists and are managed as small businesses, although some may aim to continue growing.

1.5 Value or significance of the research

In the analysis of their survey, SAIA (refer to 1.2) found that the average income of architects did not increase over the decade preceding the study, despite the fact that firm turnover increased during the same period. If this is considered with the rise in the number of sole proprietor firms during the same period, it appears that the high levels of entrepreneurial activity in architecture coincide with significant levels of under-performance. One of the contributing factors could be the fact, as alluded to in the literature review, that knowledge and training regarding the establishment and management of high performing architects' firms have not received significant attention within the current system of architectural education and training. The result is that architects have little to guide them in these endeavours during times of change in the business environment. An example is the negative outcomes brought about by changes, intended to enhance financial competition and transformation (BBBEE) in the procurement system of the biggest source of work; the government (Corbett 2015:43): According to Section 217 of the South African Constitution, any organ of state which 'contracts for goods or services, must do so in accordance with a system which is fair, equitable, transparent, competitive and cost-effective' (SA, Constitution 1996:[sp]). This implies that contracts must be procured using a system of tendering. Tendering requires of architects' firms that they must compete on the basis of cost.

This attitude is consistent with the neoliberal economic policy adopted by the government (refer to 2.1 on page 43). However, while the principle is sound and aims at reducing costs and ensuring value for the tax-payer's money, firms are finding this problematic. The reasons could be because firms are not equipped to predict their costs (either because of a lack of training or due to the unavailability of production cost figures). The result is tenders comprising fees that are discounted to unsustainably low levels (Wallis 2015:24). Corbett (2015:44) describes the situation as follows:

> All this has changed with the advent of the Competition Commission where the application of standardised percentage based fees has been deemed to be uncompetitive behaviour. The result has been the public tendering of projects by all Government and quasi Government agencies, Departments and Municipalities. These tenders are poorly structured, do not define the full scope of work required and are adjudicated with a sketchy qualitative assessment of the abilities of companies to provide the services required.
>
> Architecture, as a discipline, is a service related product and the ability of an architectural practice to successfully control a project has a material effect on the cost and performance of a building project. What we are now witnessing is the obliteration of an industry through the tendering of services for a wide variety of built environment projects

> from precinct plans to hospitals, universities, schools, offices and public buildings. This leads to a lowest price, winner takes all, scenario where the cheapest price wins with marginal attention paid to the size of a company, depth of experience, design, excellence or credentials related to successful projects completed.

The tender document for architectural services (SA, DPWSA 2015:56) created by South Africa's Department of Public Works requires from tendering architects that they compete on the basis of the discount it offers from the rates published as the 'Scope of Architectural Service and Tariff of Fees'. The principle is not unreasonable; the problem appears to lie in its application. According to Wallis (2015:24), inadequate information provided by the responsible government department is one such problem. This matter should be raised with the DPWSA in the appropriate forums. A further problem, according to Corbett (2015:44), is that some architects' firms submit tenders that offer to provide discounts as much as 70% below those published in the 'Scope of Architectural Service and Tariff of Fees'. Such discounts must be unsustainable and firms that offer such discounts will not be profitable. However, such low tenders reinforce perceptions that the recommended fee scales are inflated and do not provide the client with good value for money. The problem here thus appears to lie in the discounts offered and not in the tendering system *per se*. Should architects develop an EO and appropriate managerial education through a EET programme they would realise that fee tenders (or discounts offered) must be based on an estimate of their costs associated with the project and that the profitability of those projects could be enhanced by implementing appropriate project-managerial processes which could form part of such an EET programme.

Furthermore, this subsection of the constitution allows the organs of state or institutions referred to in that subsection, to implement a procurement policy providing for categories of preference in the allocation of contracts and for the protection or advancement of persons, or categories of persons, disadvantaged by unfair discrimination (SA, Constitution 1996:[sp]). Hence, the Department of Public Works, Republic of South Africa, contracts architects based on criteria that award additional points, determined by the firm's Broad-Based Black Economic Empowerment (BBBEE) score, a score that reflects the degree of demographic transformation in the firm (SA, Department of Public Works 2015:8-9). The problem here is the shortage of registered architectural professionals from designated groups: only 30,5% of registered professionals (across all registration categories) are 'black' and only 22,6% are female (SACAP 2016g:31). The relative scarcity of designated personnel makes it difficult for

many firms to successfully compete in the procurement process.[5] However, it must also be noted that pressures concerning demographic transformation are not unique to South Africa: Ostine (2013:8) points to the need and benefits of diversity in the British architects' firms. Similarly, the AIA also believes that architects' firms should develop an understanding of 'how the cultures, traits, values and experiences of a diverse workforce can contribute towards maintaining a successful business and competitive edge' (cited by VanDevere 2014:27).

These complexities could result in the establishment of firms that are not financially viable or in firms that, in the absence of appropriate training and support, are not managed appropriately or are established and managed in ways that do not ensure their sustainability, thereby resulting in failure. An EET and support system could address this shortcoming and result in firms becoming financially robust with the associated benefits of employment creation. Furthermore, because graduates and recently registered architects could, because of the situation sketched above, find it difficult to stay in employment long enough to gain the experience required to start and operate a firm (Corbett 2015:44), an EET and support system could become all the more important in the foreseeable future.

The study will contribute to the current scientific discourse regarding entrepreneurial education by recommending an education and training structure that could be used as a model in other built environmental and creative sector professions and industries. Such steps can potentially enhance employment opportunities while protecting the investment made in educating persons.

It is widely held that small and medium enterprises are the most effective vehicle for growing an economy and creating employment opportunities, something that is of critical importance in South Africa. Antonites and Nonyane-Mathebula (2012:2) confirmed the role that professional firms in the built environment must play in this regard but found that entrepreneurship education in this sector must be extended to stimulate entrepreneurial activity. Furthermore, it is important that professional firms, particularly those in the built environment, function optimally because of the cost of training built environment professionals and so that they might attract and retain professional staff: as stated previously

5 SACAP and SAIA, in response to this shortage have instituted a variety of programmes to address the problem. As an example SACAP has introduced a Recognition of Prior Learning (RPL) programme linked to CPD while SAIA has introduced "Open Architecture", a blended learning platform to assist people to upgrade their qualifications without giving-up their employment.These actions are augmented by bursary schemes and marketing drives to attract more members from previously disadvantaged communities to the profession (Motsepe 2016:32).

(refer to 1.2 above), South Africa's efforts to create employment opportunities through infrastructural projects are at times compromised by a critical skills shortage in this sector. For South African architects' firms to function well and retain skills, they should be established and managed in ways that will enhance the probability of success.

Similarly, the creative industry is regarded as one of the most important sectors of the global economy (Henry 2007:1). Unfortunately, the entrepreneurial process and firm management in this field remain relatively unexplored. Thus, it is important that this knowledge is expanded upon to provide guidance to aspiring architectural, creative sectorial and other related entrepreneurs, with the ultimate view of extending the economy and creating employment.

1.6 Introductory literature review

1.6.1 Starting and managing an architects' firm.

'Twenty-first-century practice requires architects to adopt an entrepreneurial approach dependent on risk-tolerance, self-awareness, and comfort with unpredictability. Starting a firm gives architect's [sic] opportunity to leverage talent and drive to create a work-life that is both personally satisfying and financially rewarding' (Choi & Klein 2014:185). According to the South African Council for the Architectural Profession (SACAP) in 2012 there were 3 294 Professional Architects in South Africa (SACAP 2012:[sp]). They were organised in 2 488 (or more) architects' firms which implies a ratio of no less than 1.32 Professional Architects per firm (SACAP 2012:[sp]). These figures are supported by information obtained from SAIA which indicates that 33% of the firms registered with them are sole proprietorships while a total of 60% of firms employ no more than three persons (principals included). From these figures it is clear that most architects in South Africa, at some stage, are involved in either starting or managing an architects' firm. This implies relatively high levels of entrepreneurship in the profession. It also highlights the need for EET in the current education and training system.

While relatively few architects regard themselves as entrepreneurs (Th'ng 2005:iv), architects' firms are established and operated as business enterprises. In the words of Moreno (2008:82): 'Architects - indeed all entrepreneurs - must make enough money to stay in business and prosper'. Choi and Klein (2014:185) believe that while entrepreneurship has been an integral part of architectural practice, ongoing changes to the business environment have resulted in a situation wherein entrepreneurial traits such as business acumen, nimbleness, risk taking propensity and the capacity to identify and explore opportunities, have become essential for the survival and success of an architects' firm.

Ostine et al (2010:77) list redundancy, the desire for a different lifestyle, greater freedom of expression, and flexible working conditions or competition wins as some of the reasons why an architect might decide to start his or her own firm. Ostine report an increase in the number of new practices starting in the United Kingdom (2013:870). This trend was also apparent in the United States of America in 2014, where 6% of firms were established between 2009 and 2011, almost 25% of firms were formed since 2005 and more than 50% of firms were formed since 1995 (Chu 2014:41). However, Ostine et al (2013:87) caution that there is a growing need for an understanding of how to develop an architects' office into a successful business while Chu (2014:41) reports a correlation between firm size and age.

Botha (2014:34) indicates that, in general, entrepreneurs start their own businesses for a variety of reasons that can be grouped as either 'push' or 'pull' factors. According to her, the 'push' factors are those that encourage persons to start a new business because traditional jobs have become unattractive or because the individual has no other choice. Chu (2014:41) and Ostine et al (2013:87) believe that the weak international economy is one of the reasons for the recent increase in the number of firms established. Botha (2014:34) regards the 'pull' factors as those that encourage persons to change from their current position and become entrepreneurs. Carland, Carland and Stewart (1996:1) describe this as 'entrepreneurial vision, the ability to see what is not there'.

Architecture's position as a visual art form provides additional reasons why architects might start their own firms: according to Aggestam (2007:32) art-entrepreneurs are persons who respond to two types of *stimuli* namely extrinsic, being external and business driven and intrinsic, involving an internal desire to be creative by producing something aesthetic and a sense of personal achievement. Carland, Carland and Carland (1995:53) believe that persons who display higher levels of an entrepreneurial orientation regard their businesses as a means to building self-esteem and self-actualisation while those who display lower levels of an entrepreneurial orientation, regard their firms as vehicles that can provide basic financial needs.

1.6.2 Entrepreneurship

Nieuwenhuizen (2014:9) points out that there is no agreement on the definition of an entrepreneur, entrepreneurship or the boundaries of the paradigm. Kao et al (2002:39) hold that while entrepreneurship is not yet an established discipline, it is an established field within business management. Shepherd (2015:489), on the other hand, points to the well-recognised importance of entrepreneurs to economies and societies and suggests that the

field of entrepreneurship has now achieved legitimacy. Lortie and Castogiovanni (2015:2) believe that Ajzen's Theory of Planned Behaviour (1991) has become one of the most often-used theories to explain human behaviour, including that of entrepreneurs.

Fillion (1991:2-11) suggests that research into entrepreneurship can be divided into five distinct periods. During the first period that stretched from 1700 until the 1950s, the emphasis was on 'what entrepreneurs do' and the view was from an economic perspective. The major authors and researchers during this period were Cantillon, Say and Schumpeter. Another noted theorist during this period was Frank Knight, who recognised the difference between risk and uncertainty (Iversen et al 2008:6). According to Nieuwenhuizen (2014:5) Cantillon was the first person to use and explain the term 'entrepreneur' during the 18th century.

The next period stretched from the 1960s to the 1980s during which the focus on 'what entrepreneurs do' continued, but the approach was from a behaviourist perspective. The major authors and researchers during this period were Weber, McClelland, Rotter and De Vries. Another noted theorist during this period was Alfred Marshall, who emphasised that entrepreneurs seek out opportunities to minimise costs (Iversen et al 2008:5-9).

The focus then changed to the field of the managerial sciences with Drucker and Mintzberg as the major authors. Since 1985 the focus turned to what support entrepreneurs needed and the most influential theorists were Gartner, Welsh, Bygrave and Reynold. Finally, during the mid-1990s the focus shifted to entrepreneurial activities and the competencies required to perform them. The major authors now are Timmons, Vesper and Brockhaus. Iversen et al (2008:11) regard Shane and Venkataraman (2000) and Casson (2003) as some of the more recent and noteworthy entrepreneurial scholars.

Nieman (2006a:50) deems that the process of starting and managing a new business (including an architects' firm) by an entrepreneur should comprise the identification of a viable opportunity, the application of originality and creativity in envisioning something that will effectively exploit the identified opportunity, gathering the resources and creating the envisioned enterprise, managing it, accepting risk and realising the anticipated reward.

However, entrepreneurs sometimes change into owner-managers. Nieuwenhuizen (2014:15) holds that when the entrepreneur loses his or her entrepreneurial orientation and becomes satisfied with the level of growth in the firm, their focus might move away from growth and innovation and hence they become managers of small businesses.

1.6.3 Small business management

As with entrepreneurship, some uncertainty exists about what is understood by 'small businesses' (SA, Department of Trade and Industry 2008:1; Nieman 2006b:1). The uncertainty is exacerbated by 'small business' sometimes being used to describe the alternative to the more innovative, growth focused entrepreneurial venture. Wickham (2006:41) distinguishes small businesses from entrepreneurial ventures by regarding small businesses as being less innovative, normally providing an established product or service but with limited newness in the global sense. Furthermore he sees size as a possible criterion but advises that this must be applied within the context of the industry. He also holds that small businesses have limited growth potential because they operate within an established industry and often are unique only in terms of their location.

Hatten (2012:5) and Wickham (2006:42) suggest that the most-used differentiator of small business is the number of employees, while other measures such as sales revenue, value of assets and owners' equity are also used. Burns (2001:9) adds that another distinguishing factor is that the business is often managed in a personalised way and often doesn't have a formalised management structure.

In South Africa the DTI (SA, Department of Trade and Industry 2008:2), as explained in 1.4.5.12, defines a Small Business as 'a separate and distinct business entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy … '.

As shown in Table 1.1, a quantitative breakdown should be added to this criterion, based on the total number of full-time equivalent employees, total annual turnover or total gross asset value to further subdivide small businesses into micro, very small, small and medium enterprises based on the economic sector in which they operate (SA, DTI 2008:2).

Professional services fall under Finance and Business Services where the breakdown in Table 1.1 would apply (an enterprise can be classified as either a micro-, a very small, a small or a medium enterprise by complying with the criteria in columns 2, 3 and 4 of the table, next to the smallest size or class as listed under column 1 of Table 1.1.

Table 1.1 Classes of Small Business Enterprise in the Finance and Business Service Sector (SA, DTI, 2008:3)

Size or class	Total full-time equivalent of paid employees *Less than:*	Total annual turnover *Less than:*	Total gross asset value (fixed property excluded) *Less than:*
Medium	200	R26.00 m	R 5.00 m
Small	50	R13.00 m	R 3.00 m
Very small	10	R 3.00 m	R 0.50 m
Micro	5	R 0.20 m	R 0.10 m

Nieman (2006b:8) holds that micro-enterprises include the so-called 'survivalist enterprises' or the 'informal sector' such as hawkers, vendors and subsistence farmers.

Information obtained from the SAIA indicates that currently, only approximately 2% of architects' firms registered with them comprise more than 20 persons (SAIA 2013a:[sp]). Most architects' firms would thus qualify as small businesses in terms of size but not in terms of turnover: information from SAIA indicates that in 2000, the average turnover of the few architects' firms employing 50-150 persons was R30m (Linning 2001:[sp]). However, Nieman (2006a:5) does point out that the legislation's quantitative criteria are open to criticism and that the legislation itself is not clear regarding the need to meet a single or all the criteria (considering that the criteria were set in 2008, they are also in need of updating). Keeping in mind Wickham's (2006:41) view that size can be a possible criterion, but that this must be applied within the context of the industry, it could then be argued that this also applies to other quantitative measures such as turnover. The study will accordingly accept that the small number of architects' firms that cannot be classified as small businesses are the exception.

Managing small businesses presents unique problems: 'a small business is not merely a small big business. Small enterprises have requirements and objectives that are quite distinct from large organisations' (Nieuwenhuizen, Kritzinger, De Beer, Stapelberg, Ferreira, Groenewald, Labuschagne, Venter & Steyn 1998:v; Burns 2001:9). Nieman (2006b:17) suggests that while the basic managerial functions i.e. planning, organising, leading and control apply to firms of all sizes, the high failure rates among small businesses indicate that management here demands something 'extra' from the business manager. Burns holds that some of the unique features of small business management are that small businesses often comprise social entities that are strongly influenced by personal relationships, and sometimes approach risk and uncertainty in peculiar ways that could even be illogical. He

continues that they are typically short of cash and often cannot raise capital in the same ways that bigger businesses can - a situation that restricts the business strategies available to them and dictates that their actions should result in quick returns, resulting in a short-term planning outlook.

Burns (2001:9-10) believes that their restricted access to capital also limits growth potential and restricts their area of operation to a single market and a limited range of services which they struggle to diversify.

Megginson, Byrd and Megginson (2006:12) find that apart from inadequate financing, small businesses are also burdened by inadequate management where managers have limited management knowledge resulting in inadequate planning and organising. They also have limited capacity to deal with burdensome Government regulations (a factor that is particularly problematic in the South African market).

The foregoing indicates that successful small business management is not a simple endeavour and that small business owners or managers need specialised support and training in order to prosper – a goal that is of great importance for any economy but more particularly for developing economies such as that of South Africa where unemployment is presenting a formidable challenge, if not a danger. All of the points listed apply to architects' firms, particularly the need for specialised support.

1.6.4 Architectural entrepreneurship

When faced with the challenge of starting an architects' firm, South African architects will find that support guidelines on starting their own practice are not from South African sources, make little mention of this as an entrepreneurial activity, and largely disregard existing entrepreneurial or management theory (refer to 1.2). Most literature is by foreign professionals in the field such as Norman Kanderlan (1991), Albert Rubeling (1994), Chappell and Willis (1992), Davis (2008), Piven and Perkins (2003), Littlefield (2005) and Ostine et al (2010). The most comprehensive set of guidelines is provided by Foxell (2015).

The RIBA Handbook (Ostine et al 2013:87-105) includes a section titled 'Setting up a practice'. However, like the other works listed, this section provides only limited practical guidelines that do not take cognisance of the knowledge available from entrepreneurial literature such as the normal process associated with entrepreneurship, although strategic planning and the writing of a business plan is covered.

The AIA, in the words of Choi and Klein (2014:185-199) in *The architect's handbook of professional practice* includes an expanded section on 'Entrepreneurial Practice: starting an Architecture firm'. This section explains how conditions in the profession have changed since 2008 and the resultant need for architects to start acting and thinking entrepreneurially. This is followed by an overview of socio-economic changes that support entrepreneurial actions before exploring different business models that firms might adopt. Thereafter, the section describes 'start-up business planning' including legal, financial and logistical requirements before providing guidelines for the writing of a business plan. The final part of this section is titled 'Entrepreneurial Practice'. Here the aspects of self-awareness, level of comfort with collaboration and risk tolerance are covered before consideration of the reasons 'why firms fail'.

Robin Th'ng compared some of the characteristics common amongst architects with some of the established characteristics (traits) associated with entrepreneurs in an article in the *RIBA Journal* (Th'ng 2005:ii-iv). This comparison revealed that most of the architects surveyed, exhibited, to varying degrees, most of the characteristics (traits) normally associated with entrepreneurs. However, they lacked the traits related to time management and optimisation of resources.

1.6.5 Managing an architects' firm

While theory and guidelines on the management of small businesses are well developed, the management of an architects' firm, particularly in South Africa presents unique challenges calling for more relevant and specific theory and guidelines as part of entrepreneurial education. The following are some of these unique aspects:

- Complexities relating to service offered: 'Architects are expected to develop and practise a wide variety of skills. In addition to creative talent, design and planning skills, architects must have technical, problem-solving, managerial, communication, co-ordination and entrepreneurial abilities' (SAIA [sa]:[sp]).
- As the outcomes listed in Addendum 'A' imply, architects have to market themselves in order to receive appointments, then combine their clients' requirements and preferences with design theory, artistic ability, environmental concerns, sociological concerns, cost and economic factors, construction materials and methods, building regulations and town planning stipulations in order to provide a functional 'product', which they then have to 'sell' to their clients before getting it constructed. The construction process further demands contractual, project managerial, health and safety and legal knowledge from architects.

- Their owners often start these firms specifically because they wish to give expression to their need to be creative and to design things of aesthetic value that will benefit the environment and human experience, in addition to the need to create a new firm (Otten 2011; Calburn 2011).
- Success is often measured by recognition of design excellence by their peers and the public or enjoying a satisfactory lifestyle rather than developing a financially flourishing firm (Davis 2008:469).
- Design prowess and creativity, in all its various manifestations (ingenuity, inventiveness, artistry), in addition to business skills, are inherent requirements for successful operation and the firm's survival (Moreno 2008:82).
- Architects are governed by, and have to comply with, the codes of practice (professional ethics) set by a statutory body (Ostine et al 2010:34), in this case SACAP.
- As a statutory profession, architects have increased legal obligations and restrictions on the nature of work they may undertake, and professional codes of practice restrict the way in which they perform work (Ostine et al 2010:61).
- Architects do not merely provide a service but often have to act as consultants or agents who make decisions that are binding on their clients resulting in increased legal exposure (Finsen 2009:34).
- Architects do not function on their own but often have to lead and combine the expertise of teams comprising various professionals with their own (Ostine et al 2010:13).
- Providing high levels of client service is not enough. The results of their work are in the public domain and are subject to criticism by their peers, the public, art critics, and continued success depends on the perceptions of potential clients, regarding subjective aspects such as aesthetics (Ostine et al 2010:28).
- The service offered by architects is knowledge based and therefore intangible - clients purchase a capacity to produce rather than a product (Winch & Schneider 1993:468).
- The service offered is customised and varies from client to client and is provided by different staff members, working with different clients that at times require the payment of overtime and other unforeseen costs (Winch & Schneider 1993:468).
- As is the case with other creative disciplines, it is both the creative and artistic knowledge and abilities of the artist that must combine in multi-faceted ways to create entrepreneurial activity (Aggestam 2008:32).

- Production and demand cannot be separated because the service cannot be stored as ‘stock’ (Parasuraman et al 1985 cited by Winch and Schneider 1993:468).

Currently, as far as specific literature on the management of an architects’ firm is concerned, a restricted body of work has been published. The most comprehensive volume is the AIA’s *The architect’s handbook of professional practice* (AIA 2014). Part Two, entitled ‘Firm Management’ comprises 340 pages of guidelines and knowledge on architects’ firm management. It has been divided into seven parts that cover firm development, marketing and public relations, client relations, human resource management, financial management, risk management and firm operations. *Pro forma* documents are included on compact disk (and can be downloaded from their website). The different sections provide detailed information and guidelines but are all unfortunately oriented to the legal framework and accounting standards of the United States of America and the structure of that country’s building industry which is quite different from the South African situation.

The Royal Institute of British Architect’s *Architect’s Handbook of Practice Management* (Ostine et al 2013) is the second most comprehensive work on the management of an architects’ firm. This volume, in ‘Part Two: Practice Management’ provides 106 pages of knowledge and guidelines to the Institute’s members. Like the AIA’s volume, this one starts off with ‘Setting up a Practice’ before moving to marketing and business development, people management, financial management and office management. While the structure of the profession and the industry in the United Kingdom is closer to the South African situation, there are many substantial differences, such as the more than 30 South African Acts that impact on the South African building industry (Van Wyk 2003:3). Limited guidelines are available to South African architects who are members of SAIA. These were discussed in 1.1.

A volume that is focused specifically on managing the small architects’ firm was published under the auspices of the AIA (Klein 2010). This volume constitutes a well-written practical guide that looks at various aspects relating to managing a small architects’ firm and recognises the unpredictable and often chaotic nature of a small firm practice. Klein, an architect with 20 years of experience, combines her own experience with small business management theory. While this work contains valuable information that can be of great value to South African architects, the value is once again limited because it does not bear directly on the local situation and many of the factors that influence South African architectural practice such as tendering for government work, competition from other categories of

architectural professionals, black economic empowerment, identification of work, working in the informal environments, etc.

A recent journal article that investigates the meaning of the term 'Architectural Management' was published by Alharbi, Emmitt and Demian (2015). These authors share that, as a result of their research, they believe that Architectural Management refers to the strategic management of the architectural firm and its individual projects (Alharbi et al 2015:151).

Thus, while extensive literature on general small business management and entrepreneurship exists, it has been shown that literature on entrepreneurship in architects' firms is limited and that this is one area that needs expansion. Furthermore, it has revealed that while some literature covering the management of architects' firms does exist, it is limited and relates to different contexts and economic environments: the management of a South African architects' firm is complex and there is no comprehensive and contextually appropriate literature available to guide and support architects in managing their firms.

1.6.6 Entrepreneurship Education and Training (EET)

As highlighted in 1.2, entrepreneurial training for South African architects is limited and as the foregoing revealed, generic training programmes will most likely not provide training that can address the specific challenges associated with establishing and managing an enduring and resilient architects' firm. Gafar, Kasim and Martin (2012:760) list the following reasons why entrepreneurship education (and training) should be offered to architects:

- To create greater diversity among architects' firms.
- To create employment opportunities.
- To sustain the architectural profession and allow firms to fulfil their rightful role in the built environment.
- To enhance job-satisfaction amongst architects because self-employed architects appear to enjoy higher levels of satisfaction.
- To make the profession more relevant in the context of the national economy.
- To develop the characteristics required from successful entrepreneurs.
- To increase architects' level of income.

The understanding that higher levels of entrepreneurial activity will result in economic growth and employment creation has resulted in strong growth in the numbers of entrepreneurship education programmes being offered. The importance of entrepreneurship education has been highlighted by the Global Entrepreneurship Monitor in the 2012 South African Report

(Turton & Herrington 2013:7) and again in the 2013 report (Herrington & Kew 2014:37). The 2013 report specifically recommends an increased focus on entrepreneurial education at secondary and tertiary levels and highlights the low levels of entrepreneurial activity in the South African Professional Services Sector (Herrington & Kew 2014:29).

Sànchez (2013:448) reports that the underlying assumption is that entrepreneurial skills can be taught and that such skills are not innate personal characteristics, as believed by many economists and governments. This revelation has seen many EET programmes being offered across the world. By contrast, a meta-analytic review carried out by Bae, Qian, Miao and Fiet (2014:217) found that the link between entrepreneurial education and post-education entrepreneurial interventions was insignificant.

It must be noted that in the case of South African architects where registration statistics indicate a ratio of 1.32 architects per practice (refer to 1.6.1) and where the number of sole proprietor firms is increasing (refer to 1.2), the requirement is not *per se* for education that will encourage more architects to start their own firms (refer to 1.2), but for education and support that will enhance the entrepreneurial performance of existing firms and, where new firms are established, doing so following the processes and procedures that have proved to be successful.

In ‘entrepreneurship education: a selective examination of the literature’ Baptista and Naia (2015:337-426) review the progress made in the area of entrepreneurship education between 2000 and 2011 by considering the contributions made to theory and the challenges that regularly emerge in practice. Two different frameworks of analysis are established and used to this effect. These frameworks are used as a means to classify and analyse articles published on the subjects of theories, encompassing methodologies, entrepreneurship education, contents, frameworks and evaluation of programs/subjects, selected from a variety of journals in the areas of Management and Education. In the process, they created a broad overview of the existing knowledge on EET.

The questions that arise from the previous paragraphs are: what must be taught and how should this be taught? Pretorius, Nieman and van Vuuren (2005) describe two models developed and used in South Africa for entrepreneurial education. These are the Entrepreneurial Performance education model (E/P model) developed by Van Vuuren and Nieman and the Entrepreneurial Education model (E/E model) developed by Pretorius. The authors then combine the two models to create an integrated model to train for enhanced entrepreneurial performance (refer to 3.7.2).

According to this model ‘Education for entrepreneurial performance … is a linear function of the facilitator’s ability and skills … to enhance motivation, … entrepreneurial skills … and business skills … through the creative use of different approaches … and specifically the business plan…’ (Pretorius, Nieman & Van Vuuren 2005:[sp]). The main failing of this model, as admitted by the authors, is the limited provision made for the context of the programme. Pretorius and Wlodarczyk (2007) identified various weaknesses and strengths inherent in the model, most notably that the previous learning and experience of learners is not explicitly taken into account. However, one of the model’s greatest attributes is the emphasis placed on the crucial role played by the facilitator, an aspect that is also underscored by Sànchez (2013:459).

Action-learning and the need to first develop an ‘entrepreneurial mindset’ is proposed by Gstraunthaler and Hendry (2011:125). The need for a deeper and more comprehensive process is expanded upon by Middleton and Donnellon (2014:193) who believe that entrepreneurial action requires the engagement of the individual, and therefore individual-specific education, that develops not only the knowledge about ‘knowing how’ but also an understanding of the student’s own reasons for doing it; what they refer to as ‘know why’.

Jason Cope proposes that experiential learning should play a far more important role in entrepreneurial education (cited in Pittaway & Thorpe 2012:852) by suggesting that entrepreneurial education programmes need to include learning by doing, reflection and learning through crises and even failure in their design. This, he proposes, should comprise three parts namely ‘the act of doing’, ‘the experience gained in the doing’ and ‘the learning accumulated from the experience’. Pittaway and Thorpe (2012:853) interpret Cope’s conceptual framework as requiring entrepreneurial action, followed by ‘sophisticated reflection’ of actions taken, thereby creating an opportunity to learn from mistakes with ambiguity and uncertainty built-in so that students can experience a measure of ‘personal exposure’.

The South African Government, through various agencies, offers entrepreneurs support through business consulting, training and referrals to specialist service providers and links to various other state support and other agencies. One of the most prominent agencies, the Small Business Development Agency (SEDA) employs business advisors that can encourage entrepreneurs to succeed by identifying key needs and guidance on how to obtain these (SA, SEDA 2014:[sp]). Assistance is also available from various other sources as will be elaborated on in Chapter 3.

It can be concluded that EET represents a current field of scientific enquiry and discourse while entrepreneurial education, and business training and support for architects, requires customised programmes due to the peculiarities and complexities of this type of business. However, EET in architecture is a field that is currently unexplored, highlighting the need for, and relevance of, this study.

1.7 Research questions

The study will seek to answer the following research questions:

1. What are the pertinent aspects of the current discourse on entrepreneurship in architecture and entrepreneurship enablement?
2. What are the current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms?
3. Which entrepreneurial actions, practices and orientations enable enduring South African architects' firms to achieve this status?
4. What constitutes the current system for education and training of South African architects?
5. What is currently available and/or offered to South African architectural students and architects in terms of entrepreneurial education training and support?
6. What do South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework?
7. Which issues are highlighted in the current discourse on entrepreneurship education and training?
8. What will constitute an appropriate education, training and support framework for South African architects and how the results obtained during the foregoing studies should be incorporated into such a framework.

1.8 Research methodology

As indicated in section 1.4.2 (refer to page 9) a mixed methods approach will be used. Mixed methods research involves the collection of both quantitative and qualitative data and the analysis of both types of data in a rigorous manner. The data collected through the respective processes are at some point integrated in the design analysis (Creswell 2014:217).

The mixed methods investigation will consist of three phases (refer to Figure 1.4). The respective phases will comprise a desktop/literature review leading to an empirical phase,

and finally synthesis, leading to conclusions and recommendations. The process is illustrated in Figure 1.3.

The first phase will comprise a desktop/literature review. Current theory and knowledge will be gathered from books, journal articles and the internet. The aim will be to determine the latest contributions to the scientific discourse on entrepreneurship, entrepreneurial education and the composition of current entrepreneurial education frameworks and curricula used in architectural and generic training and support programmes. The review will be used to identify questions for the empirical investigation that will follow and to establish initial ideas of what the proposed framework should comprise.

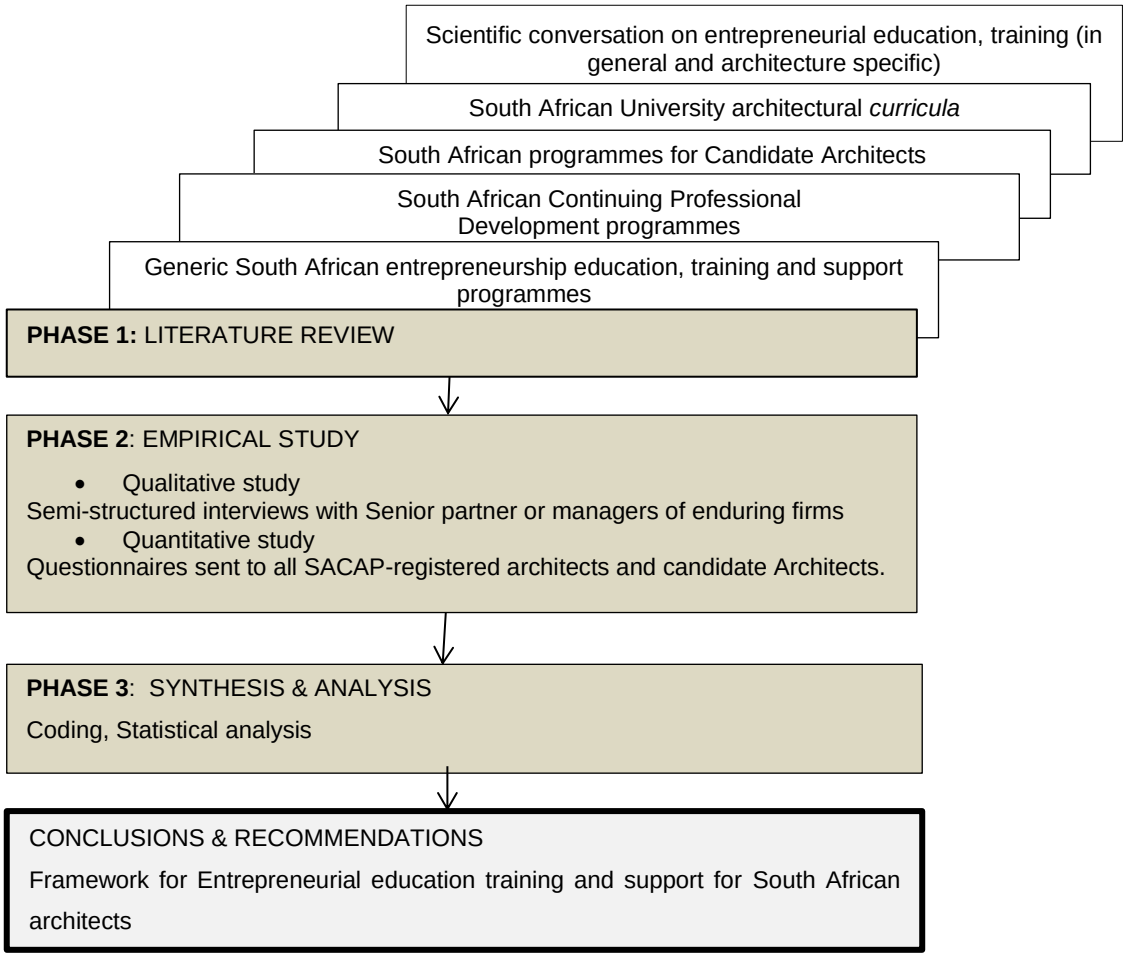


Figure 1.3 Research design flow (Figure by author)

Phase two will consist of an empirical process. The empirical study consists of a qualitative study and a quantitative study combined to form a 'convergent parallel mixed methods design' (Creswell 2014:220). This design has the researcher simultaneously collecting both

qualitative and quantitative data. The data is analysed separately. Thereafter the results are compared to determine the extent to which the two sets of results do or don't confirm each other. Equal emphasis is given to the data resulting from both types of research processes.

The qualitative process will involve the most senior principals of selected firms because they will be best acquainted with the establishment and managerial history and processes in the firm. It will set out to establish how some of the most enduring South African architects' firms were established and ascertain which entrepreneurial orientations, attitudes, strategies and practices the firms followed that resulted in their survival and entrepreneurial performance. The information gathered will be used to confirm, or repudiate, the results of the quantitative processes, to add additional insights and to identify aspects that should be included into the proposed framework.

The quantitative process aims to establish a general situation, and therefore implies reductionist or quantitative methods. Two self-administered questionnaires will be used. The first questionnaire will be sent to the most senior partner or director of all architects' firms. Their responses will be used to confirm or repudiate the results of the qualitative process and to establish the current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms. The responses received from enduring firms will, in addition, be compared with those received from established firms[6] and firms younger than seven years old, in order to identify any differences between the three groups.

The second questionnaire will be sent to all SACAP-registered Candidate Architects and Professional Architects who recently passed the major architectural education and training registration exams, as well as other career milestones. The questionnaire will ask them to reflect on the education and/or training that they received during the past education or training stage or recent professional past and to identify the shortcomings thereof in terms of entrepreneurial education and training. This will be done in order to identify aspects that are not currently covered by architectural education and training programmes and generic entrepreneurial education and training programmes. The questionnaire will also identify the aspects that should be retained or included in the framework that will be proposed.

6 Piven and Perkins (2003: 8) hold that it takes between seven and 10 years for an architects' firm to become established. Based on the above assertion by Piven and Perkins, firms older than seven years will be regarded as established firms.

During Phase three, the results of the various stages will be synthesised to draw conclusions and make recommendations for an appropriate framework for entrepreneurial education, training and support for South African architects: a system that can provide managerial and entrepreneurial education and training, comprehensive country- and profession-specific guidelines on firm establishment and management aided by ongoing support. The results obtained during the foregoing studies will be incorporated into the proposal.

1.9 Chapter outline

1.9.1 Chapter 1: Introduction

The study in context: this introductory chapter will provide the background to this study, describe its goals and objectives, define the research problem and state the research hypothesis. Thereafter it will expound the research design, research delimitations, assumptions and definition of terms before providing an introductory literature review of the topic. Subsequently, it will state the research questions that are to be answered; describe the research methodology to be followed and the value or significance of the study. Finally, the limitations of the study and assumptions made will be stated before outlining the purpose and content of each of the chapters that follows. The conclusion will reflect on the relevance of the study and how it will constitute new knowledge.

1.9.2 Chapter 2: Entrepreneurship, entrepreneurship In architecture and entrepreneurship development

This chapter will engage with the first, second and third research questions. This will be done by means of an epigrammatic literature review of current literature and conversations on entrepreneurship to convey the current positions on the aspects of entrepreneurship that have relevance for this study. This will be followed by a review of literature on entrepreneurship promotion highlighting the role that EET can play in this regard. Hereafter literature on entrepreneurship in architecture will be reviewed. The purpose of this chapter will be to provide a knowledge base on entrepreneurship in general and entrepreneurship in architecture in particular, point to the relevance of EET and to identify questions that should be included in the empirical processes that will follow.

1.9.3 Chapter 3: Entrepreneurship education and training of South African architects and existing entrepreneurship education, training and support models

This chapter will engage with the fourth, fifth, sixth and seventh research questions. The existing architectural education and training structure in South Africa will be described. In doing so, the chapter will explore what EET currently is on offer to architects through existing education (as part of University *curricula*), training (as part of Candidacy and Continuing

Professional Development programmes) and support (available via generic EET) programmes. This will be followed by a literature review of EET and a range of EET models or frameworks. The foregoing will be done in order to consider the appropriateness of the models proposed and to identify from current offerings the aspects that should be retained in the proposed framework. Selection and identification will be based on general consensus amongst theorists. Finally, the review will identify current shortcomings as well as additional questions for the empirical processes that are to follow.

1.9.4 Chapter 4: Empirical research design and procedure

In order to answer the questions posed in Chapters 2 and 3 through empirical investigations, this chapter will describe and justify the design of empirical research processes best suited for this purpose. To this effect the researcher's world view, epistemological stance and the ontological views that frame the research will be described. Thereafter, the most appropriate research methods (research design, data gathering methods, instruments to be used, sampling and data analysis) for the range of questions that must be answered will be identified. The questions identified in the previous chapters will then be paired with the best suited methodology. Following this, the data gathering instruments (questionnaires) will be compiled and the procedure for data collection and analysis described.

1.9.5 Chapter 5: Research results and interpretation

This chapter will report the results of the empirical studies described in the previous chapter. It will firstly report on the results emanating from the statistical analysis of the quantitative process where after the reliability and validity of the results of this quantitative study will be defended. Subsequently, the results and findings of the qualitative study will be reported. This will be done in order that the findings can be considered, analysed and synthesised in Chapter 6.

1.9.6 Chapter 6: Conclusions and recommendations

This chapter will have the purpose of drawing together the findings of the literature reviews conducted in Chapters 2 and 3 and the findings obtained through the empirical studies undertaken. The ultimate aim will be to reflect on and compare the results obtained with the goals and objectives research hypothesis, answer Research Questions 1 to 7 and thereby confirm the need for a specialised EET framework for South African architects. This will be done in order to answer Research Question 8 in Chapter 7.

1.9.7 Chapter 7: A framework for entrepreneurship education, training and support for South African architects

This chapter will answer Research Question 8 by formulating and finally proposing an appropriate EET framework for South African architects and how it can be integrated into the existing education and training framework. This will be followed by a reflection on the extent to which the research hypothesis can be accepted or rejected by the results of the study, the implications, value and limitations of the study followed by recommendations including topics for further study.

1.10 Reference technique

The reference technique that is used here is the Harvard Reference System as described by Burger (2010).

1.11 Conclusion

This chapter explained and motivated the research problem, states the research hypothesis and expounds the research design, research delimitations and definition of terms before providing an introductory literature review of relevant topics. It states the research questions that are to be answered; describes the research methodology that will be followed and the value or significance of the study. A statement of the limitations of the study, assumptions made and finally a chapter outline follow this.

The following chapters will investigate a solution to the problem stated by engaging with the different research questions: Chapter 2 engages with the first two research questions and Chapter 3 with questions three, four and five while Chapter 6 deals with question six.

The study results in new knowledge based on a scientifically justified systemic and methodical empirical investigation. The results have practical relevance and application in the strengthening of the South African architectural profession and contribute to the current conversation regarding entrepreneurship education.

The investigation engages with an established problem that could be affecting the success of many new and existing architects' firms and can contribute to strengthening the very fragile nature of architectural firms. The results should, if implemented, contribute to financially stronger firms.

CHAPTER 2 ENTREPRENEURSHIP, AND ENTREPRENEURSHIP IN ARCHITECTURE

2.1 Introduction

Yohane Khamfula (2004:1) believes that as South Africa emerged from the apartheid era in 1994 there was an urgent need to encourage economic growth for the benefit of all members of the population. At the time it was believed that realising this outcome will require a macroeconomic-policy framework that induces economic growth. To achieve this goal, the government introduced macroeconomic policies in 1996 that aimed to reduce fiscal deficits, lower inflation, maintain exchange rate stability, decrease barriers to trade and liberalise capital flows. These macroeconomic policies were steered by a strategy to promote Growth, Employment and Redistribution (GEAR).

GEAR promoted a neoliberal approach which sought to reduce the government's role and encourage the market by increasing privatisation and deregulation (Habib & Padayachee cited by Cornish-Jenkins 2016:[sp]). The African National Congress government have largely continued to implement neoliberal policies during their consecutive terms in office (Ngepah & Mhlaba 2013:72-97). Their belief that neoliberal policies hold the key to economic growth is not unique. Neoliberal policies are implemented by many governments across the world, particularly since the collapse of communism and central-planned economies during the late 1980s.

Ludwig von Mises and Fredrich Hayek are held to be the founders of neoliberalism (Harvey 2005:2), which is based on the premise that human dignity and individual freedom are fundamental to well-being. They believed that these values were undermined by state planning and interventionist policies. They held that by maximising the use of the market, individuals would be in a position to take their own decisions resulting in wealth creation without interference. In pursuance of these ideals, elements of economic governance, previously controlled by governmental institutions, should be transferred to private institutions (Harvey 2005:2). Neoliberalism found its way into the mainstream after the failure of Keynesian policies in the 1970s.

Thus, when the ANC came to power in the 1990s, they were faced by an international consensus on neoliberalism which was accepted across the world through international institutions such as the International Monetary Fund (Habib & Padayachee cited by Cornish-Jenkins 2016:[sp]). However, the ANC could not adopt these policies without regard for the legacy of apartheid they inherited. Faced with an economy dominated by white people and masses of disadvantaged and often unemployed black people, they introduced Broad-based Black Economic Empowerment (BBBEE) and welfarist policies that pay a variety of grants to

the poor and unemployed. In an attempt to address unemployment, the ANC followed the neoliberal route by setting up a range of entrepreneurship-supporting departments and bodies while the Competition Commission was allowed to continue their crusade against any form of collusion. This included aspects such as professional fee-scales and rational attempts at 'Identification of work' frameworks (Wallis 2017). With this, the time of the 'gentleman's profession' finally came to an end with the fall of Keynesian policies. In addition, social and political changes imply that structures that are not demographically representative must adapt to reflect society in general.

However, in 2017, the Edelman Trust Barometer survey discovered that trust in the government had dropped from an already low 16% in 2016 to 15% in 2017. This was the lowest total of all the 28 countries surveyed, with the global average being 41% (Rittenberry 2017:[sp]). In addition, the survey found that many other sectors of the economy suffered similarly in terms of perceived trustworthiness: only 56% of respondents indicated that they trusted business and only 39% that they trusted the media. Non-Governmental Organisations represented the only stable sector, with trust levels maintaining their 58% levels from 2016.

Declining trust in the main pillars of society may point to the measured desire to be nimble/decentralised and the subsequent growth in the informal sector. However, this could also be attributed to the rise in unemployment and decline in the number of job opportunities available: unemployment increased to 27.7% during the first quarter of 2017 from 26.5 % in the previous period (Trading Economics 2017:[sp]). To ordinary citizens the system is no longer working and they are looking towards people on their own level with whom they can identify, depend on and trust (Rittenberry 2017:[sp]). Hence, the entrepreneurial endeavours of many, including young architects, are about survival in the face of institutional failure. This is an external pressure similarly bearing down on professional services, as many of the traditional sources of work have floundered or stopped investing in the South African economy (Cohen, Hill & Crowley 2016:[sp]).

While the rise of free-market economic systems might explain the current regard for entrepreneurship, it must be noted that entrepreneurship and its study have been around for much longer, as described in 1.6.2 (refer to page 26). What is true is that the rise of Keynesian policies and the subsequent period of neoliberalism have promoted interest and support for entrepreneurship. The point is that entrepreneurship is not dependent on neoliberalism. It should also be noted that while neoliberalism is blamed for many of the prevailing economic problems, many, such as (Monbiot 2016:7), believe that it is on the

decline but that the alternative has not presented itself as yet. Hence, in the absence of an accepted alternative, architects will continually be forced to adjust their thinking as proposed in 1.1 (refer to page 1). Furthermore, it is argued that architects will be forced to adjust the way they practice their profession by becoming entrepreneurial because this is the only way they will be able to remain part of the mainstream economy. It is therefore necessary that EET be made available to architects.

Since the abolishment of mandatory fee-scales, architects are pressured to do work at risk, cut fees and tender for government projects. While it can be said that some of these problems were created by those architects who agreed to do work at risk or submit unrealistic low tenders, this has become the reality of managing an architect's firm in 2017. Architectural education will have to adapt to the changing context.

This chapter will initiate the process of answering the first, second and third research questions. These questions ask:

- What are the pertinent aspects of the current discourse on entrepreneurship in architecture and entrepreneurship development?
- What are the current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms?
- Which entrepreneurial actions, practices and orientations enable enduring South African architects' firms to achieve this status?

This will be done in order to highlight the importance of entrepreneurship to national economies and the need for a profession-specific framework for entrepreneurship education and support. Furthermore, it will seek to identify the pertinent aspects that such a framework should include. It will do this by way of an epigrammatic literature review of current literature and the discourse on entrepreneurship. The purpose will be to convey current thinking on aspects of entrepreneurship that has relevance for this study, particularly what entrepreneurship is, the advantages of opportunity-driven entrepreneurship and if entrepreneurship is an innate ability. This will be followed by a review of entrepreneurship enablement highlighting the role that EET can play in this regard. Hereafter, literature on entrepreneurship in architecture will be reviewed. The purpose of this chapter will be to provide a knowledge base on entrepreneurship in general, and entrepreneurship in architecture in particular; to point to the relevance of EET; and to identify questions that should be included in the empirical processes that will follow.

2.2 Entrepreneurship

2.2.1 The role and importance of entrepreneurship

Entrepreneurship is described as a way of thinking, arguing and acting (Timmons & Spinelli 2007:79). While different authors and theorists might emphasise different aspects of entrepreneurship, or approach it from different angles, agreement exists regarding the important role entrepreneurs and entrepreneurship play in the success of businesses and national economies, particularly with regard to employment creation and economic development (Wickham 2006:159; Kumar 2008:8; Nieman 2006b:3). Therefore, the widely held view that entrepreneurs form the centre and driving force of any modern economy (Nieuwenhuizen 2014:4) can be supported.

This agreement regarding the role and importance of entrepreneurship exists, despite the fact that we still do not have a coherent definition of what it implies because its meaning and while what is understood as 'entrepreneurship' has varied from time to time (Iversen, Jørgenson & Malchow-Møller 2008:1; Nieuwenhuizen 2014:9). According to Wickham (2006:4), this is not because of a lack of definitions, but because there are so many. According to him, the entrepreneur is to be considered as a manager undertaking an activity, as an agent of economic change, and as an individual who has specific attributes. Aggestam (2008:31) confirms that agreement on a single definition has remained elusive and highlights the fact that defining the creative entrepreneur has proved to be even more problematic.

Iversen et al (2008:45) believe that different definitions of entrepreneurship indicate that different ideas exist regarding the role of entrepreneurship in the economy; some involve aspects such as innovation and growth while others emphasise aspects such as uncertainty-bearing, opportunity-seeking and management. Other descriptions come from authors such as Burns (2001:1) who focuses on the broader benefits of entrepreneurship and describes entrepreneurs as people who identify an opportunity, develop or commercialise it and, in doing so, create jobs from which society at large will benefit. Zimmerer and Scarborough (2002:4) regard an entrepreneur as someone who 'creates a new business in the face of risk and uncertainty for the purpose of achieving wealth and growth by identifying opportunities and assembling the necessary resources to capitalize on them'. According to Wickham (2006:xxxvii) entrepreneurship should be regarded as a style of management that aims at developing opportunity and driving change.

Nieuwenhuizen (2014:10) also acknowledges the variety of viewpoints and pragmatically proposes that entrepreneurs be regarded as persons who see business opportunities, gather resources, and create and grow business ventures in order to meet these needs, while

bearing the associated risks for the sake of the potential rewards. Lumpkin (1996:136) considers ‘new entry’ as the core concept underlying entrepreneurship. ‘New entry’ could involve the establishment of a new business, entry of a new owner or manager into an existing business, entering new or established markets or even entering a new product into an existing market.

As stated in Chapter 1 (refer to 1.4.5.5), this study will employ a definition based on Fayolle and Toutain’s (2013:169) definition, namely that ‘entrepreneurship is a social and economic phenomenon which occurs at the individual, organisational, institutional and societal levels. At the heart of this phenomenon is the entrepreneur who ‘creates and develops new economic and social wealth’.

Knowledge about entrepreneurship is expanding and entrepreneurship could possibly be the fastest growth area, not only in business schools, but in academe in general, according to Katz (1999); Timmons (1999); and Vesper and Gartner (1999) cited by Schindehutte, Morris and Kuratko 2000:1). According to Schindehutte, Morris and Kuratko (2000:1), courses in entrepreneurship are offered by many colleges and universities, and programs exist at the undergraduate, MBA and PhD levels, while a substantial number of endowed professorships in entrepreneurship exist. They believe that more than 40 academic journals have an entrepreneurship-related editorial focus, while at least twenty entrepreneurship-focused academic research conferences are organised each year.

However, while the academic endeavour in this field is apparent there still remains a quest for cohesive theory building. Bygrave and Hofer (1991:13) state that the failure of scholars to agree on an acceptable definition for entrepreneurship has meant that a substantial theoretical foundation for entrepreneurship could not develop: ‘Good science has to begin with good definitions’. Thus, while entrepreneurship has developed into a scientific field, differences regarding many aspects persist. Nieuwenhuizen (2014:9) holds that this was partly due to the limitations of the source paradigms that have developed as a result of their application to the field of entrepreneurship, and from entrepreneurship’s own inability to generate new paradigms using existing tools.

Bygrave and Hofer (1991:13) propose that the focus should, because of this, shift from defining entrepreneurship and the characteristics and functions of entrepreneurs to the entrepreneurial process and therefore on ‘all the functions, activities and actions associated with the perceiving of opportunities and the creation of organisations to pursue them’. His

suggestion spawned significant attention to this sub-field such as the recent work by Leyden and Link (2015) as well as McCann and Vroom (2015).

Nieman (2006a:50) identifies the following key concepts regarding the entrepreneurial process:

- Opportunity recognition
- Innovation and creativity
- Gathering resources
- Starting and growing a venture
- Risk taking
- Reward
- Business management

However, Leyden and Link (2015:475) suggest that there are sub-phases involved while McCann and Vroom (2015:612) believe that the nascent entrepreneur's attitudes change during the process. Furthermore, the notion that entrepreneurship is a linear and predictable process is challenged by authors such as Neck and Greene (2011:60) who also challenge the notion that there is only one type of entrepreneur and that material reward is the main motivation for entrepreneurial action. Despite this, agreement regarding the important role of opportunity recognition remains.

Maas and Herrington (2006:9), Ellias and Williams (2011:6) and Kelly, Bosma and Amoros (2010:26) distinguish between entrepreneurs that, having an entrepreneurial disposition, start a business in response to a perceived opportunity (in preference to other career options) and those, such as retrenched workers, who start a business because this is regarded as the only way in which they can make a living. The first group is referred to as opportunity-based or opportunity-driven entrepreneurs and the latter group as necessity-based or necessity-driven entrepreneurs. Valerio et al (2014:18) citing Farstad (2002) state that necessity-based entrepreneurs are also referred to as 'subsistence entrepreneurs' and opportunity-based entrepreneurs as 'innovative entrepreneurs'. While it is generally regarded that opportunity-based entrepreneurs perform better than necessity-based entrepreneurs (Turton & Herrington 2012:22; Vosloo 2015:60), necessity-based entrepreneurs still contribute to economic activity and growth. Furthermore, the aforementioned distinctions are simplistic because exceptions exist, because necessity entrepreneurs often share characteristics with growth entrepreneurs and because they are often constrained by low levels of capitalisation (Grimm, Knorringa & Lay (2012) cited by Valerio et al 2014:19) or by the sector they operate in (Burns 2002:12).

Timmons and Spinelli (2007:88) suggest that there is a core process common to many higher potential ventures. This process is dominated by the following themes:

- It is opportunity focused.
- It is performed by a leader entrepreneur supported by an entrepreneurial team.
- It is creative and uses resources sparingly.
- It also depends on balance and fit among the above.
- It is cohesive and encompassing.
- It is resilient.

This process is illustrated by the so-called Timmons Model (Figure 2.1).

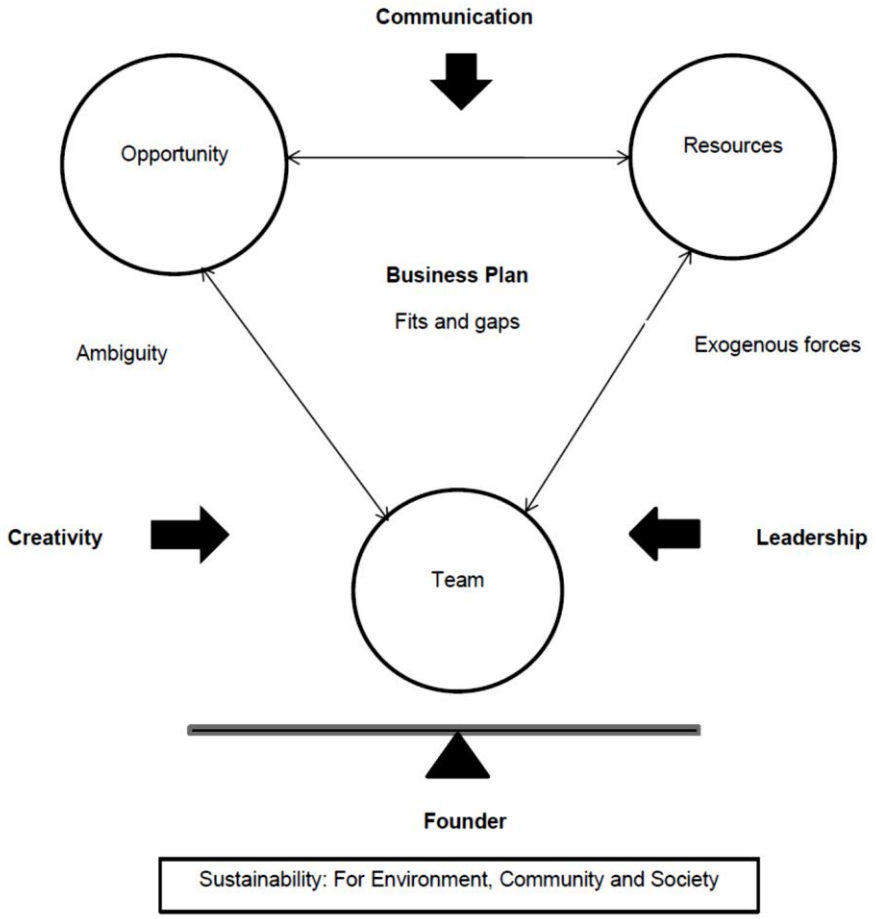


Figure 2.1 Timmons Model of the Entrepreneurial Process (Timmons & Spinelli 2007:89)

Many theorists (McClelland 1961; Hisrich, Peters & Shepherd 2005; Kuratko & Hodgetts 2007; Birley & Muzyka 2000) have recognised a number of characteristics that can be identified with exceptional entrepreneurial performance.

Botha (2014:31) believes these traits comprise:

- Confidence
- Need for achievement
- High energy level
- Resourcefulness
- Flexibility
- Ability to take calculated risks
- Creativity and innovation
- Good human relations
- Need for independence
- Positive response to challenges
- Internal locus of control
- Orientation to clear goals
- Positive attitude
- Responsibility
- Cooperativeness
- Perseverance and determination
- Profit orientation
- Ability to learn from mistakes
- Toleration of ambiguity
- Ability to influence others
- Creative problem-solving
- Commitment
- Dynamism, leadership
- Taking initiative and personal responsibility
- Passion and drive
- Ability to make decisions quickly

Gurol and Atsan, cited by Agbin, Oriarewo and Zever (2014:253), argue that a risk-taking propensity, innovativeness and self-confidence should be included in the aforementioned list.

However, this view is the subject of ongoing discussion: many theorists believe that the aspect of traits should be approached with circumspection. Burns (2001:25) holds that linking the personality traits of an individual with the eventual success of a business is questionable. Along the same lines, Wickham (2006:14) questions, amongst other things, whether 'such traits are innate or if they can be acquired and to what extent are they being influenced by outside factors?' The author concludes that there is no clear evidence that a single 'entrepreneurial personality' exists: 'People of all personality types, attributes and dispositions not only become entrepreneurs but become successful entrepreneurs' (Wickham 2006:59). Furthermore, Miller (2014:1) points to the fact that researchers have largely ignored many of the negative aspects of the entrepreneurial personality. He believes that if the nature of some of the challenges entrepreneurs are faced with, and the consequent demands of their situation are considered, certain personality traits can also become a destructive aspect. As an example, he points out that aspects such as high energy levels, self-confidence, and the need for achievement and independence can sometimes turn into aggressiveness, narcissism, ruthlessness, and irresponsibility (particularly in the instance of unbridled neoliberalism, since the fall of the more tempered form of capitalism found during Keynesian demand management (refer to 1.4.5.4 on page 15) (Monbiot 2016:7). DeNisi (2016:997) supports and expands this view by raising additional issues that he believes are also relevant while Staniewskia, Janowskib and Awrukb (2016:1939) believe that a core group of personality traits may be relevant for most aspects of a firm's functioning while other entrepreneurial dispositions may impact on other facets of company's functioning. Thus, they suggest that some skills present in individuals could need improvement, and hence the need for developing educational programs that focusses on specific entrepreneurial behaviours.

Baum, Locke and Smith (2001:301) hold the view that while an entrepreneur's personality and character traits do matter, other factors such as industry-specific skill and relevant technical skill, vision, goals and self-efficacy does so more directly. Valerio et al (2014:20) relate that research has found that many of 'these mindsets, types of knowledge and skills can be learnt' but that for this general statement to apply, education and training frameworks should include the teaching of creative and entrepreneurial skills. Pretorius and Wlodarczyk (2007:509), citing the work of Ronstadt (1987), Van Clouse (1990), Ivancevich (1991), Fretschner and Weber (2013:410), Vaneffenhoven (2013:467) and Sánchez (2013:447), confirms that considerable consensus exists that entrepreneurship can be taught. However, the role of innate abilities and traits, regarded as of critical importance by McClelland (1961), Hisrich, Peters and Shepherd (2005), Kuratko and Hodgetts (2007) and Birley and Muzyka (2000), cannot be ignored. Thus, it would seem that while many aspects can be taught,

human beings differ, and while we all have certain inbuilt attributes that can be of value in becoming established entrepreneurs, some potential entrepreneurs can draw on inherent or innate skills which others don't have, but can acquire.

Thus, while innate skills are important, many other factors can play a role and importantly, can be learnt or created in societies through programmes that aim to develop and polish innate skills while imbuing participants with the technical skills and mindsets that are required.

With the changes in the profession (described in 1.4.5.5 refer to page 16) and the absence of EET in existing programmes and the aim of this study in mind, it will be necessary to establish if the founders of enduring architects' firms have certain personality traits in common and hence if there are certain traits which, if not present in candidates, must be developed as part of an EET framework. Thus the semi-structured questionnaire that will be used for qualitative study that will follow should include the following questions:

- Which of the personal traits sometimes ascribed to entrepreneurs apply to your firms' founders?
- Would you describe the firms' founders as proactive individuals?
- Were they highly competitive?

Given the role and importance of entrepreneurship as highlighted in this section, how can entrepreneurial activity be enabled? The following section will consider the need for broader interventions.

2.2.2 Enabling entrepreneurship

Despite Monbiot's (2016:7) account (in 1.4.5.4) of the negative aspects of the neoliberal macroeconomic system that prevails, stimulating and enabling entrepreneurship is high on the agenda of many governments (Lerner & Malmendier 2013:2411; Siioven & Brumila 2014:160; Rideout & Grey 2013:329; Elia, Margherita, Secundo & Moustaghfir 2011:147), including that of South Africa (SA, National Planning Commission 2012:26-34; Botha 2014:24). Their objectives include growth, innovation, employment and equity (Valerio et al 2014:1). In South Africa, dealing with the high level of unemployment has resulted in the government and others making significant funding and support available to stimulate entrepreneurship and entrepreneurs. As shown in 1.4.5.4, while the current macroeconomic system's problems are resulting in issues that will posibly lead to its demise, it is likely that it will be replaced by a moderate or tempered form of capitalism. Thus, because

entrepreneurship as a construct is not dependent on the neoliberal system (refer to 2.1), and due to its inherent potential to provide solutions in areas that centrally planned economies might overlook, enabling entrepreneurship does not equate to social engineering in support of the current macroeconomic system. Enabling entrepreneurship should be aimed balancing power relations by giving individual persons and groups the ability and skills to identify needs and opportunities and allow for these to be explored for the benefit of the individuals themselves and/or for society at large.

Entrepreneurial activity can occur at a variety of levels, including both formal and informal businesses (Valerio et al 2014:1). It is also recognised that an entrepreneurial mindset can have a range of related beneficial advantages, for instance enhancing the performance of those who are employed by established businesses or organisations, thereby boosting the entrepreneurial performance of those companies (Kozlinska 2012:6). Fayolle and Toutain (2013:168) point to the importance of steps to encourage entrepreneurship in the general population when stating that 'Promoting [enabling] entrepreneurship as a multi-level social and economic phenomenon is a good way to encourage individuals to generate added social and economic value - which benefits society at large'.

Thus, it is of great importance for businesses, and public organisations, that those who work in them should have an entrepreneurial disposition in order to be more responsive and innovative so that these organisations can deliver their intended purpose and retain their place in the world for the benefit of the greater good (Valerio et al 2014:11; Nieuwenhuizen 2014:3; Kozlinska 2012:14; Wickham 2006:xxxi). Therefore, the benefits of entrepreneurial development go beyond simply producing potential entrepreneurs - as Fayolle and Toutain (2013:167) suggest - entrepreneurship is present in the 'activities of individuals who, while pursuing a variety of goals, engage in activities that generate social and economic value' and, in doing so, create economic value. Therefore, society at large will benefit from entrepreneurial education that can create in the population an entrepreneurial disposition.

If entrepreneurial activity is to be encouraged or enabled, interventions might also be required in aspects other than the attitudes or skills that individuals might have or need. Maasdorp and Van Vuuren (1998:721), Turton and Herrington (2012:23), Hill (2003:39), Neneh (2012:3364) and Ashourizadeh, Chavoushi, and Schøtt (2014:234) suggest that many of the required mindsets reside at the societal level of countries and nations and are formed by factors such as culture, family and role models, education systems, work experience and personality. They illustrate the external variables that influence entrepreneurship at the national or country level in the model in Figure 2.2. According to this

model, entrepreneurial activity firstly requires a population that has an appropriate entrepreneurial disposition because an entrepreneurial disposition is critical to the survival and growth of firms and the economic prosperity of nations, while being essential for entrepreneurial development.[7] Valerio et al (2014:20) and Turton and Herrington (2012:22) similarly believe that entrepreneurship promotion should firstly focus on the factors that influence an individual's entrepreneurial disposition. This is in line with earlier findings that an entrepreneurial disposition can be developed into an entrepreneurial orientation (refer to 1.4.5.6).

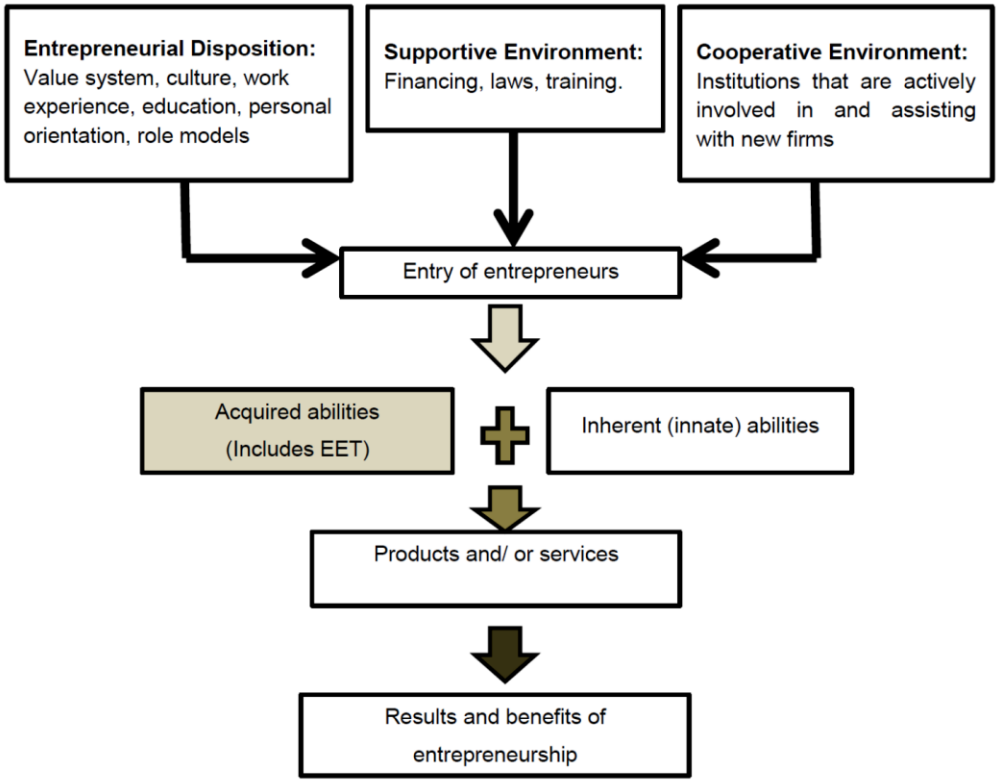


Figure 2.2 A model for entrepreneurship development. (Based on Maasdorp & Van Vuuren 1998:721 as per Nieuwenhuizen 2014:12)

Development of a positive entrepreneurial disposition at the societal level must thus be seen as a critical prerequisite for increased entrepreneurial endeavour for the benefit of society at large and not only to glorify or enhance the income of the entrepreneurs themselves. Therefore, general attitudes towards entrepreneurship are the first aspects that should receive attention and, because of this, education that will create positive attitudes towards

[7] Refer to Sánchez (2013:449) and the explanation of Ajzen's 'Theory of Planned Behaviour'.

entrepreneurship should be included in primary, secondary and tertiary education (Kozlinska 2011:207; Fretschner & Weber 2013:414).

The authors of this model and others furthermore believe that the national entrepreneurial activity is encouraged by an environment that provides support and creates a climate favourable to entrepreneurial activity (Maasdorp & Van Vuuren 1998:721; Nieuwenhuizen 2014:13; Valerio et al 2014:11; Turton & Herrington 2012:22; Timmons & Spinelli 2007:18; Neneh 2012:3364; Ashourizadeh, Chavoushi & Schøtt 2014:234). This will require the appropriate infrastructure, a deregulated legal environment which can offer opportunity and not smother initiative, coupled with a range of business development institutions that can offer training, financing, mentoring, counselling, incubators, etc. Finally, it will need a cooperative environment. This standpoint is shared by others such as Hill (2003:39) who points out that the entrepreneurial and business environment is affected by the political, legal, economic and cultural systems and values of a country. This implies organisations and institutions that are actively involved in enabling entrepreneurship and with assisting entrepreneurs with advice, research and capacity building within the supportive environment (Hill 2003:44). These bodies must encourage entrepreneurship and develop entrepreneurial disposition in society. This, by implication, will require staff that are well versed and trained in entrepreneurship.

While EET will only be dealt with in the following chapter, the foregoing points to the need for EET and support at different levels and with different outcomes (Vosloo2016a:10). Firstly, there is a need for EET that develops entrepreneurial awareness and a positive attitude towards entrepreneurship because it can influence national entrepreneurial disposition. Secondly, customised EET is necessary for creating supportive and cooperative environments by training those who can provide support and guidance. Finally it is necessary because of the benefits it holds for the corporate environment and competition by providing nascent entrepreneurs and intrapreneurs with the required skills, while developing innate abilities up to the appropriate levels.

Thus, it can be concluded that the following is essential for the functioning of individuals and ventures – such as architects' firms - in the modern economy: a supportive environment, a degree of entrepreneurial disposition, and EET to develop and hone the skills required. Therefore, to understand what contributes to the long-term survival of architects' firms, the qualitative study that follows should include questions that probe whether:

- The founders of enduring firms attended any entrepreneurial education and training programmes.

- Read books and journals on entrepreneurship.
- Read the business section of newspapers in order to stay abreast of financial and business-related developments.

The following section will present an overview of entrepreneurship in South Africa.

2.2.3. Entrepreneurship in South Africa.

The Independent Entrepreneurship Group (INENG), in their State of Entrepreneurship in South Africa Report in the 2014 edition of the Global Entrepreneurship Monitor (2015:[sp]), describes the level of entrepreneurship activity in South Africa as very low. This, in spite of the high levels of unemployment, and the associated likelihood of there being many necessity-driven entrepreneurs, that prevailed. According to them it was only 25% of the levels found elsewhere in sub-Saharan African countries.

The 2015 edition of the Global Entrepreneurship Monitor (GEM) (2015:105) reflected the following statistics regarding entrepreneurship in South Africa:

- Perceived opportunities were 35th amongst the 60 countries monitored.
- Capabilities were 38th amongst the 60 countries monitored.
- Entrepreneurial intentions were 44th amongst the 60 countries monitored.
- The status of entrepreneurs was 15th amongst the 60 countries monitored.
- Entrepreneurship seen as a good career choice was 8th amongst the 60 countries monitored.

The GEM's 2017 edition reflected a further decline, reporting the following (2017:92):

- Perceived opportunities were 44th amongst the 64 countries monitored.
- Capabilities were 54th amongst the 64 countries monitored.
- Entrepreneurial intentions were 51st amongst the 64 countries monitored.
- The status of entrepreneurs was 17th amongst the 64 countries monitored.
- Entrepreneurship seen as a good career choice was 15th amongst the 64 countries monitored.

The reasons offered for this situation by the Independent Entrepreneurship Group and others are:

- Regulatory requirements which make it difficult to start a business.
- Onerous labour laws and low levels of efficiency in the labour force.

- South African society has a culture that neglects entrepreneurial activities, resentment of those that succeed, coupled with a neglect of individuals who failed at entrepreneurial endeavour.
- Employment rather than entrepreneurship as the first choice in careers; individuals dream of finding a job rather than creating a job.
- The country is weak when it comes to start-up skills, risk-capital, technology absorption, and human and social capital.
- Lack of supportive infrastructure.
- The demographic structure of the country, in which almost 50% of the population is under the age of 24.
- Potential entrepreneurs struggle to do longer-term projections of their ideas.
- South Africans are highly risk-averse.
- South Africans are doubtful of locally produced products.
- Bureaucratic legislation that hampers the entrepreneurial process.
- Access to markets and supporting infrastructure; many innovations come out of the rural areas.
- Pre-existing values and a home-grown culture of entrepreneurship (entrepreneurs seen as heroes who conquer great obstacles to make fortunes) rather than people who enter new areas of involvement.
- Corporate careers are regarded as more desirable.
- Attitudes and descriptions of wealth and the wealthy.
- South Africa's lack of infrastructure.
- Unpreparedness and lack of awareness amongst entrepreneurs.

(INENG 2015; SANLAM 2012:1; Skae 2017:2; Makinane 2017:[sp]; The Entrepreneurial Dialogues 2009:2-12.):

These authors propose the following possible solutions to improve the situation: include the following:

- Improve the education system.
- Offer enhanced entrepreneurship skills training in schools.
- Expose tertiary students to entrepreneurship incubators in order to make them aware of the support offered.
- Provide entrepreneurship skills training in programmes at tertiary institutions.
- Improve the performance of the government institutions created to offer entrepreneurial support.
- Make education the number-one priority.

- Produce graduates with the mindset of becoming employers rather than employees.
- Expand access to banking.
- Empower excluded entrepreneurs from the informal sector.
- Accelerate technology absorption.

(INENG 2015; SANLAM 2012:1; Skae 2017:2; Makinane 2017:[sp]; The Entrepreneurial Dialogues 2009:2-12.):

The posed solutions highlight the need for an increase in EET at all levels of the education and training system in South Africa.

2.2.4. Entrepreneurship and the statutory professions.

Until fairly recently, entrepreneurship and being a (statutory) professional were not mentioned in the same sentence. While many pointed to the need for architects to take more interest in the business aspects of their firms (as referred to at various places in Chapter 1), business management and entrepreneurship are not to be confused (as will be explained in Chapter 3).

The nature of some businesses means that they are subjected to special laws and regulations. Most countries require professions such as medicine, law, architecture, accountancy and engineering to comply with certain requirements that are aimed at protecting the public, before receiving approval to do any form of business (Marion 2006:[sp]). These professions are therefore referred to as “Statutory Professions”.

Research into entrepreneurship in the statutory professions reveals that it is unique and that the manifestations of entrepreneurship vary, reflecting the work and the labour market situation within the profession (Bögenhold, Heinonen & Akola 2014:295). Laws, regulations and codes of conduct control these professions and prescribe the relationship between a profession and the public. For those wishing to become a statutory professional, the route to registration is prescribed. For practitioners, professional life requires participation in professional organisations and updating their knowledge and skills through Continuing Professional Development (Prifti 2014:1). The professions are empowered by governmental acts such as The Architectural Profession Act, 2000 (Act 44 of 2000) to make rules. Amongst many other rules, entry into the profession is restricted to ensure proficiency (Ostine 2013:29). Stevens (1998:32) cites Abbott’s differentiation between professions and other occupations as the professions’ use of abstract knowledge in order to redefine their problems and tasks, protects them from others who wish to perform these tasks while

expanding their jurisdictions. Critical to the survival of any statutory profession is that it must be seen as trustworthy, that professionals may not use their knowledge to get any commercial advantage over their clients and that they must be independent of any purely commercial interests in the profession while balancing the needs of their clients with those of the public (Ostine 2013:29). Professional practice is based on a moral foundation comprising professionalism and responsibilities towards clients, the general public, the profession itself, fellow professionals and the shared environment (Prifti 2014:2-3). Confidentiality is regarded as non-negotiable and all professional bodies have codes of practice or ethical codes that must be adhered to. These restrictions do not apply to general businesses. Clearly, entrepreneurship in the professions is quite different to that in the general field of business or social endeavour.

However, since the 1970s and the rise of neoliberal economic policy, the professions have been under pressure to change and to adapt to these policies. A comparison of the codes of ethics of the AIA and SAIA reveals a number of differences. The first and most fundamental change came from the American “Antitrust Laws” and in the case of South Africa Act 89 of 1998: the Competition Act (as Amended). The purpose of these acts is to foster competition (Prifti 2014:3) and stamp out any form of collusion (Wallis 2017:[sp]). These acts did away with standardised or prescribed fee scales and allowed competitive bidding (Prifti 2014:3; Corbett 2015:44; Wallis 2017). Other changes address issues such as replacing other architects on projects, advertising, contracting to do construction (Prifti 2014:4), using an “impersonal name” for a firm (SAIA1989:3), having a written client-architect agreement that clearly indicates what was agreed regarding a number of issues (including scope of work and fees) and rules regarding international work (SAIA 2007:2). SAIA has in addition issued a protocol that governs “working at risk’. The effect is that whereas social capital was previously key to the performance of a firm, marketing and low fees could now be used instead.

It should however be noted that Stevens identified that the architectural profession failed to achieve the “glory” of many other professions because, in his view, it continually struggled with various types of inappropriate “ideological baggage about the occupation being an art” (Stevens 1998:33).

2.3 Entrepreneurship in architecture

2.3.1 Reasons for starting an architects’ firm

Architects starting new firms are entrepreneurs just like other persons starting small businesses (Klein 2010:75; Vosloo 2016a:17). Because of the potential advantages

associated with entrepreneurial activity (refer to 2.2.1), young architectural professionals and architectural students should be encouraged to start their own firms as soon as they have acquired sufficient experience (Vosloo 2015:60). McAsian (2005:vii) suggests that this should happen only when the entrepreneur-architect(s) have a rounded experience (having been responsible for all the phases of a project while working for an established firm). The RIBA holds that a balance must be struck between starting as early as possible and delaying the decision until sufficient experience has been acquired and a network of possible clients built up (Ostine et al 2010:78). Moreno (2008:85) shares that many who have taken this step believe that it is impossible to say when the time is right to leave employment and start your own business. As indicated in Section 1.6.1, firms might be started for either 'push' reasons (forced to do so by circumstances) or 'pull' reasons (attracted by the advantages of not working for someone else) (Botha 2014:34). Thus, as a result of circumstances or an opportunity arising, young architects can find themselves in a situation where they have to take this step before having 'a rounded experience': Forlati and Issop (2012:21) relate that their survey amongst architects found that 2.7 years was the average working experience when starting their practices, while 22% started independent practices immediately after completing their studies.

Because of the disadvantage associated with necessity-based enterprises, the qualitative interview should probe whether enduring firms were started due to 'push' or 'pull' factors.

Foxell (2015:2) believes that the three most important reasons for starting a new firm in the United Kingdom are:

- Unemployment caused by redundancy and retrenchment;
- The ambition of higher income;
- The lifestyle and freedom associated with working for oneself;
- The search for artistic freedom;
- Recognition of authorship of a design;
- The need for greater independence;

Piven and Perkins (2003:6) add the following reasons why architects might start their own firms:

- Being able to realize your own goals and to follow your own interests;
- The ability to balance your personal and professional life;
- Acknowledgement that is directly related to effort made;
- Better control over issues of personal importance and design;

- The possibility of performing the full range of architects' services;
- Being able to work with colleagues of your own choice, including spouses, friends and likeminded colleagues;
- Personality clashes with previous employers;
- The satisfaction associated with starting and building your own practice.

Choi and Klein (2014:185) hold that starting a firm provides architects with the opportunity to leverage their own talent and to manage their private and professional commitments in a manner that is both personally fulfilling and financially attractive. Klein (2010:4) adds that most founders of architectural firms aspire to fair compensation and the opportunity for design expression.

Eric Reinholdt (2015:20-21) believes that the advantages of starting your own firm are:

- Owning your time.
- A more flexible time schedule.
- Financial benefits resulting from setting your own rates.
- Design Autonomy.
- Building your own brand.
- Being a business owner.
- Having full responsibility.
- Possible tax advantages.

By comparison the disadvantages are:

- You are responsible and hence liable for everything
- The firm is always there; physically in your home (if you have a home office) and mentally by occupying your thoughts.
- Constant availability for clients.
- Management responsibilities.
- Dealing with difficult matters.
- Marketing responsibility.
- Financial risk and uncertainty.
- Fewer vacations.
- Isolation; being on your own.
- Tax disadvantages.

2.3.2 Taking the decision to start a new architects' firm

Moreno (2008:82) warns that architects who are considering starting their own firms will find that they are facing a wide range of decisions and choices. She indicates that strategic thinking will be required but that careful planning will pay dividends over the lifetime of the firm.

It is generally accepted in literature on entrepreneurship (refer to 2.2.1) that entrepreneurial processes must include opportunity recognition. However, this requirement does not feature strongly in any literature on architectural entrepreneurship. Architects considering starting a new firm must understand the advantages of opportunity-based entrepreneurial ventures (Vosloo 2015:60). They must consider that opportunity recognition and establishing a firm in reply to an recognised and viable opportunity is detrimental for the long-term success of the firm (Timmons & Spinelli 2007:88). An unfilled gap in the market, ignored by those who currently operate within the market, constitutes an opportunity (Nieuwenhuizen 2014:15). However, Timmons and Spinelli (2007:141) point out that an idea does not necessarily represent a suitable opportunity; in addition, it must be attractive, sustainable, timely, and require a service that has value for the client. It must furthermore correspond with the firm founders' own professional strongpoints and plans (Vosloo 2016a:18).

Because of the high levels of creativity common in architectural professionals, identifying suitable opportunities should not present a major obstacle (Vosloo 2016:18). Therefore, because it will be important to guide architects undergoing EET about this aspect, the qualitative process that follows should include questions that consider:

- What forms of opportunity (if any) enduring firms responded to.
- How important a contribution did being opportunity driven play in your firm's enduring?
- What is the nature and type of opportunities that South African architects should look out for?

Foxell (2015:3-7) states that the first steps will be to explore and develop the idea of starting a new firm. The exploration process should, in the light of the above, continuously evaluate the identified opportunity to ultimately decide on its feasibility. To do this, some of the main decisions that the start-out architect(s) must make include 'what' must be achieved and by when, 'who' they plan to start the firm with and 'when' the appropriate time for starting the new firm would be. He recommends that start-out architects should, if at all possible, not be rushed into the process because it will require a lot of planning and preparation.

Piven and Perkins (2003:7) suggest that a number of steps must be taken before taking a final decision to start a new firm. These are:

- Clearly define the reasons for considering this step.
- Select the type of firm that is visualised.
- Set realistic targets for the first couple of years.
- Identify the unique services and abilities the firm will be offering and establish if clients need these.
- Study enduring firms to establish how this was achieved.
- Determine if partners will be required.
- Consider how the founder(s) will endure until the firm turns profitable.

Furthermore, Foxell (2015:6) suggests engaging a mentor - someone who has been through the process before and who is willing and able to act as a guide to the start-out architect(s). Lastly, before finalising the decision, the start-out architect should do an initial feasibility study. There are three tests which the initial ideas must pass. These address the triple bottom lines of sustainability - namely economic, social and environmental sustainability.[8]

2.3.3 Formalising the plans for a new architects' firm

The first steps in planning the proposed firm can be taken once the identified opportunity has been evaluated and appears to be suitable, durable, attractive, of a nature that will add value to prospective clients (Timmons 2007:141), and the start-out architect(s) have an idea of how this opportunity can be exploited in a way that seems feasible.

It is normal to start the planning process by formulating mission and vision statements for the proposed firm (Kogan & Bobchek 2014:205; Foxell 2015:16-17; SAIA 2007; Pressman 2006:77; Kaderlan 1991:18). Klein (2010:143) holds that it is important to clearly establish what the purpose of the firm would be and for this a mission statement is required. Kogan and Babchek (2014:205) explain that a mission statement captures the essence of a firm (identity and purpose) and provides a common understanding of the firm's reason to exist. They hold that a mission statement should be:

- Meaningful and unique.
- Inspiring and positive.
- Timeless and enduring.
- Memorable (and thus by implication, brief).

[8] see Foxell (2015:8-12) for details on how this can be determined.

- Sincere.
- Reflective of the firm's (or envisaged firm's) core values, both personal and professional.

The vision statement should describe the firm's specific long-term future - that which the firm would like to become - a necessary element to allow the planners to begin with the end in mind.

Kogan and Babchek (2014:205) consider that a vision statement is time centred and should be realistic, descriptive and multidimensional. To this end it could include the following:

- The ideal organisational structure.
- The range of services to be offered.
- Client types or markets to be served.
- Geographical footprint.
- Firm size.
- Profit goals.
- Ownership philosophy.
- Firm culture and the nature of the working environment.
- Anything else that will describe the firm as it should be at a specific time in its future.

The importance of both the mission and vision statements is to provide a sense of direction to the firm and its founders, to guide them in their decision making and to prevent them from losing their sense of direction. Of particular importance is the relevance of these choices for the business model and hence structure that the firm will adopt.

Many authors (Foxell 2015:v; Kogan & Bobcheck 2014:204 and Klein 2010:122) have likened the design of an architectural firm with that of designing a building. Foxell's book is even structured according to RIBA's plan of work! According to Foxell (2015:17) this stage should be followed by outlining and developing the business case. He likens it to writing the design brief for an architectural project and compares the result of the process to the sketch plans of a building. This process constitutes a necessary precursor to the writing of a formal business plan (Foxell 2015:17). During this stage the start-out architect(s) must investigate and establish the basics, but certain aspects will not be developed yet.

Closely associated with the prerequisite of responding to a viable opportunity, is the need to differentiate the firm from other firms and choose its business model (Vosloo 2016:18).

Reigle (2008:116) deems that firms must be, or must become, masterful at something. Based on this he states that there are six archetypes that the firm could consider. These are:

- Innovators and trendsetters.
- Project type experts.
- Comprehensive-service client partners.
- Civic contributors.
- Project management specialists.
- Cost and quality specialists.

In order to spread the influence of the profession in order to give effect to the UIA's policy (see 1.4.5.4 on page 15), and to find ways through which the influence and benefits of architects can be spread over the larger South African society, South African architects should be innovative. Hence, it will be necessary to guide architects undergoing EET about this aspect. Hence the qualitative study should probe the following:

- The role that innovation plays in enduring firms, both in terms of positioning the firm and in the way the firm and its operations are managed and in employing technology.
- How innovation contributed to enduring firms establishing a competitive advantage.
- The contribution innovation makes to enduring firms.
- If innovation acts as moderator between entrepreneurial orientation and entrepreneurial performance.

Creative thinking will help the entrepreneur architect to plan a firm that can optimise the benefits associated with the identified opportunity and to consider options other than practising architecture inside the conventional firm paradigm. It is important here to use creativity to find ways in which the influence of architects is spread to areas that currently do not benefit from the skills and abilities of architects. Spreading the influence of architects will create new opportunities, enhance the relevance of the profession and improve conditions in areas outside the normal fields of operation. Hence it will be necessary to guide architects undergoing EET about this aspect. Therefore, the qualitative study that follows should probe:

- The role that creativity plays within enduring firms - in terms of positioning the firm, in the way the firm and operations are managed, and in employing technology.
- The role of creativity in establishing a competitive advantage.
- The contribution of creativity to the firm's enduring.
- Whether creativity acted as moderator between entrepreneurial orientation and entrepreneurial performance.

An aspect that is not covered by literature on architectural entrepreneurship is the need to decide which competitive strategy the firm will follow. It is generally accepted that competition improves performance. However, a cursory overview of South African architects' firms will reveal that many, particularly smaller firms did not set themselves up with a particularly competitive or strategic focus and practice in the 'anything that comes through the door' mode that will be described in 2.3.5 (refer to page 74). This could be part of the reason why their performance is somewhat lacklustre (refer to Figure 5.4). Figure 2.3 depicts the 'Strategy Clock' that can be used for this purpose (Johnson, Scholes & Whittington 2008:225; Vosloo 2016a:21). The authors believe that there are a range of eight competitive strategies to select from. Each of these strategies concerns the 'price' and 'perceived product or service benefits' of the service or product in question.

The first strategy that applies is the so-called 'no frills' strategy which implies offering simple, basic products or services for a low price. Adopting this strategy will demand great efficiency, mass production and repetition. A second strategy that can be selected is the so-called 'low price' strategy. Adopting this strategy implies that the products or services offered will have higher apparent benefits but must still be produced at low cost. The danger here is low income levels and the threat of others who can provide the same product or service, but for an even lower price. Thus, with this strategy, efficiency, repetition and mass production remain imperative, but the firm will also have to deal with increased perceived quality-related pressures.

The next strategic option to choose from is the 'hybrid' strategy which will require a further increase in apparent value and/or benefits but with an inevitable increase in production costs. This is because an increase in apparent benefits requires more attention being given to the quality of the offering but still at relatively low production cost. Achieving this will require greater expertise and a further differentiation in the offering. The next option is the 'differentiation' strategy. Following this strategy will require an increase in apparent value and uniqueness based on production or design expertise. The associated advantage is that it will allow the producer of the product or service to charge more, thereby increasing income.

Focussed differentiation will require an architect or architects' firm with renowned experience and expertise who can use this stature, and the perceived added value, to charge even higher fees. The remaining three strategy options, which are all likely to fail, are to ask higher prices for average value, or for products and services with low apparent value, or to offer products or services of low apparent value while asking average prices (Johnson et al 2008:226; Vosloo 2016a:19). The foregoing shows the benefits to architects differentiating

the service they offer: the greater the degree of differentiation, the higher the fees the firm can charge.

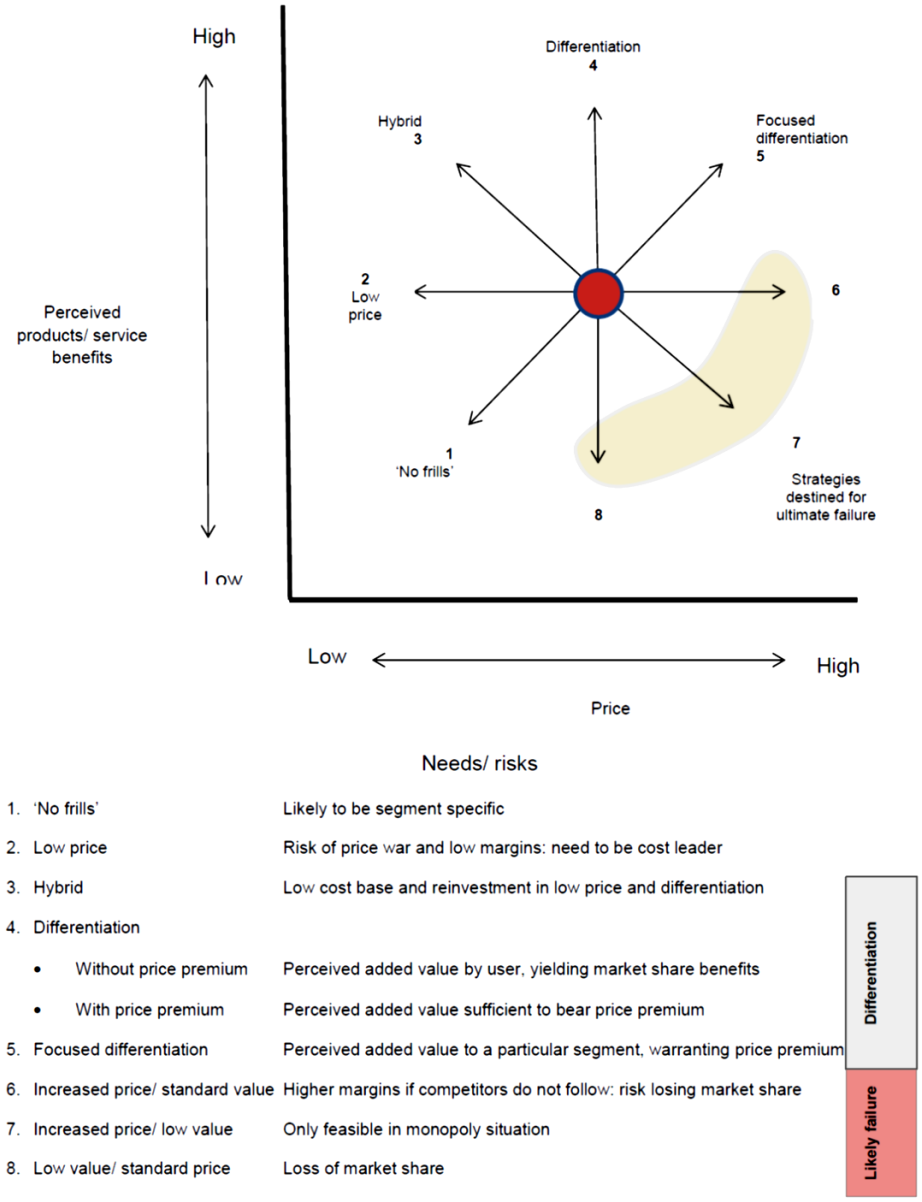


Figure 2.3 The strategy clock: competitive strategy options. (Johnson et al 2008:225)

As far as firm size is concerned the start-out architects should keep in mind that most architects' firms are small: figures from SAIA (SAIA 2013a) show that in that year, 60% of South African architects' firms belonged in the 'micro' and 'small' categories (three persons and less) and a further 30% in the 'medium' category (four to nine persons) (Vosloo

2015:63). Littlefield (2005:39) points out that being a small firm does not imply failure and that many architects don't have any aspirations to grow their firms past this category. He highlights that being small also has definite advantages and that some firms prefer to have an unstructured studio atmosphere. He also points out that most British practices, like their South African counterparts, are small - with over half the firms comprising less than 10 persons. In the United States of America approximately half of architects' firms are one-person offices doing minor projects (Gutman 1988:4) with small offices as the second most common type of architects' firm. Burns (2002:9-17) describes many advantages associated with being small. Despite this, other firms believe that being small has many associated disadvantages and have chosen to grow. Hence, some South African firms have grown to approximately 200 persons (SAIA 2013a; Vosloo 2015:63).

According to Burns' (2002:11) definition, even the larger firms are still 'small businesses'. He holds that there are two types of small businesses, namely 'lifestyle firms' and 'growth firms'. He describes 'lifestyle firms' as 'businesses that are set up primarily to undertake an activity that the owner-manager enjoys or gets some comfort from whilst also providing an adequate income … they are not set up to grow'. This description accurately describes many of the architects' firms which fall in this category. Burns (2002:11) regards 'growth firms' as small firms 'that are set up with the intention of growth, usually by entrepreneurs'. Thus, the EO of the founder will play a defining role as part of this process.

Because of the important role that the founders' EO plays in the process, the qualitative study that follows should also probe:

- The EO of the founders of enduring architects' firms.
- The attitude to risk of the founders of enduring architects' firms.
- Whether the founders or managers of enduring firms know who their biggest competitors are, and can identify their competitors' strengths and weaknesses.
- Whether a competitive stance played a role in the firm's enduring?

However, it is not only the entrepreneurial disposition and EO of the founders that are of importance. Pressman (1997:100) believes that the founder's values (after technology), is another major driving force that determines the operation, management and operation of a firm. He distinguishes between 'practice-centred' and 'business-centred' firms. To him practice-centred firms are those that consider architecture as a calling and a lifestyle. The main purpose of such firms is, typically, to serve either society or the environment, or both, and to produce work that represents the best examples of their profession. Hence, they will evaluate their performance qualitatively by asking 'How do we feel about what we are doing?' or 'How did the project turn out?' Business-centred firms, by contrast, function more

as a means of earning a living and hence will evaluate their performance quantitatively by considering their performance against quantitative goals such as turnover and income. However, as Cuff (1995:195) points out, '…doing good work implies more than making a profit (quantitative bottom line) or feeling good (qualitative) – it also means designing good buildings. Thus, it is very important that the start-out architects discuss and agree on the size of the proposed firm and the values that the proposed firm will accept and implement as the planning process unfolds.

Because of the above, a framework for EET and support must pay attention to this important aspect. Hence the qualitative study that follows should furthermore include questions that explore:

- Whether enduring architects' firms have an articulated set of values that they subscribe to.
- Whether they are 'practice-centred businesses or 'business-centred practices'.
- Whether enduring architects' firms have business-centred aims – and what characterises these aims.
- Whether the founders of enduring architects' firms have person-centred aims – and what characterises these aims.
- What contribution these and other values played in the firms' endurance.

The context or environment that the firm will operate in must also be considered as part of the design process. Thus, Foxell (2015:17) recommends that this stage should also include a business environmental analysis such as a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis. However, it is this researcher's view that it could have formed part of the previous stage where it would have helped to identify a suitable opportunity and ways of exploiting it. Other business analysis methods may be used instead of, or in addition to, the SWOT analysis. These include a PEST(LE) (Political, Economic, Social, Technological, (Legal) and (Environmental) model, the STEEPLED framework that adds Social, Legal, Ethics/regulatory and Demographic to the PESTLE model, de Bono's 'Six Thinking Hats' framework or the Heptalysis analysis framework (Market opportunity, Product/solution, Execution plan, Financial engine, Human Capital, Potential return, Margin of safety).

The foregoing sections illustrate the need for detailed strategic and other planning before and after the founding of the new firm. Thus, it will be important that an architectural EET covers this aspect and that the qualitative study probes the role that strategic planning played in firms' enduring. Hence it should include questions that set out to discover:

- Whether the founders of these firms engaged in detailed strategic or operational planning before starting out.
- Whether they had articulated vision and mission statements.
- On what basis enduring firms managed to differentiate their product offering.
- Whether enduring firms managed to become specialists in one or more building types and, if so, which types?
- Whether the 'contacts' or personality of the founder played a role in the firms' endurance.
- The nature of the competitive advantages that enduring firms had built up.
- Whether enduring architects' firms did regular strategic planning.
- Whether enduring architects' firms aggressively pursued specific quantitative or qualitative goals and objectives.
- The attributes that South African architects' firms need to develop a competitive advantage.

However, because start-out architects are exploring what, to them, is new territory, they should seek advice as part of this planning stage. (Foxell 2015:21; SAIA 2007; Moreno 2008:84; Ostine et al 2010:87; Littlefield 2005:1; Piven and Perkins 2003:151). Advice should be sought from financial and accounting professionals, legal professionals, branding and managerial experts, and experienced mentors from within the profession. Furthermore, they should consult literature such as the range of works this chapter is based on (details in Bibliography).

Similarly, should the entrepreneur-architect(s) not have received entrepreneurship education or training up to this point in their careers this would be the appropriate time to seek out and enrol for such a programme or programmes (Foxell 2015:21).

Finally, the question of funding and the associated risk will have to be addressed (Foxell 2015:21). Various options and strategies exist (Moreno 2008:87-8; Choi & Klein 2014:193). Some of these strategies could include relying on your life-partner's income, to seek financial support from family and friends, or to apply for funds from agencies set up to financially support entrepreneurs. What is evident is the value that a customised EET programme will have for start-out architects in guiding them through this process while they source funding.

At the end of this stage an Outline Business Case (OBC) document must be prepared (Foxell 2015:22). Preparing an OBC will focus the entrepreneur-architect(s) thoughts and

help them to order their ideas as a precursor to writing a formal Business Plan. According to Foxell (2015:22), the OBC should cover the following topics:

- Strategic objectives.
- Proposed key personnel, skills and strengths, past successes.
- Proposed advisors.
- Services to be offered.
- Market for services and barriers to entry.
- The competition.
- Opportunities.
- Threats and risks.
- Business Strategy/Competitive approach.
- Proposed business structure and management skills.
- Marketing approach.
- Training plan.
- Growth plan.
- Staff recruitment and requirements.
- Premises and equipment.
- Financial plan and projections.
- Investment required.
- Sources of potential investment.
- Long-term aims.

Finally, a partner/director or shareholder agreement must be drawn up. Here the advice of legal and financial experts must be enlisted to craft an agreement and a legal basis that will allow the firm to prosper while avoiding debilitating feuds within the firm. According to Choi and Klein (2014:191) the agreement should at the very least stipulate:

- What style or legal format the firm will adopt.
- Who the partners/directors are, and their legal relationships and shareholder percentages.
- How compensation and earnings are to be calculated and distributed.
- Financial responsibilities - how expenses will be divided and who has the right to financially indebt the firm.
- Decision making and organisational hierarchy.
- How design credit will be recognised.
- Dispute resolution.

- Benefits and administrative and managerial matters such as leave and performance management.
- Individual roles within the firm.
- Extended sick or disability leave.
- Procedures if a partner/director decides to leave the firm, and disciplinary procedures.
- The procedure for bringing in new partners, directors or shareholders.

Once the OBC and formal agreements are in place the founders can start preparing a business plan.

2.3.4 Preparing the business plan

Business plans form an integral part of all entrepreneurial guidelines and of EET. They are required by a variety of organisations but mostly as part of funding applications. Because of this the suggested formats of business plans vary extensively.

Foxell (2015:25) regards the preparation of a good business plan as of the utmost importance. Many authors agree with him on the importance of preparing a thorough and honest business plan (Choi & Klein 2014:195; Moreno 2008:86; Piven & Perkins 2003:174). Foxell holds that the advantages associated with business plan utilisation are:

- Business plan preparation allows an opportunity to describe exactly why one is starting up a new firm, what one is hoping to achieve, and when and how much profit will result from it.
- The writing process forces the writer to check the reasoning followed up to that point.
- It allows others to review the plans made and respond with advice.
- The plan provides a basis for loan applications and investments.
- The plan will provide a benchmark against which progress can be measured and corrective action instituted if necessary.
- The plan will provide a living document that can explain to outsiders what the firms' status, intensions and financial requirements are.

Moreno (2008:86) describe the purpose of a business plan as follows:

> A business plan explains what you plan to do and how you plan to do it. It describes your unique vision for your business. Included are your measurable goals, the approach you expect to take to realise them and how they can be successfully verified, a description of your market and competition, and a description of the problems likely to pop up along the way and how you plan to solve them.

As mentioned, a variety of business plan structures are proposed by various entrepreneurship authors. Foxell (2015:26) suggests that the business plan should comprise the following six sections:

- The firm: existing arrangements, vision and mission statements, history, personnel, their skills, premises, business objectives and advisors or consultants employed.
- Business potential: the firm's market, market research, existing clients and competitors.
- The contribution the firm will make: the services it will offer, how the firm's offering will be differentiated, the pricing structure and philosophy that will be followed and the firm's capacity to deliver.
- Business arrangements: the firm's structure, management, values, policies, rules and regulations, intended size and how growth will be achieved and managed.
- Finances: funding requirements, repayment arrangements, financial management, overhead management, income management.
- Promotion and marketing: how the firm intends to market itself, who the target market will be and what the associated costs will comprise.

Once again, no mention is made of the opportunity the firm will be responding to and how this opportunity represents a sustainable business opportunity. The proposed framework also does not call for *pro forma* financial statements as an indication of how the firm intends to become (and stay) profitable.

Klein (2010:140) suggests a framework comprising of only four sections or sub-plans, namely:

- Purpose/business model including the project types and client types the firm will focus on; firm size.
- Financial plan.
- Operations plan.
- Marketing plan.

The author develops this proposal by combining these sub-plans into a Business Planning ''Fractal' that illustrates their interrelation (refer to Figure 2.4) and represents business planning as an interconnected process.

Klein's business plan framework, while being not as encompassing as Foxell's, is much simpler and provides more than a mere description of what the firm is about and how it plans to operate. It forms a planning tool that will ensure that decisions taken with regard to a single sub-plan are transferred across the different areas, ensuring the achievement of the strategic decisions taken earlier.

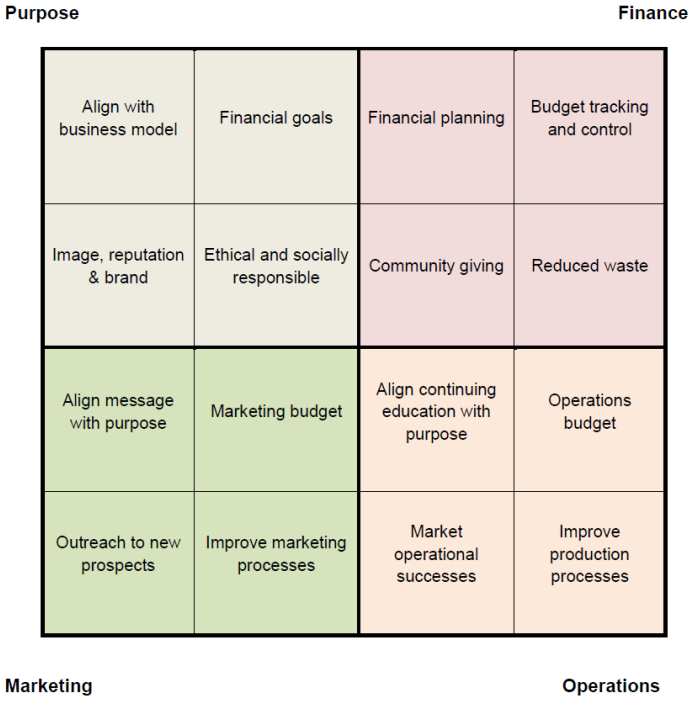


Figure 2.4 Business Planning 'Fractal' (Each box in interconnected aspect of business planning) (Klein 2010:141)

Interestingly, Foxell (2015:26) finds that research indicates that only 40% of architects' firms surveyed by RIBA actually had business plans and that, of these, a third did not extend beyond a year. It is ironic that a 'planning profession' should pay such scant attention to the importance of having, and implementing, a plan.

2.3.5. Firm design

During the strategic planning done as part of the second stage of the entrepreneurial process (refer to 2.3.3) the firm should have decided on an appropriate business model. The choice should be one that best aligns with the identified opportunity and competitive strategy approach and that will allow the firm to exploit it profitably in order to meet the financial and other objectives it has set for itself (Klein 2010:4).

Klein (2010:6) identifies three different business models that firms can adopt. These are:

- The ‘efficiency’ model where firms do routine type work using standard production processes and repeatable elements.
- The ‘experience’ model where firms build up a reputation for doing well-managed projects by skilfully utilising their staff resources to perform a range of project types.
- The ‘expertise’ model where firms do challenging non-routine projects using their principals’ deep and specialised knowledge or design talent.

The interrelationship of the different business models is illustrated in Figure 2.5.

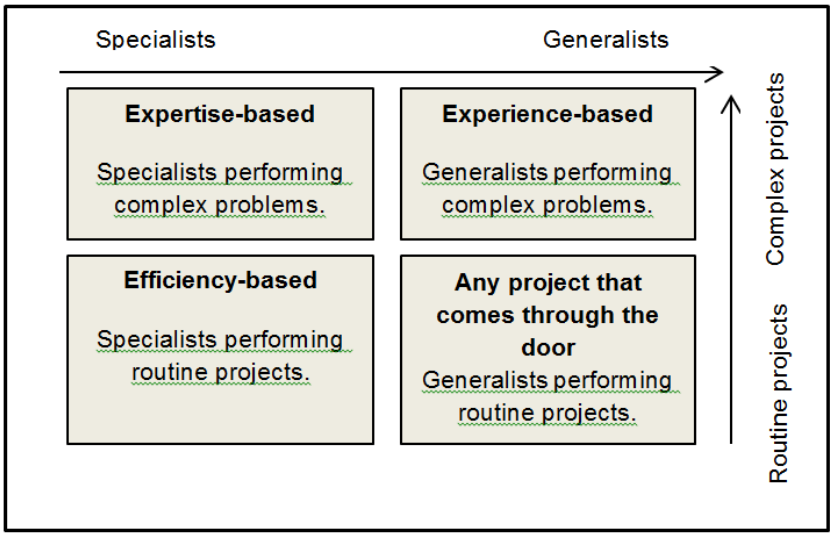


Figure 2.5 Business model matrix. (Klein 2010:13)

Klein (2010:13) also describes a fourth type of business model: the ‘anything that comes through the door’ type. She describes this as a business model based on accepting any work that comes the firm’s way. According to her, firms who adopt this model might, in the short term, prosper because of the wide generalised experience and knowledge which they have built up over time. However, these firms will become unfocused and lacking strategic advantage because they failed to acquire any significant depth of professional knowledge or experience, and since these are attributes that the firm will require in order to attract more challenging and more rewarding projects, they are unlikely to endure. Thus, firms who follow this model often survive in the short term, but only due to their core competencies or the personal connections and interests of firm leaders, and they flounder as soon as the economic or socio-political situation changes (Vosloo 2016:23).

Importantly, this attitude must be distinguished from with what Morgan (1998:19) refers to as 'Multi-specialisation' (Vosloo 2015:73). Morgan describes this as a conscious business strategy where a firm purposely looks for diversity in their offering by specialising in a limited range of selected project types, in order to minimise their exposure to the risks of a small-client-type base while maintaining focus.

Corresponding with Klein's models are the following firm types put forward by Kaderlan (1991:56) and Pressman (2006:73):

- 'Strong Delivery' firms, organised to provide highly efficient services on routine projects.
- 'Strong Service' firms, organised to deliver experience and reliability on difficult projects.
- 'Strong Idea' firms, organised to provide innovation on unique, often prominent projects.

Pressman and Kaderlan's firm types correspond with those put forward by Forlati and Isopp (2012:35) who describe the following types of firms:

- 'The Business' whose core quality is to perform standardised routines using technical and functional expertise with the project as focus.
- 'The Office' which skilfully performs and manages projects in order to satisfy the client's needs.
- 'The Studio' where innovation, creativity and improvisation is used (often under the guidance of a 'guru') to perform complex, signature projects.

Because of the strong similarities between Klein's business models (2010:13), Pressman's firm types (2006:73) and Forlati and Isopp's firm types, Table 2.1 combines the various descriptions.

Therefore, because it will be important to guide architects undergoing EET about the long-term implications of these options, the semi-structured questionnaire that will be used for the qualitative study that will be conducted amongst enduring firms, should furthermore probe:

- How firms are structured.
- What led to these firms adopting this structure?
- Can firm structure constitute a form of innovation?
- Can strong delivery, strong experience, strong ideas or 'anything that comes through the door' firms become enduring firms in the South African context?
- What contribution can structure make towards a firm's survival?

Table 2.1 Architects' firm types. (Based on Klein 2010:6-11; Pressman 2006:73-74; Forlati & Isopp 2012:34-39)

Firm Type	The Business (Efficiency-based/strong delivery firm)	The Office (Experience-based/strong service firm)	The Studio (Expertise-based/strong ideas firm)
Type of projects performed	Often focused on a single building or project type. Repetitive work ideal.	Non-routine and complex assignments. Could be experienced in specific project types.	Unique projects that require singular expertise or innovation.
Key strength.	Fast and less expensive project delivery.	Experience and reliability. Ability to organise and deliver significant and complex projects.	Deep knowledge or creativity, innovation, design talent.
Leadership and management style	Directive and controlling management style.	Requires charismatic leadership who can maintain good relations.	Could be autocratic, but is more generally supportive and democratic with notoriously bad project management.
Structure	Elaborate; often several professionally organised units (separate firms or design or project departments) which operate independently. Often strong formal and hierarchical.	The architect concentrates on the aesthetic aspects of projects while an office manager and or technical manager is responsible for the managerial/technical side of projects and the firm. Well organised with clear channels of communication.	The 'guru' (or 'gurus') dominates and forms the centre of the practice, surrounded by employees. Hardly any formalised lines of communication.
Staffing	Wide staffing triangle: relatively few partners/ directors and a large percentage of junior and technical staff.	Balanced staffing triangle. Even mixture of staffing levels.	Narrow staffing triangle. Top-heavy, with more highly experienced and skilled senior staff
Critical success factors	Highly developed and efficient work processes and systems.	Ability to perform challenging projects efficiently.	Architectural design skill and high perceived value-add.
Competitive strategy	Low cost, efficiency. Low perceived value.	High perceived value at relatively high efficiency levels.	Very high perceived value-add.
Profitability and satisfaction level	Depends on volume and high productivity levels.	Depends on well-managed projects and skilful use of human resources. Delegating down function plays important role. Depends on proper staffing, quality human material and project management.	Depends on the ability to ask high fees for unique or expert services.
Client type	Persons looking for standard solutions and quick completion.	Persons requiring comprehensive, efficient service and high levels of personal involvement.	Persons seeking unique solutions for difficult, specialised or prominent projects.

2.3.6. Business design

Regardless of the firm type selected, it represents a business (Sharp 1991:3) and the working parts of any business must be designed (Foxell 2015:57-77). The following aspects must be discussed and agreed upon by all partners/directors:

2.3.6.1 Firm culture

Klein (2010:54) describes four types of firm cultures, distinguished on levels of control rather than trust and group or individual concerns. The types and how they relate are illustrated in Figure 2.6.

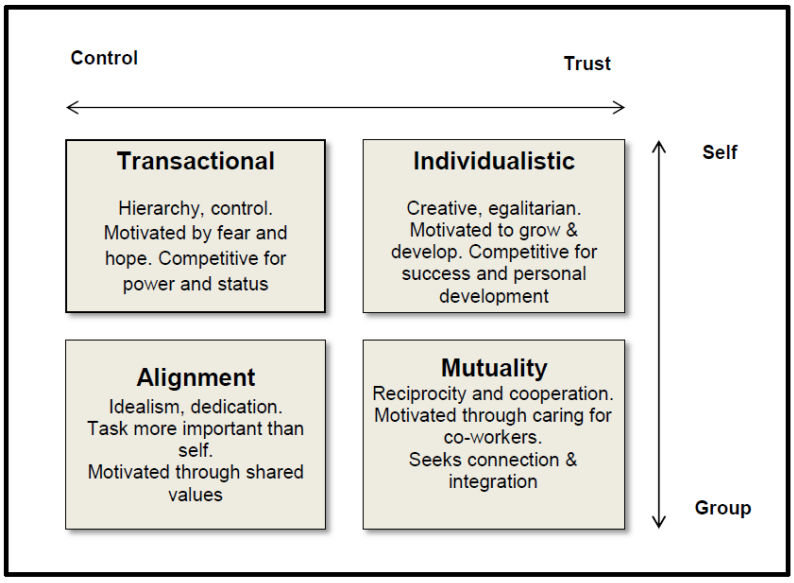


Figure 2.6 Firm culture matrix. (Klein 2010:54-based on Harrison 1995)

Klein considers that in 'transactional' organisations people trade influence and information for power and influence. The firms are organised in a hierarchical fashion and persons are self-centred. In 'individualistic' firms persons are also self-centred, but here higher levels of trust exist because of the presence of people who are motivated by achievement rather than the acquisition of power. 'Alignment'-type firms are firms where the group is more important than the individual. These types of firms are often driven by an ideal and their 'mission' whereas 'mutuality'-type firms place the focus on the well-being of the group, but with high levels of trust in each individual.

Klein (2010:53-55) believes that the firm cultural types are not mutually exclusive and that elements of different types could exist in a single firm. She believes that an individualistic culture exists in most architects' firms with elements of a transactional culture, particularly in large firms, whereas smaller and medium-sized firms often combine individualism with strong elements of mutuality.

According to Foxell (2015:57-58) any new firm needs to determine the culture it will adopt in the face of the available alternatives. To do so it must consider:

- Priorities of all stakeholders.
- Project managerial priorities.
- Values.
- Delegation of responsibility.
- Organisational learning.
- Firm hierarchy.
- Working hours.
- Decision making.
- Lifestyle matters.
- Social relationships amongst members of the firm.

It is the author's view that while Foxell's take on firm culture is quite different to Klein's description they are not at odds with each other. Klein refers to something that develops over time while Foxell refers to a planning process that aims at steering the culture that in time will develop in any organisation.

2.3.6.2 Design culture

While firm culture will develop over time, another aspect that architects' firms have to agree on in is their design culture. While most businesses will not have to consider this aspect, Foxell regards this as important as firm culture (2015:61). Foxell points out that what the firm will design, and how this will be done, needs consideration and agreement. Murray (2014:216) holds that a combination of strong skills and a mutually-agreed value system are critical requirements for a culture of excellence. Agreement must be reached on quality and possibly a consistent design language as part of establishing a firm brand. Murray holds that agreement about the design process and product the firm will adopt will allow the firm to:

- Develop a comprehensible body of work.
- Build a reputation for a certain style and design philosophy.
- Give the firm a recognisable visual identity.
- Provide a framework within which clients can appreciate design proposals.
- Attract new work because the firm is a known quantity.
- Help to promote the firm.
- Improve quality because new projects are built on previous projects.
- Utilise knowledge management to become more effective without sacrificing quality.

2.3.6.3 Firm management

The partners/directors will have to discuss and agree upon managerial matters. Foxell (2015:58) believes that management is of critical importance in shaping a successful firm culture but that it is also vital in achieving a smoothly running organisation that can produce good quality work in an affordable manner. To achieve this, the following aspects need agreement:

- The day-to-day running of the firm, including general administration.
- Cleaning and maintenance.
- Security and health and safety arrangements.
- Utilities, information and communication technology (ICT) infrastructure.
- Software including licencing and updates.
- Financial management and procedures such as procurement, accounts, etc.
- Human resources management and policies.
- Information management.
- Quality management.
- Risk management.
- Internal and external communication.

The foregoing aspects, particularly that of a design culture but also the matter of highly individualistic firm culture, are aspects that might not feature - or might not feature prominently enough - in many generic EET programmes. Hence, the semi-structured questionnaire that will be used to guide the qualitative study that follows will also have to engage with, and probe, the following aspects regarding Business Management style and policies:

- Do architects' firms present a unique managerial challenge?
- What are the aspects that contribute to this challenge?
- Are any of these challenges specific to South Africa?
- How do enduring architects' firms deal with the SA-specific challenges?
- How do these challenges vary between smaller and bigger firms?

Furthermore, due to the unique managerial challenges listed in Chapter 1 (1.6.5) and the unique ways architects' firms might have developed to deal with them, the qualitative study that follows should investigate the following aspects:

As far as financial management is concerned:

- Do enduring architects' firms employ either a full-time financial manager, or an outside agent or consultant, because of the importance they place on good financial management?
- Do enduring architects' firms prepare yearly, monthly and project budgets?
- If so, what do enduring architects' firms use as a basis for these budgets?
- How regularly do firms monitor adherence to their budget?
- Do enduring architects' firms have monthly statements prepared?
- Do enduring architects' firms apply the normal tests to monitor costs and profitability?
- Do enduring architects' firms use outside auditors?
- Do firms actively manage their cash-flow?
- How regularly do enduring architects' firms invoice clients?
- How regularly do firms follow up on outstanding invoices?
- On average, how long do South African firms have to wait before receiving payment?
- Is non-payment a major problem?
- What measures do firms use to ensure payment?
- How do firms' financial management practices contribute to their longevity?

As far as risk management is concerned:

- Do enduring architects' firms make use of standard Client-Architect Agreements?
- What modifications to enduring architects' firms make to standard Client-Architect agreements (if any) to limit the firm's liability?
- What basis do enduring architects' firms use to determine the Professional Indemnity (PI) cover that they take out?
- How do enduring architects' firms allow for the risk of unpaid fees?
- How important was the contribution of risk management efforts to the firm's endurance?

Regarding marketing management:

- Who is responsible for marketing in enduring architects' firms?
- How do enduring architects' firms market their services?
- What do interviewees believe constitutes the most effective means of marketing for architects' firms?
- What does not work?
- To what extent did the marketing management efforts of enduring architects' firms contribute to their firms' endurance?

These questions and the responses should give guidance on how enduring firms market themselves: frequently, how things are done is just as important as what is done and firms need guidance in this regard.

2.3.6.4 Working Methods

In developing their business plans, the start-out architects must also consider and decide on working methods or operational procedures that will:

- Be acceptable to all partners/directors, and staff.
- Be acceptable to clients, colleagues and family members.
- Ensure quality standards.
- Be safe, legal, fair and honest.
- Ensure professional service and behaviour.
- Be in accordance with insurance requirements.
- Ensure that projects are completed on time and within budget.
- Allow for personal growth and development.
- Facilitate a healthy work-life balance.

Agreement should also be reached on the level of the service the firm will offer its clients and others, such as consultants (Foxell 2015:62).

As was the case with financial, risk and marketing management, there is a need to include the working methods or operations management procedure developed and adopted by enduring architects' firms into a profession-specific EET programme. Thus, the qualitative empirical study that follows should also include questions that ask:

- What is the nature of the operational organisation of enduring architects' firms?
- Do enduring architects' firms operate on the basis of work-teams?
- Do enduring architects' firms plan and manage their operations using 'Management by objectives' principles?
- How tightly are these schedules enforced?
- How do enduring architects' firms allow for the fact that design inspiration cannot be time managed?
- Who accepts responsibility for 'quality'?
- How important is meeting deadlines to the firm?
- Do many enduring architects' firms make use of independent contractors?
- How did the operations management style of enduring architects' firms contribute to their longevity?

2.3.6.5 Practices and Policies

A further operational matter that must be discussed and decided on is the need for and range of policies required and, where required, standard practices that the firm will follow. Foxell (2015:63) believes that standard practices and policies are essential because they provide shape and definition to the working life of the firm. Practices and policies determine how the firm will function on a day-to-day basis. They provide certainty and consistency regarding how projects are performed and people are treated. Typically practices and policies on organisational learning, timekeeping, working hours, behaviour, professionalism and lines of communication will be required. However, Foxell's contention might be somewhat 'formal' for many South African architects' firms. Thus, it will be useful to test his assertion with enduring firms so that the appropriate guidelines are provided to candidates attending EET. Thus, the qualitative study that will follow should also include questions that explore:

- If enduring architects' firms rely on set policies?
- If so, what do they cover?
- Why are these necessary?

One matter on which policy could be important is that of organisational learning, particularly because of SACAP's CPD requirements (see Chapter 3) and because this constitutes an integral part of architectural education, the qualitative study that follows should furthermore probe:

- What are enduring South African architects' firms' attitudes to organisational learning?
- Have enduring South African architects' firms or any of their founders attended any entrepreneurial education programmes?
- Have enduring South African architects' firms or any of their founders attended any business management programmes?
- How important is it to enduring South African architects' firms to learn about and employ the latest software?
- Do enduring South African architects' firms stay abreast of developments in Architectural Design theory?
- Do enduring South African architects' firms subscribe to and read professional journals?
- Do enduring South African architects' firms subscribe to and read business journals?
- Do enduring South African architects' firms believe that organisational learning mediates between entrepreneurial orientation and entrepreneurial performance?

- Did this attitude play a role in the longevity of enduring South African architects' firms?

2.3.6.6 Information management

Horst (2014:321) indicates that information management is increasingly viewed as an opportunity for firms to differentiate their offering in the face of a competitive environment. Architectural practice is information rich and information driven (Foxell 2015:65). Dealing coherently with the large amounts of information the firm has to process, and to be able to access it when required, presents a major challenge. The information the firm owns might even become its biggest single asset. This is an area where the firm should consider enlisting the services of specialists to help its employees to:

- Build and record a data trail.
- Set up a filing and storage system.
- Set up networks and back-up systems that will not only allow information sharing but also protection.

2.3.6.7 Knowledge Management

Knowledge management is associated with information management. Pulsifer (2014:308) describes knowledge management as a systematic and strategic approach that aims to improve knowledge-related processes in firms. Knowledge management is concerned with the value and management of a firm's intellectual capital (Pulsifer 2014:308). Knowledge can exist as either tacit or explicit knowledge and might include:

- The firm's office manual.
- Business contact names and personal information.
- Standard operating procedures
- Templates for standard letters.
- Standard details.
- Standard specifications.
- Journal and newspaper articles.
- Lessons learnt from evaluations of previous work.
- Research conducted by the firm.
- 'How-to' guides prepared by members of the firm.
- Lessons learnt from CPD offerings.
- Images of the firm's work.

According to Foxell (2015:72) the knowledge held by the firm is potentially of great value because architects are in the business of selling their knowledge in the form of information, skill, expertise or judgement. In addition to collecting and managing information, the firm also needs to capture, for its own advantage, lessons learnt and experience gained and to make this knowledge available to others in the firm (Foxell 2015:71).

2.3.6.8 Developing standards

Architects' firms spend a lot of time reinventing solutions to problems that they or others have already solved (Foxell 2015:73). Developing standards and templates can allow the firm to rather build on past work and experience in order to save cost and time. Firms should identify areas where the use of standardised documents can be used to save time while ensuring consistency.

2.3.7 Getting started

While it will not always be possible or advisable for the new firm to open its doors only after all the foregoing decisions have been made, at some point the firm should start operating.
There is a range of practical choices relating to opening, operating and positioning the firm in the professional realm that must be made. Much of the time spent on the business plan and thereafter on designing the workings of the firm can now be translated into action (Foxell 2015:79). Of relevance here is establishing a graphic identity, selecting suitable premises, acquiring appropriate furniture and equipment, opening bank accounts, effecting insurance, appointing professional advisers and establishing financial management systems.

2.3.7.1 Graphic identity

This is one of the most symbolic aspects of the new firm (Foxell 2015:79). The firm's logo and the layout of its letterhead can provide subtle clues to many of the values the firm stands for. The firm's logo must also work not only on letterheads but also on drawings, business cards, notice boards, advertisements, website, e-mail signatures, etc. Foxell describe this as a serious design project which most architects will believe to be within their ability. However, he advises that the services of a graphic designer should be enlisted unless the firm provides services in this field. With the exception of business cards which should still be printed, most documents should be kept as a range of electronic templates.

2.3.7.2 Premises

While many architects' firms started out in the founder's home (and many continue in this way) and many have attempted to set up virtual offices, neither of these are desirable unless they meet very specific criteria and firms will be better off at a suitable premises (Foxell

2015:81) because the average architects' firm operates as project teams (Forlati & Isopp 2012:14) and because a firm's business premises is a 'visible and tangible' representation of what the firm is and what it stands for (Ostine et al 2010:147). Thus, apart from many practical aspects, the image that the office will project is of critical importance when considering suitable premises to operate from. Table 2.2 compares some of the more common options.

Table 2.2 Premises location comparison (Foxell 2015:81)

	Home Office	**Studio Space**	**Serviced space**	**Purpose-designed office**
Overheads	Minimal	Low	Medium	High
Rent/cost	None	Low to medium	High	Medium to high
Location	Potentially isolated	Out of the way, can be difficult to access	Adequate	Good to excellent
Convenience	Good for Sole practitioner	Low	High	Good
Facilities	Basic/small	Can be rough and ready	Good but anonymous	As many as can be afforded
Growth potential	Poor	Good	Excellent	Limited
Resource sharing	Poor	Possible	Good	Limited

Ostine et al (2010:147) assert that other aspects that should be considered are:

- Access for staff and clients.
- Availability of related services such as printers and stationers.
- Running costs.
- Maintenance requirements

2.3.7.3 Furniture and equipment

Electronic equipment comprises the modern-day tools used by architects but many still use drawing boards for design purposes. Because of the range of devices used, and their varying requirements and operating systems, the design of the ICT infrastructure that will connect the different devices within the office and between offices is critical - particularly as far as reliability is concerned (Foxell 2015:83). Professional help should be sought.

All furniture should be comfortable and functional. The image that the front office and boardroom furniture will project is of great importance. Physical facilities and equipment are not all that is required. There is a range of business services that are critical to the functioning and survival of architects' firms. These include:

A. Bank accounts

Bank accounts are an essential part of a firm's financial management system (Piven & Perkins 2003:156). Apart from providing a means of ordering many of the firm's financial matters, bank accounts can also provide easy and immediate access to finance through overdraft facilities and loans. Credit cards also provide a source of financing and offer convenience that can simplify the firm's financial matters.

B. Insurance

Firms are exposed to various risks in a society that is increasingly litigious. While every effort should be made to avoid claims against the firm, firms will have to have a range of insurance policies in place to protect them against large claims. Foxell (2015:85) lists a range of insurance types. Of these the most important ones are professional indemnity insurance; short-term insurance, to cover the firms' physical assets (vehicles, etc); comprehensive business insurance, covering business interruption, buildings, personal accident, theft, theft by employee, office contents and electronic equipment, accidental damage, fire, public liability, etc.; life insurance taken on the lives of partners/directors; and income protection insurance for the partners/directors.

2.3.8 Launching and marketing the firm

The most important part of starting a new architects' firm is to have work or alternatively to find work: it is very important for the new firm to get noticed. According to Piven and Perkins (2003:10), there are ten common models or entry strategies that can be used to launch a firm. These are:

- Finding a prominent client as a 'rocket booster' - a single good client willing to support a new firm with a visible project. This could also be a 'competition win'.
- Building a 'house for mother' (or other relative).
- Academic incubator: teaching part-time to provide a basic income until the firm and its reputation have been established.
- Finding a niche and filling it: according to entrepreneurial theory, this is by far the most viable and sustainable option.
- Super salesperson: relying on one or more of the founders' exceptional sales skills and ability to build client relationships; by itself, this is not a sustainable strategy.
- Sponsor: having an established firm or architect lending their names and support to a younger firm.
- Golden handshake: getting a former employer to refer surplus work to the new firm.

- Spin-off: members of an established firm breaking away as a group to form a new firm and persuading clients to move with them.
- Starting small: starting by doing small projects and slowly building the firm on the skills and reputation established in doing so.

Importantly some of these strategies, such as 'house for mother' and 'rocket booster' are profession specific, supporting the need for a profession-specific EET framework.
Because the process of launching the firm might be the most daunting (and exciting) phases in the entrepreneurial process, start-out architects will need all the advice and assistance they can get. There could be substantial advantage for attendees of EET programmes to receive such advice and guidance. Hence the qualitative study should probe:

- What advice would the founders of enduring architects' firms give to young architects thinking of starting a new firm?
- What form of support is needed by 'young' architects' firms?
- Would the founders of enduring architects' firms be willing to act as mentors to a 'young firm'?

Marketing the firm is an integral part of the process of launching the firm and of attracting new work. Sharp explains that architecture is a volatile profession and that architects, because of this, continuously have to seek new projects (Sharp 1991:11). Ostine et al (2010:91) believe that marketing must be focused on building a sustainable competitive advantage by building a relationship that will make the firm invaluable to a client's business. Foxell (2015:99) holds that architects' clients can be found practically anywhere but that the firm should target according to their business strategy as set out in their business plan. Klein supports this view stating that marketing efforts must be focussed (2010:142). Foxell continues that after demarcating the group to be targeted, information about the target sector should be gathered in order to allow the architect to interact incisively with potential clients: 'You are in the business of selling them a problem-solving service; you need to persuade [them] that the skills you have on offer are a close fit for the ones they believe they need' (Foxell 2015:99).

Littlewood propose ten rules that marketers should follow (2006:200):

- Never wait.
- The client is the centre of everything you do.
- Relationships (and the building thereof) are vital.
- Do great work.

- Get the word out.
- Always have (at least one) alternative plan.
- Be professional.
- Always remember your friends.
- Be passionate about your firm and work.
- Be ambitious.

On a somewhat different note, Ostine et al (2010:91) contend that marketing is about keenly understanding the requirements and characteristics of existing and potential clients and purposely developing the skills and attributes they require in order to build up a long-term relationship.

Foxell (2015:99) adds that potential clients will be interested to know the following:

- Does the firm have the resources needed to supply their needs?
- Does the firm have a track record in buildings of this type or size and complexity?
- Does the firm have the staff for the project and are they connected to consultants and specialist contractors who can carry out the project?

This might prove challenging to newly established firms and creativity will be required (Foxell 2015:103). A good starting point is to build up a portfolio of evidence comprising:

- Presentation drawings and sketches.
- Photographs.
- Client testimonials.
- Press and online coverage.
- Awards, books and exhibitions.
- Competitions.
- Writing - articles in journals and papers.
- Company profile.
- Appointments on professional bodies or at universities.
- Client list.
- Bank reference.
- Insurance documentation.
- Practice policy and value statements.

Murray (2014:217) holds that it takes a combination of confidence - in the firms' ability to produce an excellent product - and endless enthusiasm in conveying to potential clients that

a particular firm is the best choice. Littlefield (2005:21) points out that a firm's best form of marketing is the work it produced in the past.

Foxell (2015:101) agrees and points out that experience has shown that a firm's best customers are their existing customers and that they can be a source for repeat work or can refer new clients toward the firm. Other potential sources are government projects obtained via tenders, contractors and getting the firm on lists of approved architects for new developments.

Start-up architects will need advice and guidance regarding the marketing function. Of particular importance is the need for them to know how to get projects in and how to perform these projects in ways that will result in sustainable relationships with clients. Hence the following questions should be included in the semi-structured questionnaire that will guide the qualitative study:

- What are enduring architects' firms' major sources of work?
- How do enduring architects' firms build and maintain client relationships?
- Do enduring architects' firms seek and perform government work?
- Have many enduring architects' firms attempted to secure overseas work?
- Do enduring architects' firms undertake work on a contract basis?
- How did the client management efforts of enduring architects' firms contribute to their longevity?
- What constitutes enduring architects' firms' fee policies?
- If pushed for discounts, how do enduring architects' firms determine what they can work to?
- Do enduring architects' firms have figures relating to their costs?
- Do enduring architects' firms 'tender' or 'bid' for projects?
- If so, on what basis do enduring architects' firms prepare their offers?
- Do enduring architects' firms do 'risk work'?
- How did their fee policy contribute to enduring architects' firms' endurance?

Pressman (1997:106) suggests that throughout the marketing process the following ten essential principles should be kept in mind:

- Develop a clear vision and a long-term plan.
- Build and use a network of 'contacts'.
- Cultivate relationships.
- Restrain the firms' overhead costs.

- Commit to using the latest technology.
- Learn from those already in the field.
- Differentiate the firm from other firms.
- Grasp the clients' values.
- Update stakeholders about the firm, its work and achievements.
- Keep working and private aspects of life in balance.

Firms that do not start off in response to an identified opportunity are less likely to endure if they neglect to differentiate their offerings, fail to adopt a specific competitive approach, and do so in ways that will ensure that these aspects are aligned (Vosloo 2015:61).

In order to gain a balanced understanding of the roles of entrepreneurial knowledge and experience in firms' endurance, it will furthermore be necessary to establish the current entrepreneurial performance levels of firms, the EO of firms and the level of business management in firms and to then compare the responses received from 'enduring firms' with those received from 'established firms'[9] and with responses received from firms younger than seven years. To this end, and in addition to the qualitative questionnaire, an appropriate quantitative questionnaire will be designed and used to collect and compare the responses of firms regarding these aspects (refer to Chapter 4).

2.4 Conclusion

This chapter set out, through a literature review, to engage with the first, second and third research questions.

As far as the first question, (what are the pertinent aspects of the current discourse on entrepreneurship in architecture and entrepreneurship enablement?) is concerned it found that:

- The focus in the discourse on entrepreneurship has shifted from defining entrepreneurship and the characteristics and functions of entrepreneurs to the entrepreneurial process.
- In general, opportunity-based businesses outperform necessity-driven firms, but there are exceptions and cases of necessity entrepreneurs who have performed at a high level exist.

[9] Piven and Perkins (2003:8) hold that it takes between 7 and 10 years for an architects' firm to become established. Based on the above assertion by Piven and Perkins, firms older than seven years will be regarded as established firms.

- For an economy to maximise its potential and benefit from entrepreneurial activity, it should encourage opportunity-driven entrepreneurship and thus the development of an entrepreneurial disposition amongst its population.
- Entrepreneurial activity can occur in both formal and informal businesses and ventures.
- Entrepreneurship plays a significant role in the modern economy and that adhering to entrepreneurial guidelines can significantly enhance the performance of any business, architects' firms included.
- There is substantial and growing interest in entrepreneurship and how it can enable the economic and social development objectives of governments.
- Stimulating and enabling entrepreneurship is high on the agenda of many governments.
- Significant consensus exists that many aspects of entrepreneurship can be taught.
- Human beings differ and while all have unique innate abilities that could assist in becoming established entrepreneurs, these can often benefit from development, enhancement and refinement.
- EET, which can develop and hone the skills required, and a supportive environment, are essential for the functioning of individuals and ventures, architects' firms included, in the modern economy.
- The benefits of entrepreneurial development go beyond simply producing potential entrepreneurs.
- If entrepreneurial activity is to be encouraged or enabled, interventions might also be required in aspects other than the attitudes or skills that individuals might have or need; these include mindsets.
- Many of the required mindsets reside at the societal level of countries and nations and are formed by factors such as culture, family and role models, education systems, work experience and personality.
- General attitudes towards entrepreneurship are the first aspects that should receive attention and, because of this, education that will create positive attitudes towards entrepreneurship should be included in primary, secondary and tertiary education.
- There is a call for EET and supportive services at various levels and with different outcomes.
- Architects establishing new firms are entrepreneurs just like all the other persons starting small businesses.

- Well-functioning ventures, architects' firms included, develop from a measure of entrepreneurial disposition and, following that, EET which can develop and hone the skills required, and a supportive environment.
- Young architectural professionals and even architectural students should be encouraged to start new firms as soon as they have built up sufficient experience.
- Firms might be started for either 'push' (forced to do so by circumstances) or 'pull' (attracted by the advantages of not working for someone else) reasons.
- Circumstances, or an opportunity arising, can lead to a situation where young architects find themselves having to take this step before having a well-rounded experience.
- Architects considering starting a new firm must understand the advantages associated with opportunity-driven entrepreneurial ventures.
- Architects considering starting their own firms will find themselves facing a wide range of decisions and choices which they should consider carefully as part of a coherent planning process that should include strategic planning.
- This should result in a detailed business plan: like buildings, firms must be designed to suit their context and to meet the owner's needs.
- The entrepreneurial process in architecture is an extensive one with a number of unique features, for instance the role that design will play in the new firm, unique launching strategies, business models and operational methods.
- The founder's values are, after technology, the major determining factor shaping the operation, management and the type of work undertaken by a firm.
- Creative thinking will help the entrepreneur architect to plan a firm that can optimise the benefits associated with the identified opportunity.
- Generic entrepreneurship education and training will have limited application in architects' firms.
- There is a need for profession-specific EET for architects.

Thus, it was concluded that EET, which can develop and hone the skills required, and a supportive environment are essential for the functioning of individuals and ventures, including architects' firms, in the modern economy. It furthermore identified a range of questions which should be included in the quantitative empirical study.

As far as the second question (what are the current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms?) is concerned, it was concluded that a quantitative survey should be undertaken

amongst all South African architects' firms. This questionnaire will be compiled as part of Chapter 3.

The third research question (which entrepreneurial actions, practices and orientations enable enduring South African architects' firms to achieve this status?) identified a range of questions that must be included in a qualitative empirical process aimed at uncovering how South African enduring architects' firms implemented and dealt with the existing theoretical recommendations, and to determine which entrepreneurial actions, practices and orientations enabled enduring South African architects' firms to achieve this status.

This chapter has established that entrepreneurship plays a significant role in the modern economy and that adhering to entrepreneurial guidelines can significantly enhance the performance of any business, including architects' firms.

Furthermore, it has been established that entrepreneurship is not simply an innate attribute and that EET can play an important role in developing entrepreneurs and in polishing the innate skills that individuals might possess. Hence, by implication, that EET can play a significant role in enhancing the entrepreneurial performance of South African architects' firms.

Finally, it has been shown that the entrepreneurial process in architecture is an extensive one with a number of unique features, for instance the role that design will play in the new firm, unique launching strategies, business models, operational methods, etc. Hence generic entrepreneurship education and training will have limited application in architects' firms. This highlights the need for profession-specific EET for architects.

Furthermore, section 2.3 highlights that the available literature on 'starting your own firm' are somewhat inadequate because they have ignored many aspects related to entrepreneurship and small business management: Theory about, amongst other aspects, opportunity recognition, diversification and business strategy is glaringly absent. In addition, neither the literature on entrepreneurship in general, nor those on 'starting your own firm', cover the implications of starting and managing a professional firm and the implications of abiding by prescribed codes of conduct and the associated ethical implications. The changing role and importance of social capital is another aspect that is not covered in either of the classes of entrepreneurship literature covered. Hence the questions identified for the qualitative research process had to be based not only on the contents of reviewed literature but also on other aspects that are often discussed at formal and informal professional forums and

meetings. In addition, they should be viewed merely as a reminder of the topics to be probed, in an impartial and unbiased manner, during the semi-structured interviews that will be conducted during the empirical study.

The following chapter will consider the current South African system of education and training for architects, generic EET programmes and support systems available to South African architects and various EET models that exist in order to investigate possible ways of integrating the various systems into a single framework.

CHAPTER 3: ENTREPRENEURSHIP EDUCATION AND TRAINING OF SOUTH AFRICAN ARCHITECTS AND EXISTING ENTREPRENEURSHIP EDUCATION, TRAINING AND SUPPORT MODELS

3.1 Introduction

The noted architectural theorist Alexander Tzonis (2014:76) questions whether, in a rapidly and radically changing world, schools of architecture are still providing the right knowledge required for design and construction. He believes that schools of architecture will have to identify ways through which a new generation of architects can acquire the knowledge needed to 'work together creatively, to conceive and construe the future complex, highly interdependent interactive structures of the human-made and natural environment, what one might call the '3rd ecology', free of contradictions and conflicts enhancing through dialog discovery, learning, and community'. While his concerns have wider implications than entrepreneurial attitudes, they do point to changes in the socio-economic context in which architects will have to practice. His concerns are echoed by VanDevere (2014:27) who believes that in the twenty-first century, everyone working in an architects' firm will have to understand how to use the prevailing socio-economic conditions, particularly a diverse workforce, to contribute toward a successful firm that has a competitive edge.

Maescher (2016:17-24) believes that architecture schools are currently little more than safe spaces where students design rather than bridging schools that encourage students to apply their theoretical knowledge. Maescher holds that there are four major shortcomings in modern-day architectural programmes. These are multidisciplinary projects, business orientation courses, soft skills courses and entrepreneurship courses.

This chapter will consider the current South African system of education and training for architects, generic EET programmes on offer and various EET models to investigate possible ways of integrating the three systems into the proposed EET framework for South African Architects. In doing so it will initiate the engagement with the fourth, fifth, sixth and seventh research questions, namely:

4. What constitutes the current system for education and training of South African architects?
5. What is currently available and/or offered to South African architectural students and architects in terms of entrepreneurial education training and support?
6. What do South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework?

7. Which issues are highlighted in the current discourse on entrepreneurship education and training?

The existing architectural education and training structure in South Africa will be described first. In doing so, the chapter will reflect on what EET currently is on offer to architects through existing education (as part of University *curricula*), training (as part of Candidacy and Continuing Professional Development programmes), and publications on architectural EET and support available via generic EET programmes. Thereafter it will consider the nature of questions to be included in the quantitative questionnaire to be sent to registered Candidate Architects and Professional Architects to determine what they, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework.

This will be followed by a literature review of EET and of a range of existing EET models or frameworks. This will be done in order to consider the appropriateness of the models proposed and to identify aspects that should be incorporated in a framework for South African architects. Furthermore, the study will identify shortcomings in current offerings and the aspects of current offerings that should be retained in the proposed system for South African architects as well as additional questions for the empirical processes that are to follow.

3.2 Architectural education and training in South Africa

SACAP, by virtue of the Architectural Profession (Act 44 of 2000) is entrusted with 'guiding the profession and promoting the standards of education and training in the Built Environment' (SACAP 2016c). As such, SACAP is largely responsible for determining the format of the architectural education and training framework of architectural professionals. As far as Professional Architects are concerned, the current framework comprises five or six years of study at a validated Architectural Learning Site (ALS) situated in a University or University of Technology. This is followed by a two-year candidacy period leading up to a professional practice examination (refer to Figure 6.1 on page 306). Successful completion of the exam results in registration as a Professional Architect (SACAP 2016d). Continuous updating of knowledge and skills is enforced through SACAP's Continuous Professional Development (CPD) system.

3.2.1 University education

Formal architectural education in South Africa started in 1815 at the Technical Institute founded by the Freemasons Society in Cape Town. Teaching at the Institute stopped in

1822 (Prinsloo and Phillips 2000:139). In the erstwhile Cape Province, the Cape Institute of Architects started offering part-time classes in architecture in 1902 while in the erstwhile Transvaal, architectural education started in 1905 at the Transvaal Technical Institute which later became the South African School of Mines and Technology (Carter 2013:37). The first university course started at the University of the Witwatersrand in 1921. This was followed by the University of Cape Town (UCT) in 1925, the University of Pretoria (UP) in 1943, the University of Natal (now KwaZulu-Natal) (UKZN) in 1949, the University of the Orange Free State (now Free State) (UFS) in 1956 and the University of Port Elizabeth (now Nelson Mandela Metropolitan University) (NMMU) in 1965 (Prinsloo and Phillips 2000:172). Validated programmes leading to registration as Candidate Architects are also offered by two former Technikons, namely the Technikon Pretoria (now Tshwane University of Technology) (TUT) and the Witwatersrand Technikon (now University of Johannesburg) (UJ) (SACAP 2016b).

The content or *curriculum* of each ALS differs somewhat as does the nomenclature of some programmes. The *curriculum* is determined by a number of factors. Carter (2013:37) believes that one of the factors that influence a particular *curriculum* is the tradition or platform from which the programme developed. He distinguishes between an arts platform - the classes offered by the Cape Institute of Architects - and a technical platform - the course offered by the South African School of Mines and Technology from which grew the courses on offer at the Universities of the Witwatersrand, Pretoria, Johannesburg and Tshwane University of Technology. Carter (2013:37) suggests that a further determining factor is the faculty in which the programme developed. At UCT the programme for many years resided in the Faculty of Fine Arts and Architecture reinforcing the influence of the arts-based platform from which it developed. At UP the programme for many years resided in the Faculty of Science leading to what Carter describes as a scientific 'inflection'. Another example of this influence exists at the University of Natal where the programme that started out at the Natal Technical College moved to the School of Fine Art in 1937. Hence Carter is of the opinion that architectural programmes in South Africa have developed three different generic curricula patterns namely the 'fine arts *curriculum*', the 'building arts *curriculum*' and the 'engineering with arts *curriculum*'. Because of this, it is disappointing that the programme at the erstwhile University of Port Elizabeth, which was housed in the Faculty of Economic Sciences, did not develop a stronger entrepreneurial inflection.

The profession, through SAIA, similarly had a strong influence on the *curricula* of the different programmes (Carter 2013:37). The influence of the profession develops from the institute's involvement with the original part-time courses. The influence of SAIA (at the time the RIBA's strongest overseas collaborator) is evident in the adoption by UCT and the

University of the Witwatersrand of the British sequence of three years of study followed by a practical year and, initially one final (later two) years of study. The influence of the profession and the international links it maintains, is further transferred onto curricula via the SACAP's validation system, and is evident in a number of ways, most notably the fact that the validation system imposes onto programmes the Part 1 and Part 2 framework of the Commonwealth Association of Architects (CAA) (CAA 2007:12). Another influence is the content prescriptions of both the CAA (2007:13-14) and SACAP (SACAP 2012:16-23) (refer to Addendum A), imposed via the validation process.[10]

Government, via the Department of Higher Education and Training (DoHET) and associated bodies such as the Council on Higher Education (CHE), also influence the curricula of the different ALSs (SA, DoHET 2016). The CHE (CHE 2016) is an independent statutory body established in terms of the Higher Education Act (South Africa 1997, s 101), as the quality control mechanism for Higher Education. This mandate is based on the terms of the National Qualifications Framework Act (South Africa 2008, s 67 cited in CHE 2016). All new programmes and all substantial changes to *curricula* must be submitted to, and be approved by, the DoHET and the CHE. Furthermore, the qualifications framework within which architectural education has to take place is determined in terms of the National Qualifications Framework Act.

The latest iteration of the National Qualifications Framework (NQF) known as 'The Higher Education Qualifications Sub-Framework' (HEQSF) was introduced in January 2013 and is in the process of implementation (CHE 2016). The framework provides for two streams that can be followed to a Professional Master's degree, the qualification required by SACAP for registration as a Candidate Architect (refer to Addendum A). The streams should not be regarded as entirely separate routes that may be followed since the framework allows for movement between the two streams, subject to certain conditions. The two streams are illustrated in Figure 3.1. While the framework is still not fully implemented, all the programmes based in South African universities follow the degree stream, while the University of Johannesburg (UJ) does allow students to qualify via the diploma stream in addition to the degree stream. The introduction of the 10-level NQF brought an end to the British sequence referred to above. However, because of the value placed on practical experience and learning by doing, it has become common practice for universities to require that students work in an architects' firm for periods varying between six months and a year

10 It must be noted that while both organisations encourage diversity in programme offerings, entrepreneurship does not feature *per se* in any of the above, and firm management hardly gets mentioned.

(University of Pretoria 2016; University of the Witwatersrand 2016b; University of Cape Town 2016:19) before entering their Honours studies.

Diploma stream programmes also require between six months and a year of experiential learning (University of Johannesburg 2016:14; Tshwane University of Technology 2016b:3).

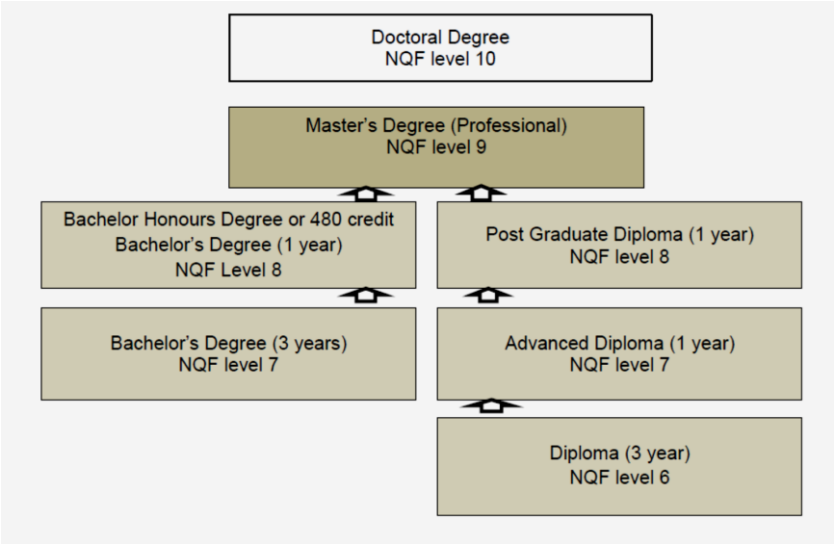


Figure 3.1 Degree/Diploma streams in HEQSF [by author partly derived from CHE (2016)]

Within the context of the above, the academic members of an ALS must conceptualise and develop the curriculum of the programme they intend presenting, and then submit it for approval – firstly, by the University's management structures, and secondly, by the DoHET and the CHE. Once it is offered, SACAP will validate the programme based on evidence presented by the ALS that indicates that the programme conforms to its minimum requirements. Without SACAP's validation, graduates cannot register with SACAP and will not be able to practice in South Africa.

When considered, SACAP's prescribed 'Competencies for validation' and, to a lesser extent, the CAA's 'validation criteria' (refer to Addendum A) are quite demanding on the limited time available in terms of the qualification framework set by the DoHET. The requirements demanded by these constraints will leave limited opportunity for the introduction of EE in this phase of the education and training framework. However, it is evident that experiential learning has become the accepted means through which the limitations imposed by qualification frameworks and the academic environment are supplemented in architectural education.

3.2.2 Experiential learning as Candidate Architect

Practical training is used to augment formal academic education received at an ALS. The aim is for a student to gain knowledge and experience, which are fundamental to the profession and can best be gained in practice, through practical training. Candidate Architects are required to undergo a period of at least two years of practical training. The period starts once the individual is registered as a Candidate Architect (which normally happens directly after graduating) (SACAP 2016f) and culminates in the writing of the Professional Practice Examination (PPE). The training must take place under the supervision of a Professional Architect and should be structured to place progressively more responsibility on the candidate. Towards the end of the period individuals have to start preparing for the PPE examination. In this regard, courses covering the content the examination will cover are offered by various professional bodies, such as provincial chapters of SAIA.

The requirements set out by SACAP (2014b:4) include very little that can be described as entrepreneurial in nature and this is restricted to:

- Office and project accounting systems.
- Personnel matter.
- Statutory requirements for having an office.
- Risk and professional insurance.

The examination comprises two three-hour papers and covers (SACAP 2016g:2):

- ‘The Architectural Professional as Practitioner’.
- ‘Architectural Service to the Client’.
- ‘Construction Law and Building Contracts’.
- ‘The Resolution of Building Disputes’.

The nature of experiential learning such as that found during the two-year candidacy period, means it can be used very effectively for EET, particularly if it can form part of a framework wherein theory taught elsewhere in the framework must be applied by the entrepreneurial Candidate Architect. Furthermore, the period can be used to set challenges that will develop many of the attitudes needed for entrepreneurial endeavour.

3.2.3 Continuous Professional Development

Continuing Professional Development (CPD) is mandatory for all architectural professionals (SACAP 2016h). CPD refers to developmental activities which should occur throughout an individual’s career. This could include:

- Education and training.
- Updating of knowledge and skills.
- Broadening of knowledge and skills.
- Development of personal qualities required by professional and technical duties.

CPD activities can occur in three categories, namely:

- Category One: 'Development Activities' (workshops, conferences, etc.).
- Category Two: 'Work-based Activities' (architectural work, lecturing and mentoring).
- Category Three: 'Individual Activities' (membership of recognised voluntary associations, further study, the publishing of articles, etc.).

If these listed aims and categories are considered it appears that CPD can, by its nature and aims, provide opportunities for the introduction of EET activities and recognition for both the learners and the mentors who might provide support to newly established firms or to architects undergoing EET.

3.3 Entrepreneurial education as part of current University architectural programmes in South Africa

All South African universities that offer programmes that can lead to registration as Candidate Architects and thereafter Professional Architects were contacted in order to confirm and update the cursory overview in Chapter 1 (refer to 1.1). Their responses are tabulated in Table 3.1.

Table 3.1 Entrepreneurship Education currently offered at South African Architectural Learning sites.

Architectural Learning Site	Entrepreneurship Education currently offered
University of Kwazulu-Natal	The two-year Master of Architecture programme offered includes two modules that might contain EET: these are 'Simulated Office Project' and 'Professional Practice'. The Study Guide for 'Professional Practice ARCH 810H2' confirms that nothing related to EET is covered in this module, whereas 'Partnership formation; office organisation and management' is covered in 'Simulated Office Project ARCH809H2' (University of Kwazulu-Natal, School of Built Environments and Development Studies 2015). Despite various attempts, no information on the content of the 'Simulated Office Project' was forthcoming from the university so it could not be ascertained if the aforementioned includes any EET-related content.
Nelson Mandela Metropolitan University	EET could appear in 'Professional Practice 4 ABA 402' or 'Professional Practice 5 ABA 501/2'. Study guides for both these modules were received and aspects of EET are touched on in Professional Practice 4 ABA 402'. Entrepreneurship-related content is covered in 'Setting up the Office' and 'Firm Management' (Nelson Mandela Metropolitan University, Department of Architecture 2015:1-25).

University of Cape Town	Aspects of EET might appear in the following modules: 'Management Practice and Law 3 APG3036F', 'Professional Practice 4 APG4044S' or the 'Simulated Practice Project'. (University of Cape Town, School of Architecture, Planning & Geomatics 2015a:149) However, no EET-related content is covered in any of the above modules (University of Cape Town, School of Architecture, Planning & Geomatics 2015b; University of Cape Town, School of Architecture, Planning & Geomatics 2015c).
University of the Free State	Despite various attempts, no information was forthcoming from the University of the Free State. From the 2015 Rule Book of the Faculty of Natural and Agricultural Sciences it would appear that components of EET might appear in 'Professional Architect's Practice PARC7904' but no information regarding module content could be obtained from the university's website either (University of the Free State 2016:100).
University of Johannesburg	EET content appears in the Module 'Architectural Professional Practice 5 MAPP19X'. This comprises a series of lectures spread over three weeks (University of Johannesburg, Department of Architecture 2015:10). EET content covered comprises 'Entrepreneurship and strategic planning', 'Starting a practice, types of practice, and business plans'. Students are required to prepare a business plan for their own imaginary practice.
University of the Witwatersrand	According to the website of the University of the Witwatersrand (University of the Witwatersrand, School of Architecture and Planning 2016a; University of the Witwatersrand, School of Architecture and Planning 2015a; University of the Witwatersrand, School of Architecture and Planning 2015b) and staff (Daskalakos 2015) EET content could be expected in the modules 'Small Office Practice ARPL3002', 'Simulated Office ARPL7002' and 'Architectural Professional Practice ARPL7041'. The only EET-related content that could be identified from the information received comprises the requirement for a project business plan in 'Simulated Office ARPL7002'. However, the author delivered a lecture on Entrepreneurship in Architecture as part of this subject during 2017.
University of Pretoria	According to the website (University of Pretoria, Department of Architecture 2016:[sp]), EET content might occur in the Modules 'Practice Management 320' (PJS 320)' and 'Continuing Practice Development 740' (CPD 740). However, the study guide for PJS 320 (University of Pretoria, Department of Construction Economics 2015) indicates that it does not contain any entrepreneurship-related content. The topic is only touched on in 'Continuing Practice Development 740' (CPD 740) (Vosloo, P 2016).
Tshwane University of Technology	EET content is located in the module 'Business Management' (BMN500T) where students are taught the principles of starting and managing a business. This includes the writing of a business plan (Tshwane University of Technology, Department of Architecture 2015; Tshwane University of Technology 2016a:2).

From Table 3.1 it appears that some South African Schools of Architecture acknowledge that EET content should have a place in an architectural programme but that the place and importance it is granted is quite limited, if not non-existent. This situation seems at odds with the attitude of the RIBA and the AIA and Lawrence (2000), Cuff (1991), Gutman (1988) Derrington (1981) and LHA Management Consultants (2001) as cited by Saidi (2005:114) who finds that 'Architects who continue with the traditional methods of practice struggle to make it in such a challenging market. Therefore, employing architecture firms are more likely to seek new graduate architects who are schooled in the new issues affecting the architectural market to ensure their survival'.

3.4 Entrepreneurial training as part of current architectural Continuing Professional Development programmes in South Africa

In order to update and confirm the indication in Chapter 1 (refer to 1.1) that architectural entrepreneurship or aspects of EET are not listed under the Continuing Professional Development activities of either SACAP or SAIA, the national office of SAIA and all the regional institutes were again contacted to confirm if they have at any time offered any EET-related Continuing Professional Development (CPD) training offerings. Unfortunately not all of the bodies contacted responded (despite reminders). However, none of those that responded indicated that they have ever offered any EET-related offerings (Van Wyk 2015; Mushet 2015; Stephens 2015; Fourie 2015; Hess 2015; Van Rooyen 2016). Wallis (2015) indicated that 'SAIA itself does not and has not, presented courses in the field. However, SAIA recognises that such information is crucial to the successful practice of architecture and we have assessed and validated courses presented by third party CPD activity providers'. Unfortunately, no further details were provided except the contact details of the various provincial Institutes. However, later communication from Chakarisa (2016) indicates that SAIA Limpopo has hosted an event titled 'The curious business of architecture'.

SACAP's online list of past and future CPD offerings were similarly scrutinised and the only aspects of EET indicated is a subheading 'The Business of Architecture' included in a course to prepare Candidate Architects for their Professional Practice Examination offered by the Gauteng Institute for Architecture. (SACAP 2016a:[sp]).

The foregoing indicates that while the importance of training in EET and related aspects is acknowledged, and while related CPD courses might have been offered, no substantial evidence in this regard could be found.

3.5 Literature on EET for architects

While literature on how to start and manage an architects' firm is available, very little has been published on architectural entrepreneurship training and support: in total, one journal article, one conference paper, a single section on mentoring by DeBernard in *The architect's handbook of professional practice* (2014) comprise all that a literature search could uncover.

Gafar et al (2012), in their conference paper, point to the need for entrepreneurship education to firstly prepare future architects for a professional career in the present-day economically competitive environment. The views of these authors are of particular importance when considered with criticisms expressed by Volkman (2014:117) who stresses the need to emphasise the professional application of the theory taught. Secondly they argue that the inclusion of entrepreneurship education in educational curricula could see a

reverse in the weakening trend in the perceived role of architects as part of the built-environmental professional team. Gafar et al's (2012) paper is a response to debates amongst architects regarding the appropriateness of current architectural curricula in the light of the aforementioned concerns. Other advantages put forward are employment creation and the creation of enduring firms.

They propose an integrated education framework that will develop the entrepreneurial abilities of architects. They report that Malaysian schools of architecture have responded to calls from the Malaysian government for an increase in entrepreneurship education by either offering an elective module or by adding more content to an already over-full *curriculum*. They also hold that because of the emphasis on design in architectural education, students who are not great designers fail and are lost to the profession even though they might fill meaningful roles in the profession. To reverse the situation, they propose the following ways of integrating entrepreneurship education and current architectural *curricula* (Gafar et al 2012:765):

- Appoint competent and qualified architectural entrepreneurship educators.
- Incorporate entrepreneurship in design briefs at all levels.
- Architectural design briefs should include some aspect related to commercialisation.
- Greater use of entrepreneurship-related case studies, visits by (or to) role models and entrepreneurship conferences.
- Increased collaboration between academia and the profession.

Unfortunately, the authors of this paper (Gafar et al 2012) regard architectural education in isolation and not as part of an integrated system that should firstly create greater awareness about entrepreneurship before emphasising how entrepreneurs operate. They also do not consider the potential advantages that 'wrap-around' services, such as support in the form of mentoring, might hold.

The author of this thesis has authored an article related to architectural entrepreneurship education and training (Vosloo 2016a) and a paper on the benefits that experiential learning and mentorship can hold as part of an EET programme (Vosloo 2016b). The first article firstly points to the role (and need for) EET to increase entrepreneurial awareness to enhance the general population's attitude towards entrepreneurship and to create a supportive environment for entrepreneurs (Vosloo 2016a:10). Thereafter it considers a few EET models and how these could be applied to the architectural situation. The second paper

(Vosloo 2016b) explores the value that experiential learning and mentoring can offer entrepreneurship training for architects.

While not intended as literature on EET, DeBernard's section on 'Professional Development and Mentoring' in the AIA's *The architect's handbook of professional practice* (2014) highlights the importance and role of lifelong learning (and by implication mentoring) as part of efforts to produce firms that 'can grow to provide a financial vehicle for firm continuity' (DeBernard 2014:488). She points to the fact that the completion of a university degree in architecture and professional registration is only the first part of what is required for career in architecture. While the section considers mentoring from an 'in-house' perspective, the advantages can also be extrapolated to mentorship as support activities as part of 'wrap-around' features offered in an EET framework. According to DeBernard (2014:491) a mentoring programme must have:

- Agreement on what is expected and the time involved.
- A process or mechanism to identify and match mentors and mentees.
- Agreement between mentors and mentees on their respective responsibilities.
- Training of participants.
- Mechanisms for documenting and assessment of experiences and outcomes.

She continues that mentoring programmes can be either formal, in which case individuals who can benefit from mentoring are paired with others who have the appropriate experience and expertise, or informal, where pairs spontaneously connect through personal choice.

DeBernard (2014:493) describes a mentor as someone who is 'a trusted, influential leader or expert, a good role model who inspires learning and invests time in coaching others'. Mentors should be patient teachers, good listeners and relationship builders who are positive, able to keep confidences and willing to commit time to the mentoring process. Mentees in turn, should be motivated, open to constructive feedback, accepting of their own mistakes and willing to learn from them while valuing the mentoring relationship (DeBernard 2014:494).

If note is taken of the importance many EET theorists such as Cope (2005:380), Gordon et al (2012:796), Timmons and Spinelli (2007:15) and Valerio et al (2014:49) place on guided learning by doing or experiential learning (refer to 3.8.2), the advantages that mentoring can hold as part of such a system cannot be ignored.

3.6 Entrepreneurial development and support available in South Africa

Starting a new business (architects' firms included) is often a daunting prospect - particularly if one has no previous business experience. Moos (2014:211) believes that any entrepreneur or Small, Medium or Micro Enterprise (SMME) owner must have support to succeed. She believes that 'this is a critical issue, which in most cases is ignored or forgotten'. Because entrepreneurial conduct holds the key to economic growth (Döckel & Ligthelm 2005:54) and because SMMEs are globally regarded as an effective means of employment creation, governments and financial institutions offer a variety of support mechanisms. The authors believe that creating an enabling environment, both from government and private sector entities, including support to young entrepreneurs can be a catalyst for employment creation and economic growth (Döckel & Ligthelm 2005:62). This also applies in South Africa (Moos 2014:211). Noteworthy, though, are the findings of Brière, Tremblay and Daou (2014:17), that South African entrepreneurs want networking opportunities as a first priority and that training and developing entrepreneurs' skills is the second key issue, while access to financing is only the third priority. Furthermore, the following findings of Phillips, Moos and Nieman (2014:91) must be regarded:

- Business support must recognise the differing needs of different types of small enterprises and hence provide customised support packages for different target groups.
- The ways in which support is offered must guarantee that entrepreneurs can easily access a service package which includes all the main management functions.

According to the South African LED Network (2016), assistance to South African entrepreneurs is facilitated by virtue of the National Small Business Amended Act of 2004 (South Africa 2004, s 29) as envisaged in the National Strategy for the Development and Promotion of Small Business (NSDPSB) in South Africa. Assistance and support is offered to entrepreneurs and small businesses by both the public and private sectors.

According to Antonites (2016), public sector support is offered at the National, Provincial and Local government levels. At the National level, support is offered by the Departments of Small Business Development (DSBD), Trade and Industry (DTI), Economic Development (EDD), Science and Technology (DST) and the National Youth Development Agency (NYDA).

The DSBD has various support programmes on offer (SA, DSBD 2016). The Black Business Supplier Development Programme (BBSDP) offers financial grants of up to R1 000 000. The Department's Co-operative Incentive Scheme (CIS) provides 100% grants for registered

primary cooperatives. The DSBD's Shared Economic Infrastructure Facility (SEIF) leverages public sector investment in order to provide the necessary infrastructure for creating an enabling environment for businesses, mostly in townships, rural areas and the inner cities. The National Informal Business Upliftment Strategy (NIBUS) is driven by the DSBD to stimulate development at the lower levels of SMME Development. Support is offered for:

- Organisational development.
- Governance (memorandum and articles of association, constitution and training etc.).
- Management Training.
- Operational systems and policy development.
- Information Technology (membership database system, website, etc.).
- Project support (linked to the Department of Small Business Development's incentives).
- Basic office infrastructure and technology.

Moos (2014:220) and SA, SEDA (2016) share that SEDA offers:

- Business support and assistance with company registrations.
- Business analysis and advice.
- Assistance with exports.
- Mentorship.
- Supplier and skills development.

SEFA offers direct or indirect funding of up to R5 million (retail products) or R50 million (wholesale products) to SMMEs. Economic empowerment and transformation are high on their list of priorities (Moos 2014:221; SA, SEFA 2016).

The IDC's services include (SA, IDC 2016):

- Risk capital for a wide range of industrial projects.
- Identifying and supporting undeveloped financial opportunities.
- Empowering emerging entrepreneurs.
- Promoting 'medium-sized' manufacturing.

Services are provided through Strategic Business Units (SBUs) and entrepreneurs should access their services through the appropriate SBU.

The objective of the NYDA is to encourage youth development (ages 18-35). It does this through encouraging economic participation, skills development and training, social cohesion

and support. The NYDA aims to achieve this objective by providing a range of business development programmes targeted at helping young entrepreneurs with information (including mentorship) and funding (between R1 000 and R10 000) that will assist them with starting and growing their businesses (Moos 2014:222; SA, NYDA 2016).

Other agencies involved in supporting SMME's are the Companies and Intellectual Property Commission (CPIC), Export Credit Insurance Corporation of South Africa (ECIC), National Research Foundation (NRF), Council for Scientific and Industrial Research (CSIR), Human Sciences Research Council (HSRC), Technology Innovation Agency (TIA), The National Intellectual Property Management Office (NIPMO) and the South African Agency for Science and Technology Advancement (SAASTA) (Antonites 2016).

At the provincial level, financial assistance is available from the Gauteng Growth and Development Agency (GGDA), Gauteng Enterprise Propeller (GEP), Free State Development Corporation (FSDC), Western Cape Investment and Trade Promotion Agency (WESGRO), Cape Agency for Sustainable Integrated Development in Rural Areas (Casidra), Ithala Development Finance Corporation, Limpopo Business Support Agency (LIBSA), Northern Cape Department of Economic Development and Tourism, the Eastern Cape Development Corporation (ECDC), North West Development Corporation (NWDC) and the Mpumalanga Economic Growth Agency (MEGA). At the local government level, support is available from various district and municipal SMME support initiatives (Antonites 2016).

As far as private sector support is concerned, entrepreneurs can apply for financing and support from many of the major commercial banks. These include ABSA, First National Bank, Nedbank and Standard Bank, amongst others. However, it should be remembered that they are commercial organisations and as such must minimise and manage their risks (Moos 2014:224).

Business Partners is an investment company focussing on formal sector small and medium enterprises in all sectors of the economy. Business Partners provide purpose-made financial solutions, advice, mentorship, business premises and other added-value services in South Africa and certain African countries. Financing of between R150 000 and R15 million can be applied for (Moos 2014:223; Business Partners 2014).

Antonites (2016) asserts that a range of business organisations such as the South African Chamber of Commerce and Industry (SACCI) and others, including Shell LiveWIRE South Africa, Anglo American Zimele, and South African Breweries 'KickStart', provide training,

mentoring and funding to entrepreneurs (SACCI 2016; Shell LiveWIRE South Africa 2016; Anglo American 2016; SAB KickStart 2016) provide training, mentoring and funding to entrepreneurs. Training and support is also available from private incubators, private equity companies and others in the entrepreneurship training and development environment, for instance private colleges such as Varsity College which also offers training and managerial support (Varsity College 2016).

An internet search indicates that EET is offered by a variety of organisations. These include Universities such as the University of Cape Town (UCT) (UCT 2016), University of South Africa (UNISA 2016), University of the Witwatersrand (Wits 2016), University of Pretoria (UP) (UP 2016) and others which, in addition to formal academic programmes, offer training to nascent entrepreneurs.

In addition to the above, since 9 May 2016 the South African private sector is offering a further R 1.5 billion for SMME development (Ngoepe 2016:[sp]). In spite of this, other factors such as unnecessary administrative and legislative impediments might work against the attainment of the goal of entrepreneurial growth (Le Cordeur 2016:[sp]).

From the foregoing it is clear that entrepreneurial funding and support is widely available and that both the South African government and the private sector are available to fund and support new entrepreneurs. Architects in need of financing can make use of the schemes, programmes and support on offer. However, as far as education and training is concerned, the uniqueness of architectural firms (as business enterprises) as explained in Chapters 1 and 2 (refer to 1.6.5 and 2.4) means that these generic programmes will have some, but limited, benefit for architects as confirmed by Kozlinska (2011:218; 2012:4). This is due to the uniqueness of both the participants and the context, two of the major determinants of the effectiveness of EET programmes according to Valerio et al (2014:24). Furthermore, the findings of Mahadea (2012:[sp]) must be noted - that the South African government's initiatives to deal with employment creation, especially among the youth, have been largely ineffectual.

3.7 Shortcomings of the entrepreneurial education training and support available to South African architects

The preceding review indicates that EET and support, especially funding, is available to South African architects. In order to establish if the available offerings can be considered adequate, a quantitative study amongst South African Professional Architects and Candidate Architects must be undertaken. The study will endeavour to establish what South African

Architects and Candidate Architects, in retrospect, regard as the shortcomings of the entrepreneurial education training and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework. The questionnaire, which will be described in more detail in Chapter 4, should ask of the above groups whether:

- The education, training and/or support offered to them or during their studies or during their Candidacy period or since registration as a Professional Architect (as applicable), included the listed topics extracted from current theory and generic entrepreneurial education programmes.
- They believe that the topic is relevant and should therefore be included in architectural education and training.

Pertaining to the first question, the following topics should be included:

- Entrepreneurial awareness (did any of the programmes you attended cover the advantages to society and individuals of being entrepreneurial?).
- Entrepreneurial orientation/intent (did any of the programmes you attended cover the attitudes often associated with entrepreneurs?).
- Entrepreneurial skills (did any of the programmes you attended cover the skills required by entrepreneurs?).
- Entrepreneurial performance (did any of the programmes you attended cover the performance aims and measures that can enhance entrepreneurial performance?).
- Starting an architectural firm (did any of the programmes you attended cover the process of starting a new firm?).
- Firm design (did any of the programmes you attended cover the different firm types and business models associated with architects' firms?).
- Formalising your plans (were the processes suggested for formalising your plans covered in any of the offerings you attended?).
- Developing business management skills (was the importance of acquiring business management skills covered in any of the offerings you attended?).
- Support (did any of the programmes you attended cover the important role of entrepreneurial support, including financial and technical support as well as mentoring?).
- Available programmes to stimulate entrepreneurship and SMMEs in South Africa (were the available programmes to stimulate entrepreneurship and SMMEs covered in any of the offerings you attended?).

- Available financial support for South African entrepreneurs (was the financial support available for South African entrepreneurs covered in any of the offerings you attended?).
- Legislation and initiatives aimed at supporting South African SMMEs (did any of the programmes you attended cover the legislation and initiatives aimed at supporting South African SMMEs?).
- Economic transformation and BBBEE (did any of the programmes you attended cover economic transformation and BBBEE?).
- Governmental entrepreneurial support agencies (did any of the programmes you attended cover governmental entrepreneurial support?).
- Statutes that effect managing a South African architects' firms (were the statutes that affect managing a South African architects' firms covered in any of the offerings you attended?).
- Business opportunities for South African architects' firms (did any of the programmes you attended cover business opportunities for South African architects' firms?).
- The completive context of South African architects' firms (was the completive context of South African architects' firms covered in any of the offerings you attended?).
- Financial parameters for endurance (were the financial parameters for endurance covered in any of the offerings you attended?).
- Surviving economic recessions (did any of the programmes you attended cover surviving economic recessions?).
- Developing business management skills (was the importance of developing business management skills covered in any of the offerings you attended?).

3.8 Entrepreneurial education and training

Entrepreneurship Education and Training (EET) lies at the meeting point of two academic fields namely entrepreneurship and education (Béchard & Grégoire 2005:40) According to Valerio et al (2014:41), EET includes academic education or formal training actions. These actions have the broad objective of providing individuals with the entrepreneurial mindsets and skills to foster and support participation and operation in a range of entrepreneurial and related managerial activities (refer to 1.4.5.9). These authors believe that EET generally aims at transferring particular mindsets and skills associated with entrepreneurship. In addition it aims at imbuing a variety of other developmental outcomes. However, Baptista and Naia (2015;2), citing the work of Sexton & Bowman (1984), Hills (1988) and Fiet (2000), point out that a unified and accepted theory or definition of entrepreneurship education has not been established.

EET has three distinct theoretical bases. The first is Lent, Brown and Hackett's 'Social Cognitive Career Theory' (SCCT) (Vaneffenhoven & Liquori 2013:317) which is anchored in Bandura's 'Self-efficacy Theory' (1977, 1997). This theory postulates a mutually influencing relationship and interaction between people and the environment (Leung 2008:125). Vaneffenhoven and Liquori (2013:317) describe this theory as essentially a theory of motivation that is based on self-efficacy, outcome expectations and goal-oriented activity. The aforementioned constructs are regarded as mediators influencing the relationships between individuals and environmental experiences and behaviours.

The second theory, according to Sánchez (2013:449) and Fretschner and Weber (2013:410), is Ajzen's 'Theory of Planned Behaviour'. According to this theory 'Intentions to perform behaviours of different kinds can be predicted with high accuracy from attitudes toward the behaviour, subjective norms, and perceived behavioural control. These intentions, together with perceptions of behavioural control, account for considerable variance in actual behaviour' (Ajzen 1991:179). Thus, entrepreneurial intentions can be shaped by three motivational antecedents: the first of these are personal attitudes towards the behaviour (whether a person considers the formation of a new enterprise as positive or negative), the second is subjective norms (the perceived social pressure and the expectations of friends and family towards the starting of a venture), and the third is perceived behavioural control (an individual's perception of the degree of control they have over the creation of a new venture process) (Fretschner & Weber 2013:413). The third theoretical base is 'Human Capital Theory' which suggests that investment in human capital will imbue the labour force with the skills-base required for economic growth (Sánchez 2013:449).

The academic discourse on EET is an active and dynamic one. Béchard and Grégoire (2005:22) content-analysed 103 peer-reviewed articles on the basis of Bertrand's (1995) 'Contemporary Theories'. They found that the themes can be divided into the following major areas of educational *foci*, namely:

- The social and economic roles of EET for individuals and society and for institutions of higher education.
- The technological domain focusing on the systemisation of EET, content matter and modes of delivery (within which most articles occur).
- The importance of considering the needs of students when structuring interventions.

Despite the 103 articles used in the previously mentioned analysis, Pardo (2012:2), citing Carayannis, Evans and Hanson (2003), considers EET to be still in its infancy and that authors have shown little progress in agreeing on what should be taught and how.

Naia, Baptista, Januário & Trigo (2014:111) believe that while theoretical contributions on EET are increasing, not enough of these are actually expanding knowledge by making new theoretical propositions followed by tests conducted in experimental settings. The authors continue by pointing out that articles published are overly concerned with the development of new methods, frameworks and programmes followed by a report on the outcomes. However, these programmes are context specific, resulting in a situation where theory building and theory testing are inhibited by the fact that they are rooted in a single paradigm. This situation limits the extent to which new, more complete and eclectic knowledge is generated.

Baptista and Naia (2015:337) constructed two frameworks of analysis and used these to examine recent literature on entrepreneurial education at two levels: theoretical contributions, and emerging challenges and solutions in the classroom. By virtue of these frameworks they could classify published articles into the following groups: entrepreneurship education, encompassing methodologies, theories, contents, frameworks and evaluation of programs/subjects.

According to Kozlinska (2012:17), EET differs from many other disciplines in higher education because of its socio-economic or real-life aspect. EET is also distinctively different from general business management education. Valerio et al (2014:22), having reviewed the work of Lüthje and Franke (2003), Rauch and Frese (2007), Teixeira and Forte (2009), Cloete and Ballard (2011) and others, found that some the main differences between EET and business management education is that EET focuses on the development of certain mindsets and skills. Amongst these are socio-emotional skills including self-confidence, leadership, creativity, risk propensity, motivation, resilience and self-efficacy. Also covered is awareness of, and perceptions towards entrepreneurs and entrepreneurship. Finally, general business knowledge, combined with the skills and knowledge required to start and manage a business, are added. By contrast, general business management education normally grooms students to function within established businesses and hierarchies as managers.

While Valerio et al (2014:22) acknowledge that a degree of overlap exists, they point out that EET uniquely includes the conditions and problems associated with entrepreneurial action. They illustrate the relationship and difference between EET and business management education in the diagram shown in Figure 3.2. Kuckertz (2013:63) suggests that EET must,

unlike traditional business education, also include creative thinking, negotiation and selling skills, leadership and people management.

Rauch and Hulsink (2015:187), following research into the effectiveness of entrepreneurial education, believe that entrepreneurship education is effective. They hold that students who participated in entrepreneurship education have higher entrepreneurial intentions.

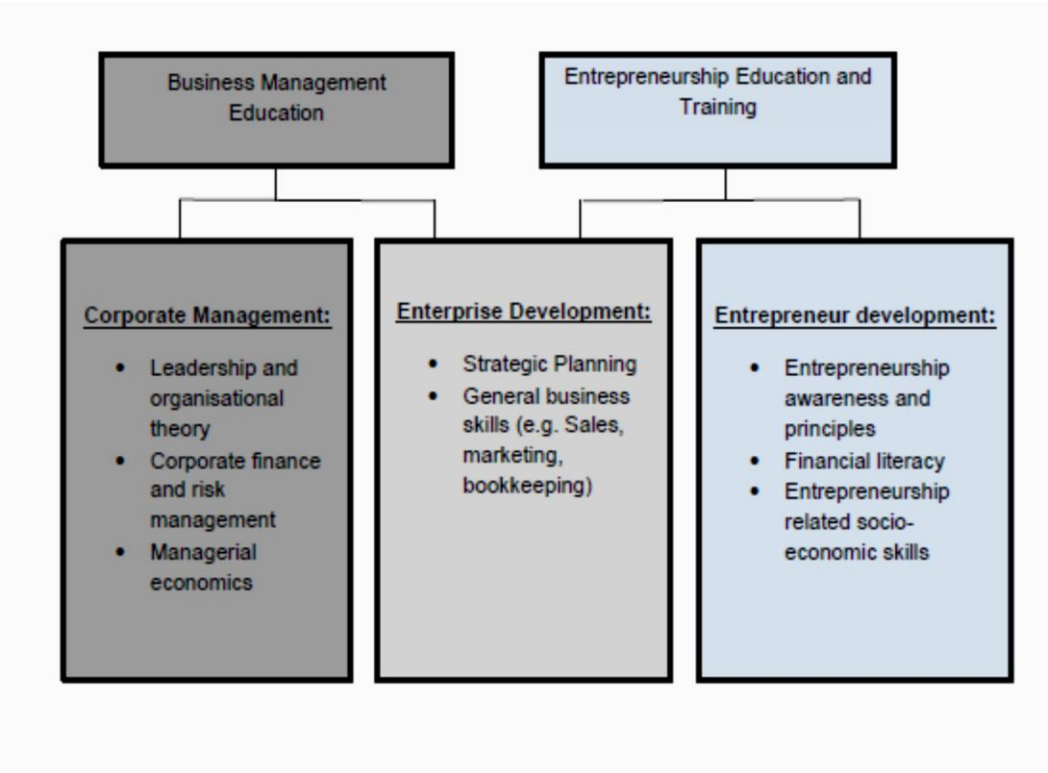


Figure 3.2 Entrepreneurship Versus Business Management Education (Valerio et al 2014:35-22)

Furthermore, they believe that entrepreneurial intentions mediate the effect of entrepreneurship education on subsequent behaviour, particularly that related to the creation of new businesses. Thus, they suggest that these results indicate 'that entrepreneurship education emphasizes increasing antecedents of intentions and behaviour' (Rauch & Hulsink 2015:187). Walter and Block (2016:216) found that, in spite of the possible influence of the reputations and attitudes of institutions offering EET, there are instances where entrepreneurship education at institutions that are less entrepreneurship oriented has led to greater entrepreneurial activity.

Fayolle and Gailly (2015:75) investigated whether entrepreneurship education programs actually influence participants' attitudes and intention toward entrepreneurship and, if so, how this influence is affected by past experience, and how long the changed attitudes persisted. Their research shows that the positive effects of entrepreneurship education are

more significant in cases where previous entrepreneurial exposure has been limited or non-existent. Conversely, in the case of students who previously had significant experience of entrepreneurship, the results indicated that the entrepreneurship education received had a negative impact. This finding suggests that a generic, 'one-size-fits-all' approach could hold certain dangers.

Thus, while some researchers report positive correlations between EET and entrepreneurial behaviour (O'Connor & Greene 2012:13; Fretschner & Weber 2013:421), the results of empirical research into the effectiveness of EET programmes often also reports mixed or limited positive results particularly in so far as the aim of creating more entrepreneurs is concerned (Rideout & Gray 2013:345; Bae, Qian, Miao & Fiet 2014:217). At the same time, there exists a small group of authors who are more guarded about the field. An example is Rideout and Gray (2013:346) who hold that EET is 'one of those phenomena where action and intervention have raced far ahead of [the] theory, pedagogy and research needed to justify and explain it'. Others include Duval-Coutil (2013:405) who regards the field as complex with a lack of consensus on learning outcomes and few examples of validated instruments and assessment protocols. However, having investigated the positive and negative associations with EET, Valerio et al (2014:21) concludes that 'taken together with indications that aspects of entrepreneurship can be taught and learnt, education and training systems are emerging as a key component of broader discussions about the promotion of entrepreneurship'. However, it must be mentioned that in the case of South African architects, as pointed out in Chapter 1 (refer to 1.2), most already are involved in the starting or managing of a practice at some stage: the first priority here is to equip architects with the required mindsets and skills that will assist them to do so with better results.

In order to review current literature on EET, this section will use as a guideline the Conceptual Framework for EET developed by Valerio et al (2014:35-71) and shown in Figure 3.3 (see following page). as a guideline. The framework comprises the three dimensions that the researchers found to be the major determinants of the range of EET outcomes, namely the context in which the programme will be offered, the characteristics of the participants and the characteristics of the programme itself. Finally, some EET models and frameworks will be considered.

3.8.1 Outcomes

According to the conceptual framework, 'outcomes' refer to the intended changes to the mindsets, capabilities, status and/or performance of the participants in an EET programme. Much has been written about the goals and content of EET: Jamieson (cited in Pardo

2013:3), as far back as 1984, proposed that teaching goals in EET should comprise three categories:

- Education about enterprise (awareness creation).
- Education for enterprise (entrepreneurship promotion).
- Education in enterprise (management training).

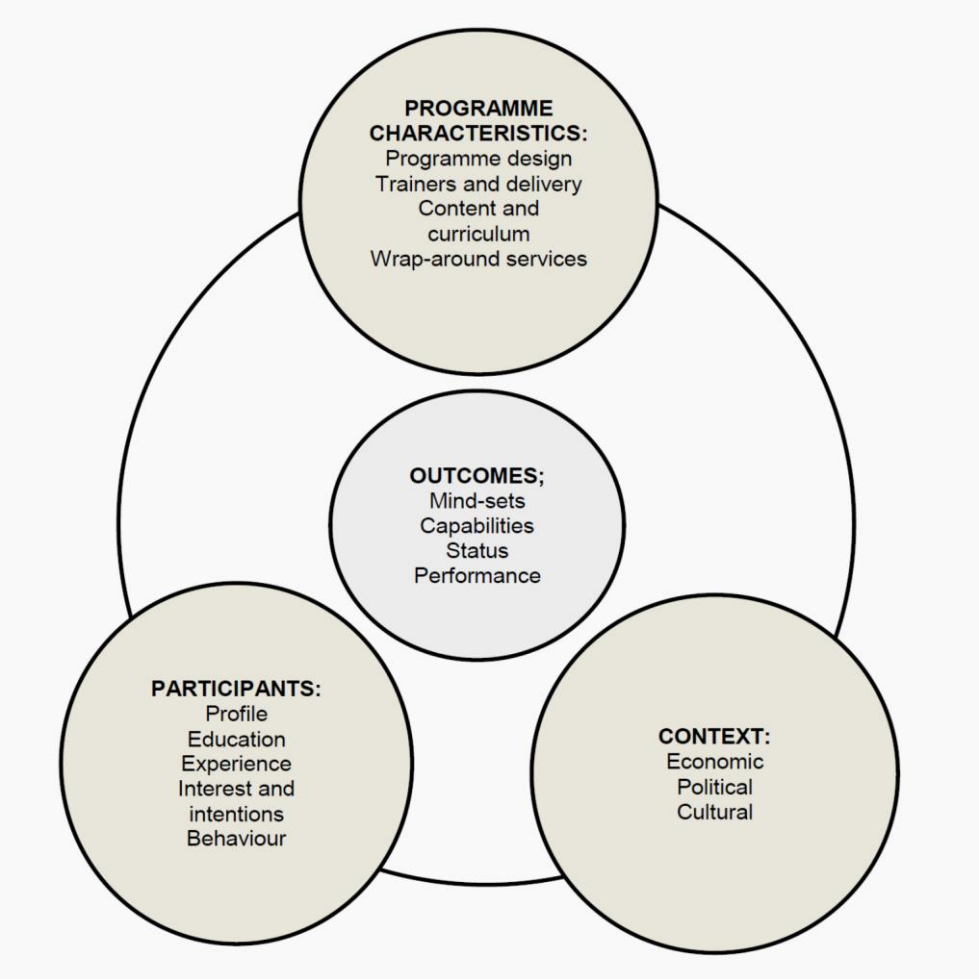


Figure 3.3 Conceptual Framework for EET (Valerio et al 2014:35-71)

Scott, Penaluna and Thompson (2016:82) question whether, in entrepreneurial education, actual learning outcomes can, or should, be used to measure programme effectiveness. Thus, they propose that student performance should be evaluated using 'the twin lenses of implementation or innovation' (Scott, Penaluna & Thompson 2016:82). They believe that implementation involves doing things that are determined by others and that the results are evaluated by matching them against the other persons' expectations, whereas innovation involves 'producing multiple and varied solutions that respond to change and often surprise' (Scott, Penaluna & Thompson 2016:82). What is true however, is that outcomes reflect the

appropriateness of the intervention whereas implementation and innovation reflect the effectiveness of the intervention.

Valerio et al (2014:3) believe that determining the outcomes of EET programmes represents a complex and multi-dimensional challenge because these can vary significantly from programme to programme. They consider that the programme's outcomes will follow from its own programmatic characteristics and its contextual and participant-based moderating factors (Valerio et al 2014:35). To them the outcomes, associated with EET programmes can be grouped in four categories, namely those related to:

- Mindsets
- Capabilities
- Status
- Performance

They share that an analysis of literature on EET shows that the changing of attitudes comprises the imparting of mindsets that relate to a variety of socio-emotional skills which can be associated with entrepreneurial disposition and performance. These include self-confidence, resilience, creativity, leadership, risk propensity, motivation, self-efficacy and the way individuals interact with others. To this should be added changing mindsets regarding the attractiveness and feasibility of establishing a business and the intent on doing so (Valerio et al 2014:36-38).

To them entrepreneurial capabilities deal with the entrepreneur's competencies, knowledge and related technical skills, including general business knowledge and other skills required for starting and managing a business (Valerio et al 2014:38).

Status refers to the entrepreneur's status and the changing thereof through an EET intervention. In this regard their review of literature found that this dimension measures an individual's decision to increase income, and hence savings, by acquiring additional capital to start a venture or to become employed.

They are of the opinion that the outcomes associated with entrepreneurial performance are the indicators of a venture's performance and how these might have improved as a result of the EET intervention. The authors point out that a number of assessments of EET programmes measure whether the participants in EET have managed to outperform non-participants (Valerio et al 2014:39).

Pretorius and Wlodarczyk (2007:506) consider that the most important outcome is a change in the behaviour of the student. Achieving this outcome will result in attendees that are keen to engage the start-up process and are able to detect and exploit business opportunities by initiating and managing a new business enterprise quickly. They regard that a holistic and integrated approach must be followed and hold that such an integrated approach will be critical to the development of entrepreneurs.

From a different point of view Fayolle and Toutain (2013:168) suggest four main aims for EET:

- Learning about the interrelationships of many social interactions.
- Learning to operate within a multifaceted and ever-changing context.
- Learning to acquire and constantly update knowledge and strategies.
- Learning to develop ideas into actions.

The first two bullets refer to mindsets and the last two to capabilities. They believe that entrepreneurs must be able to cope with complexity and complicated relationships and hence, should have a developed capacity for critical thinking and be able to process information streaming into their businesses from this complex environment. They assert that individuals must learn how to apply their knowledge and the cues from their context to perform tasks.

Another set of authors, Fretschner and Weber (2013:423) suggest the following guidelines for programmes of this type:

- Initially the focus should be on the development of an entrepreneurship attitude with the development of skills following at a later stage.
- Grow students' belief that starting and growing a business is an attainable objective that is not predetermined by external factors.
- Elaborate on the advantages and disadvantages of entrepreneurship and discuss the reasons and advantages associated with your own new venture.
- Use entrepreneurial role models who can describe a clear and realistic view of being an entrepreneur.
- Avoid indoctrination or overt pressure and rather offer support and encouragement.
- Include the need for intrapreneurship in the programme.

According to Fretschner and Weber (2013:422) there is a need for education with two distinct objectives. Firstly, it must raise entrepreneurship awareness, because this is a precursor to entrepreneurial intentions, and secondly to provide 'start-up' education that will

allow students to test and shape their entrepreneurship skills. This view, broadly speaking, is not dissimilar to the foregoing views and those shared by Gstraunthaler and Hendry (2011:125), who found that the development of entrepreneurs requires a dual-phased approach with the first phase given over to the development of an entrepreneurial mindset and following phase used to teach entrepreneurial and business managerial skills.

Sánchez (2013:459) believes that EET programmes should include training in entrepreneurial competencies, including an inspirational component, and not only training in the knowledge and resources required for starting a new venture. These competencies are self-efficacy, proactiveness and risk taking. Again, the outcomes relate to changed mindsets, followed by the competencies required to give effect thereto. Sanchez (2013:459) also believes that EE should be included in general education from the secondary school level on a lifelong basis. This highlights the need for a more long-term approach in the form of a framework that includes EET in some form at primary, secondary and tertiary educational levels, however EET at that level falls outside the scope of this study.

A different sequence is put forward by Kuckertz (2013:59-66) who holds that the main goals of entrepreneurship education are, firstly, to increase the level of entrepreneurial competence with, as sub-goals, to acquire knowledge and increase awareness. Secondly, it aims to create a positive attitude to entrepreneurial behaviour in the general population with sub-goals, the development of entrepreneurial characteristics and actions, changing attitudes, and thereby establishing an entrepreneurial culture. Again, the outcomes relate to changing attitudes and the competencies required for acting out the newly acquired mindsets.

A broader perspective comes from Kozlinska (2011:207) who, following a review of the work of Raposo and do Paco (2011) and Kontio (2010), considers that the outcomes of entrepreneurship education and training that are most commonly referred to are:

- To change attitudes, raise awareness and motivation for entrepreneurship amongst students to promote new start-ups and other ventures.
- To identify the skills needed to set up a business, to manage its growth and to train students in these.
- To build up relevant knowledge and to build and increase knowledge and capacities in the use of techniques, handling of business challenges and the creation of action plans.
- To enable students to cope with a changing environment.

According to her, EET also has socio-economic outcomes (Kozlinska 2012:14). She cites the targets accepted by the Northern Ireland Centre for Entrepreneurship, namely employability (being able to get a job), intrapreneurship (being an entrepreneurial employee) and venture creation (being able to start a venture) as evidence of this broader focus**.**

Galloway, Kapasi & Whittam (2015:505) believe that career experiences and actual outcomes are extremely idiosyncratic and do not correspond closely to original intentions, regardless of what they were. The authors suggest that where students end up career-wise is complex in an unpredictable graduate employment context. Thus, they are of the opinion that entrepreneurship education can make a positive contribution, irrespective of whether graduates become entrepreneurs or not. This understanding underscores the broader range of outcomes described above. To give effect to this, Kozlinska explains the components as shown in Table 3.2.

Table 3.2 Components of learning outcomes of the integrated educational and socio-economic programmes. (Kozlinska 2012:12)

Learning outcome	Component
Attitude	Need for achievement, motivation to excel Curiosity, drive, initiative Tolerance of failure and risk propensity Solving problems creatively
	Entrepreneurial spirit Self-efficacy for entrepreneurship
	Passion for entrepreneurship Independence Commitment to business venture
Knowledge	Basics of accounting, finance, IT, marketing, business planning Opportunity recognition (in everyday life) Understanding entrepreneurship theory and the phenomenon per se Understanding business start-ups and knowledge of procedures
	Understanding of entrepreneurship and creativity processes Knowledge (and insight) of how to get things done given limited resources Understanding risk (of start-up)
	Knowledge of personal fit with entrepreneurship career
Skills	Teamwork, working with people (including conflict resolution, networking and negotiation) Setting priorities and focusing on goals Market research and analysis Marketing and selling, persuasion Active and ongoing learning Adaptability to new and uncertain situations Creative problem-solving
	Organisation and control Leadership managing people Creativity, imagination, lateral thinking Opportunity recognition (for innovation/starting up) Intuitive decision making in conditions of uncertainty
	Business planning, including strategy and vision development, identification of strategic partners, partners, attracting financing, etc. Risk management and risk taking

Kozlinska (2011:205) also differentiates between two distinct aims, namely ‘education about entrepreneurship’ and ‘education for entrepreneurship’. The difference between the two nodes is illustrated in Figure 3.4.

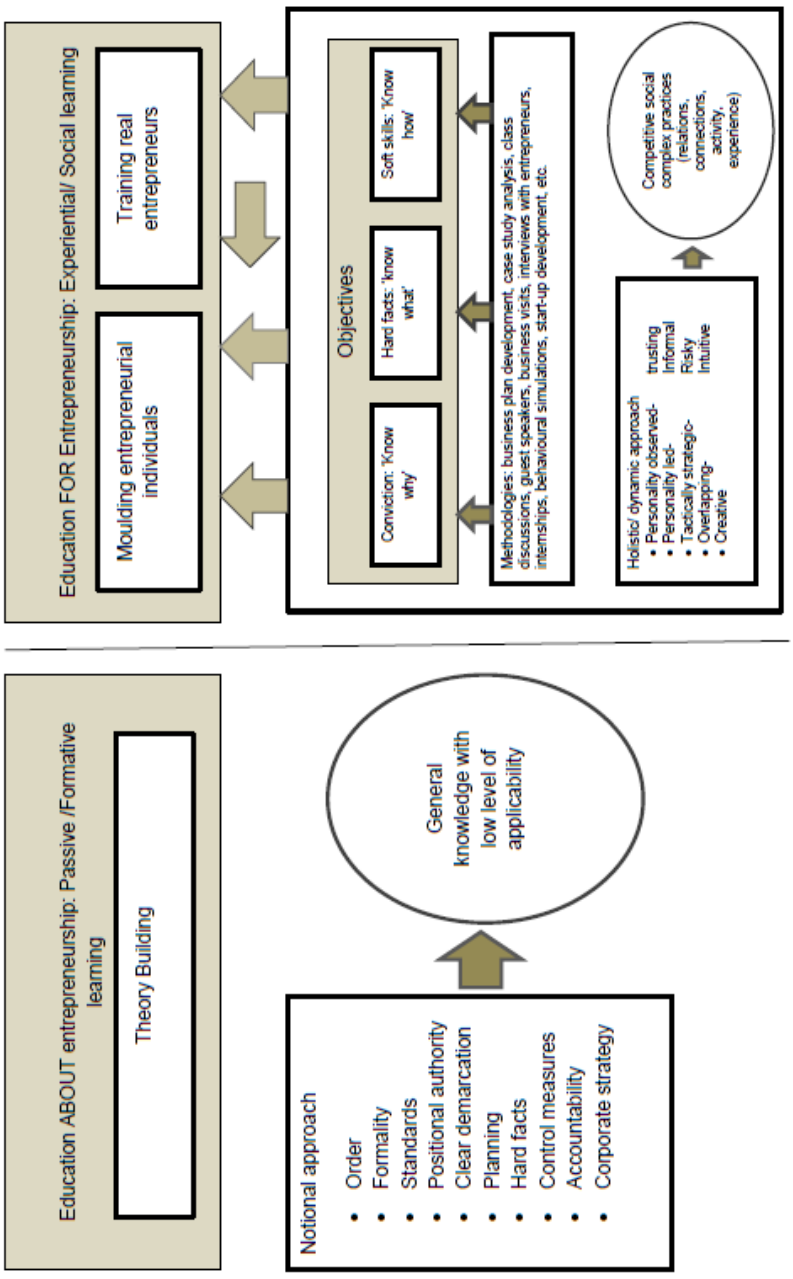


Figure 3.4 Education about entrepreneurship versus education for entrepreneurship (Kozlinska 2011:210)

These goals are supported by the Global Entrepreneurship Monitor (2010).and can be subdivided into the aims, teaching modes and learning outcomes illustrated in prioritised order in Figure 3.5 and Table 3.3 (Kozlinska (2012:12).

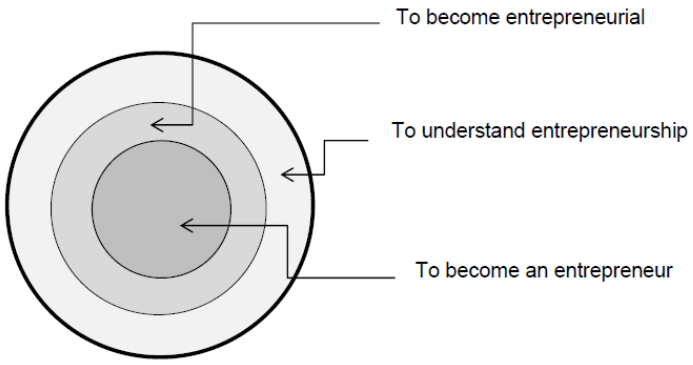


Figure 3.5 Prioritised aims of EET (Based on Kozlinska 2012:21)

Table 3.3 Core aims of EET with teaching modes and learning outcomes. (Kozlinska 2012:12).

Aim	Explanation	Mode	Learning outcome
To understand entrepreneurship	To study entrepreneurship as a phenomenon and academic subject	ABOUT	Knowledge
To become entrepreneurial/ enterprising	Focussing on the entrepreneurial process: enterprising/entrepreneurial individuals discovering, evaluating and exploiting opportunities	THROUGH	Attitude, 'enterprising' skills
To become an entrepreneur	The knowledge base and skills needed to start, develop and grow businesses.	FOR	Entrepreneurial skills

On a practical level, Lerner and Malmendier (2013:2447) suggest that programmes should also provide support to nascent entrepreneurs in critically evaluating business ideas while Markov and Kuzmanović ([sd]:473) hold that EET students should receive applicable knowledge and must participate in entrepreneurial and innovative projects. Both of these sets of authors only indicate a need for competency training but, importantly, they add 'support' to the conversation.

A different perspective comes from Pardo (2012:1) who points to the fact that a review of the teaching goals of EET programmes found that starting a business and entrepreneurial skills could be seen as the two extremes of a continuum that comprise the goals of various EET programmes: if the teaching goals of EET programmes are analysed they can be classified

as either teaching how to start a successful business or teaching aimed at developing entrepreneurial skills. After an analysis of EET goals, Pardo firstly concludes that EET is not only simply business creation and secondly that the learning needs of students should determine teaching goals. He believes that students with a technical background will have the technical skills needed for business entry and that they will need the business or entrepreneurial skills required to create a business while using those skills (Pardo 2012:8). Noticeably absent is any reference to mindset change, but the emphasis on the real needs of participants adds value to the points raised so far.

In line with the recommendations of other authors, Nieman, citing Timmons ([sa]:6) holds that programmes should encourage both entrepreneurship and intrapreneurship and should have outcomes related to perceptions about entrepreneurship and the skills required to be an entrepreneur or intrapreneur. He suggests that EET should:

- Persuade the student to become actively involved in entrepreneurship.
- Understand the dynamic entrepreneurial environment.
- Prepare the student for the pressures and stresses of the 'real world'.

The foregoing indicates that the outcomes set as aims of EET interventions cover a broad spectrum, based on what the perceived requirements of the participants and the context surrounding the intervention indicate as appropriate. There is considerable agreement that a phased approach is appropriate (Valerio et al 2014:35; Fretschner & Weber 2013:422; Gstraunthaler & Hendry 2011:125 and Kozlinska 2012:21). Sánchez (2013:459) suggests this should be combined into a framework. Also, there is a need to include both entrepreneurship and intrapreneurship. Therefore, following Kozlinska (2012:12) and Jamieson (1984), a multi-phased approach seems most appropriate. Thus, indications are that the first phase should aim at changing perceptions, attitudes and mindsets about entrepreneurship and intrapreneurship. The second phase (becoming entrepreneurial) should then develop socio-emotional skills such as leadership, building self-confidence, creativity, motivation, risk propensity, resilience, self-efficacy and the way individuals interact with others. It should also include the entrepreneurial process. The third phase should focus on becoming an entrepreneur and should develop the EO of candidates and cover the knowledge base, skills and attitudes needed to start, develop and grow businesses. All of the foregoing should be framed by the specific needs of architects.

3.8.2 Programmes

According to Valerio et al's (2014) framework (refer to Figure 3.4), 'programme characteristics' comprise programme design, trainers and delivery, content and curriculum and finally, 'wrap-around services'.

Winkel, Vanevenhoven, Drago and Clements (2013:15) believe that institutions of higher education around the world support entrepreneurship by offering programs that aims to provide students with the required skills, knowledge, abilities and opportunities to become successful entrepreneurs and small business managers. However, the nature, content and formats of programs available vary greatly. This could indicate that a fair amount of experimentation is taking place, that programmes are customised to meet the requirements of the particular context or could simply be a reflection of the situation uncovered by Antonites and Van Vuuren (2004:1) who found that there are considerable differences of opinion about the content that should be included in entrepreneurship training programmes. They also point to the fact that entrepreneurship forms part of the applied sciences. This implies a practical approach rather than more traditional training methods (Antonites & Van Vuuren 2004:4). Thus, the focus should be on what entrepreneurs will be doing and the requirements for entrepreneurial performance rather than on the traits they are supposed to have. While these authors, in line with others mentioned in the previous section, highlight the need to specifically focus on what the participants will be doing, Valerio et al (2014:36) provide a slightly wider perspective by suggesting that programme design should be based on an understanding of the programme's context, the participants' requirements and its regulatory environment. Furthermore, they assert that any design should incorporate lessons learnt from other programmes. Exact replication should, however, be avoided. Both these recommendations further underscore the need for a profession-specific EET framework for architects.

The authors (Valerio et al 2014:2) differentiate between Entrepreneurship Education (EE) and Entrepreneurship Training (ET). To them EE centres on 'building knowledge and skills about or for the purpose of entrepreneurship' whereas ET 'focuses on building knowledge and skills explicitly in preparation for starting or operating an enterprise'. This framework is illustrated in Figure 3.6. They hold that the two types of programmes are differentiated by differences in programme objectives or outcomes and the type of participants. When considered with the phased approach identified in the foregoing section, the first two phases can be regarded as EE, while the last comprises ET.

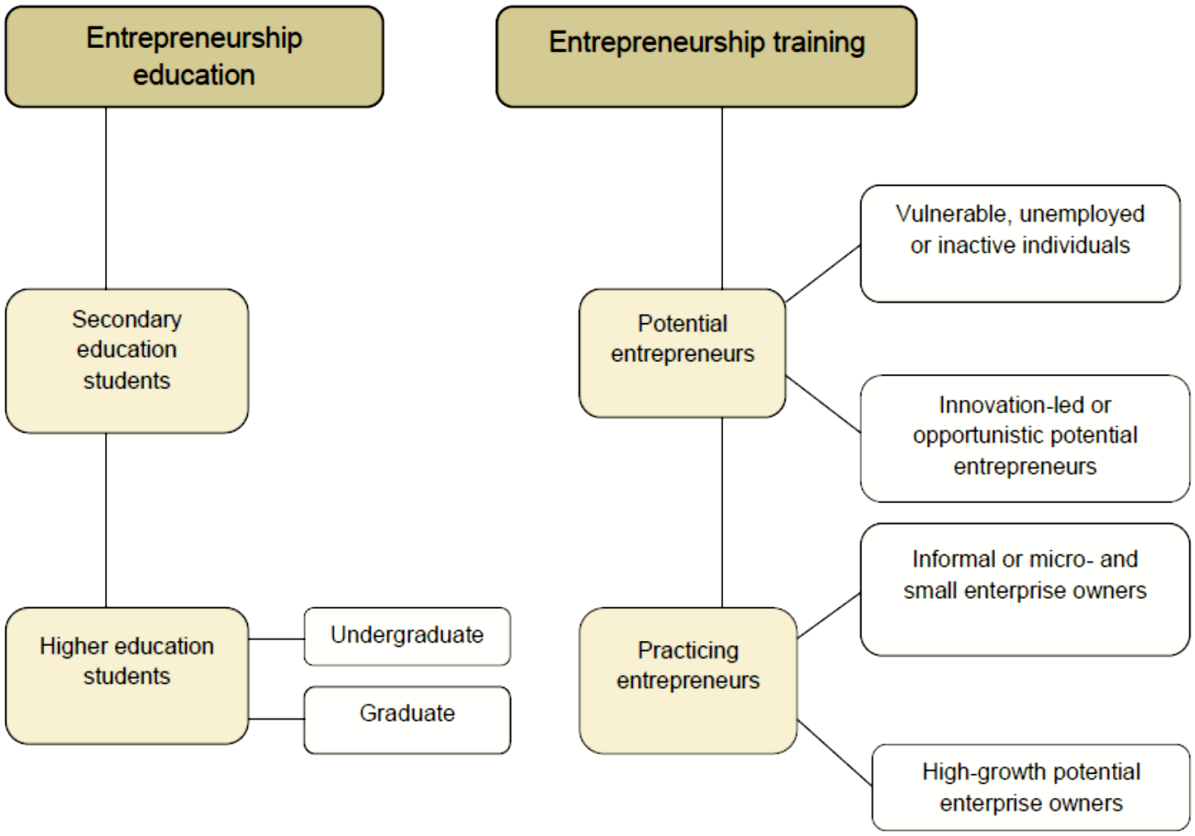


Figure 3.6 Classifying Entrepreneurship Education and Training Programmes (Valerio et al 2014:2)

Having reviewed an extensive range of EE and ET programmes from across the world, Valerio et al combined this classification framework with the conceptual framework illustrated in Figure 3.4 to produce the framework illustrated in Table 3.4. This framework provides a useful summary of the EE and ET on offer.

Table 3.4 Summary of EET Programme Analysis (Valerio et al 2014:127)

Programme dimensions			**Entrepreneurship education**		**Entrepreneurship training**	
			Secondary education	**Higher education**	**Potential Entrepreneurs**	**Practicing entrepreneurs**
Outcome domains	Mindsets	Socio-emotional skills				
		Entrepreneurial awareness				
	Capabilities	Management skills				
		Vocational skills				
	Status	Enterprise formation				
		Employability				
		Income and savings				
		Network formation				

	Performance		Profits and sales				
			Job creation				
			Expansion				
			Productivity				
			Formalisation				
			Reinvestment				
			Implementation of innovation				
			Products and services				
Programme characterises	Programme design	Design	Local partnerships				
			Selection process				
		Finance	Sources of funding				
			Unit cost (programme and participant)				
	Trainers and delivery	Trainers	Teacher/Educator				
			Practitioner				
			Consultant				
		Delivery	Face to face				
			Online				
			Experiential				
		Class size	10 or less				
			10-30				
			30-60				
			60-100				
			More than 100				
		Intensity	Daily				
			Weekly/Bi-weekly				
			Monthly				
		Duration	Once-off				
			Less than 2 weeks				
			2 weeks-3 months				
			3-6 months				
			6 months-1 year				
			More than 1 year				
	Content and curriculum	Content	Financial literacy/ accounting				
			Marketing sales				
			General business management				
			Vocational				
			Leadership and teamwork				
			Strategic planning				
			Socio-emotional skills				
		Curricula	Mixed methods				
			Tests/assignments				
			Presentations/ Competitions				
	Wrap-around services	Individual	Mentoring and coaching				
			Networking				
			Job counselling				
		Firm	Access to finance				
			Technical assistance				

Moderating functions	Participants	Profile	Gender				
			Age				
			Personality and traits				
			Family background				
		Education	Education level				
			Literacy and numeracy				
		Experience	Work experience				
			Entrepreneurship experience				
		Interest and intentions	Interest in entrepreneurship				
			Intention to start/ grow a business				
		Behaviour	Uptake				
			Attrition				
	Context	Economic	Conditions				
			Infrastructure				
		Political	Stability				
			Entrepreneurship promotion				
		Cultural	Entrepreneurship enabling				
			Entrepreneurship constraining				

Valerio et al (2014:46) assert that EET programmes can vary from short training offerings to full academic programmes. Because entrepreneurship and the entrepreneurship programme concept should include many different outcomes, a framework combining a range of courses and activities is recommended. To the authors, the design of any programme will have a great impact on the achievement of the envisaged outcomes.

Hence, they propose that such a framework or portfolio should be designed to include different components for instance classroom activities and ‘wrap-around services’. These ‘wrap-around’ services could include mentoring, guest speakers, networking opportunities and inter-institutional group projects (Valerio et al 2014:48). This implies a variety of trainers, ranging from academics to practicing entrepreneurs, and methods of delivery and programme settings, including online teaching and experiential learning. Content should comprise general business skills, entrepreneurial awareness, socio-emotional skills, and business plan development.

A framework of activities or a phased approach is also proposed by Pruett (2012:100) who believes that multiphase education with individual mentors is advantageous because it discourages unrealistic projects. Additionally, it encouraged participants to investigate alternative opportunities. It furthermore results in a more objective attitude to entrepreneurship with many participants withdrawing once they gained this more objective and realistic view of entrepreneurship. Pruett also found that ongoing support to new

entrepreneurs encouraged entrepreneurial activity while enhancing the confidence levels of new entrepreneurs.

Vanevenhoven (2013:486), like other authors (as will be shown hereafter), in addition, supports an enacted, experiential approach. With this approach, students work in the actual environment they are studying to become part of. Such an individualised and enacted approach should, according to him take place outside institutes of higher education. This is based on the understanding that students learn at different rates, have varying motivational levels, experience and support networks. This stance is in line with the differentiation proposed in Figure 3.7 and many of the proposals contained in the following sections.

An enacted approach to learning will require students to take action and experience the results, allowing for reflection and building of experience. Hence it has specific advantages that few (if any) other EET methodologies can contribute to an EET programme and framework (Kolb & Kolb 2009:44). Kolb (1984:41) defines experiential learning as "the process whereby knowledge is created through the transformation of experience."

Mandel and Noyes (2016:164) believe that experiential entrepreneurship offerings are commonplace but are restricted by range of challenges, such as suitable facilities, effective mentors and other support resources. These challenges limit the growth of this training strategy.

As an example of an enacted approach, Kozlinska (2012:12) describes an EET programme that exists at the Turku University of Applied Sciences in Finland as an example of a programme that provides education for entrepreneurship or entrepreneurship training as described by Valerio et al (2014:2). This programme has a phased approach as suggested by the many authors in the earlier section on outcomes.

The strategy of this programme is to connect entrepreneurship, applied research and development with teaching. The university aims at motivating students who are potential entrepreneurs to move up the entrepreneurial ladder (Turton & Herrington 2012:6) thereby increasing the number of new enterprises. According to Kozlinska (2011:211) the programme is comprised of three phases.

The first phase, called 'What is entrepreneurship?' provides students with the basics of business management. From here the students move to the second phase entitled, 'Learn real entrepreneurship in a safe environment.' During this phase students can either establish a new cooperative or join an existing one, and run a business 'for real'. During the final

phase called ‘Become an entrepreneur’ students can exploit a real opportunity that they have identified. For this they are assigned a mentor.

Kozlinska (2011:207-210) concludes that the major challenge is to move from passive modes of learning and teaching towards experiential modes of learning, such as behavioural simulations, business and investment games, job shadowing, internships and corporate placements. Unfortunately, the time-based requirements associated with this framework will limit its applicability. However, the final phase as described holds great potential to be included in a framework for architects because it can combine enacted learning as a ’wrap-around’ service to such a framework.

It is worth noting at this point that Kozlinska (2011:218; 2012:4) believes that a single model will not be able to meet the needs of a wide group of stakeholders - further evidence of the need for a profession-specific EET framework in preference to generic offerings.

Fretschner and Weber (2013) based their study on the ‘Entrepreneurship Education Model’ The model combines elements from Liñán and Chen’s Entrepreneurship Intention Model (2009) and the Ajzen Theory of Planned Behaviour (2005:135), and it depicts Entrepreneurship Education as divided into two phases: developing entrepreneurial intention followed by ‘start-up-education’. Refer to Figure 3.7.

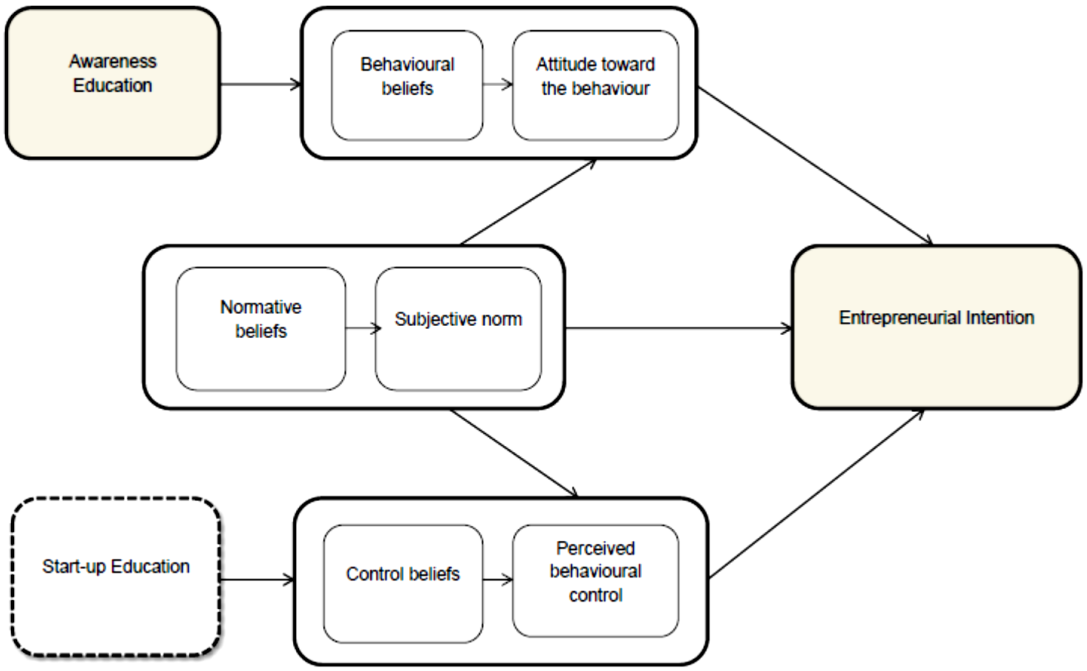


Figure 3.7 Theory of Planned Behaviour Entrepreneurship Education Model (Fretschner and Weber 2013:414)

The authors report that a Partial Least Squares Structural Equation Modelling assessment demonstrated that the entrepreneurial intervention, on the whole, worked in the assumed manner since all three of the antecedents affect Entrepreneurial Intention when tested before and after the intervention (Fretschner and Weber 2013:421).

Entrepreneurial intention is explained by three motivational antecedents, namely 'personal attitude towards the behaviour' (does a person regard the starting of a business as positive or negative), 'subjective norms' (social pressure and expectation of friends and family) and 'perceived behavioural control' (the individual's perceived control over the entrepreneurial process).

The effectiveness of enacted learning or experiential learning also featured in the work of a number of other authors. The overview hereafter emphasises that it should form a critical fourth part of the proposed EET framework (also refer to the last paragraph of 3.7.1).

- Antonites and Van Vuuren (2004:1) report on the value of an action learning approach when applied in the development of opportunity recognition, creativity and innovation.
- Pretorius and Wlodarczyk (2007:505) add that meaningful experiential learning will require a theoretical base. They propose that learning materials must be well developed and reflect the envisaged learning outcomes. They also foreground the importance of delivery in a manner that will motivate the student while simulating the reality they are likely to encounter. To this end the role and practical experience of the facilitator is of great importance (2007:524). These views are echoed by Sánchez (2013:459) who suggests that facilitators should be trained in teaching EET, specifically how to change the 'hearts and minds' of students. She suggests that facilitators who can communicate and show enthusiasm for entrepreneurship will have better results.
- Maritz and Brown (2014:554) believe that because entrepreneurship requires tacit and explicit knowledge, a range of pedagogical initiatives and entrepreneurial learning initiatives are required. Thus they propose that EET programmes should include entrepreneurship as a specific concept, learning by doing pedagogies and the entrepreneurial skills, knowledge and competencies needed by entrepreneurs.
- Markov and Kuzmanovic (2011:456) share that students who partook in an EE programme requested an increase in the involvement of entrepreneurial role models in programmes and for opportunities to participate in activities that will ask them to implement the theoretical knowledge gained in the formulation of business projects.

- Williams-Middleton and Donnelon (2014:194) point out that action-based approaches normally focus on both developing skills for entrepreneurship and skills in entrepreneurship. This is done by immersing students in the process. This allows for customising in order to accommodate the student's capabilities and attitudes. It also exposes students to the realities of the entrepreneurial world (ambiguity, uncertainty and evolving contextual demands).

Experiential learning and an enacted approach will also allow the learner to get to know the particular sector or field, an important aspect highlighted by Nieman ([sa]:2) and Wickham (2006:101). Pretorius et al (2005:422) believe that the most successful training approaches are practical programmes that include the actual starting of new ventures or alternatively, the creation of business plans, simulations and case studies.

The foregoing review furthermore highlights the need for a wider range of competencies to be included in programme design. This need is endorsed by Pretorius et al (2005:422) who compiled the Educate for Entrepreneurial Performance Model (E for EP). The model can be expressed as follows:

$$E \text{ for } E/P = f[aF \times bM(cE/S \times dB/S) \times (eA + fB/P)]$$

Where *E* for *E/P* stands for education for improved entrepreneurial performance; *F* for the facilitator's ability, skills and experience; *M* is motivation; *E/S* stands for entrepreneurial skills; *B/S* for business skills and knowledge; *A* approaches to learning; *B*/*P* for the business plan utilisation and approach.

According to Pretorius and Wlodarczyk (2007:514) this is an integrated model that aims to effect 'real behavioural and attitudinal change' in those who complete the programme. They point out that the model includes key theoretical and motivational training. According to Pretorius et al (2005:422), a key strength of this model is that it includes the type of training used by the facilitator as a variable. Thus the model can factor the training approach used, and the performance of the facilitator, into the calculation. It must be noted that the model aims at enhancing entrepreneurial performance rather than entrepreneurial intentions. Pretorius and Wlodarczyk (2007:516) propose that programmes based on this model should be planned around the content and constructs in Tables 3.5 [Based on Van Vuuren and Nieman (1999), Ladzani and Van Vuuren (2002), McClelland (1965), Pretorius, Nieman and Van Vuuren (2005)] and Table 3.6 [Based on Pretorius (2001)] for EET programmes based on the Entrepreneurial Performance Model included.

Pretorius (2008:17) is of the opinion that the key construct that impacts on the learners' attitude, thinking and willingness to engage in an entrepreneurial venture is the role of the facilitator: a poor facilitator will not achieve any results regardless of the quality of the programme.

Table 3.5 Training content components (Pretorius & Wlodarczyk 2007:516).

Motivation	**Entrepreneurial skills**	**Business skills**
Need for achievement • Achievement imagery • Achievement goals • Language achievement • Cognitive supports • Group supports	Creativity • Techniques • Critical vs creative thinking • Personal attributes and actions that facilitate creativity • Intuitive ability	Management/Leadership • Planning • Organising • Leadership • Control
Ability to inspire	Innovation	Business plans
Expectations of the high achiever • Thoughts on probability of personal success • Explanation of success • Fear of failure • Motivation to excel	Ability to take risks • Financial • Career related • Family and social related • Psychological • Tolerance for risk and ambiguity	Financial skills (for pre-venture and infancy stages) • Start-up planning • Cash-flow budget • Break-even analysis • Short-term planning • Working capital management • Sources of finance • Record keeping
Obstacles or blocks • Awareness of personal obstacles • Awareness of obstacles in the environment	Ability to identify opportunities • Generation of ideas • Prioritisation of ideas • Opportunity delineation • Opportunity evaluation	Marketing skills • Understanding the customer • Market size • Competition awareness • Pricing and sales tactics
Help • Towards reaching the achievement goal • Thinking beyond obstacles	Ability to have a vision for growth • Commitment to growth	Operational skills • Methods enhancing productivity (product or service business)
Reaction to success or failure • Response to feelings of failure (seen as reason to try again)	Interpret successful entrepreneurial role models • Entrepreneurial characteristics	Human resource skills • Planning • Compensation • Training • Management

Table 3.6 Constructs pertaining to training execution (Pretorius & Wlodarczyk 2007:517)

Factor	Consideration
Content	• Previous experience of the participants • Lowest educational level of the participants • Expected outcomes • Needs of the participants • Reasons for participating
Business knowledge and skills	• Perceiving an opportunity and developing a business concept • Starting a business venture from the business plan • Growing the business venture after start up • Competing in a mature market through effective and efficient strategies • Exiting the market in a decline phase
Facilitator	• Developing entrepreneurial thinking patterns • Reinforcing entrepreneurial ways of doing and behaviour • Apprenticeship and mentoring through venture establishment • Application of a holistic and multi-disciplinary approach • Own level of practical experience with start-ups
Approaches used to transfer knowledge and skills	• Use of appropriate approaches, techniques and methods that enhance learning • Optimal participation of the learner in the learning process • Incorporation of real-life problems and obstacles in the learning process
Business Plan utilisation	• Preparation of a business plan • Presentation of the business plan to peers, facilitators and potential funding institutions • Opportunity to defend the main principles and assumptions underlying the plan • Execution of the business plan under real circumstances

Kunene (2008) integrates the Entrepreneurial Performance Education model developed by Van Vuuren and Nieman with that proposed by Glancey (1998), Erikson (2002), Wickham (2006), Mann, Lau and Chan (2002), Ucbasaran, Westhead and Wright (2004), Darroch and Clover (2005) and Perks and Struwig (2005) to create a more holistic and integrated model for training that will include a wider range of additional or functional skills in order to enhance entrepreneurial performance:

Training for ↑E/P = training in key skills x [1 + training in supportive skills]

Skills are accordingly categorised as Functional Skills and Enterprising skills as shown in Table 3.7.

Table 3.7 List of functional and enterprising skills required by Small and Medium Enterprise (Kunene 2008;265)

FUNCTIONAL SKILLS	**ENTERPRISING SKILLS**
Key Skills	
BM = Marketing Management BF = Financial Management BO = Operational BL = Legal Knowledge	EG = Ability to gather resources PM = Motivation
Supportive Skills	
BG = General Management BI = ICT skills BH = Human Resources BN = Networking BP = Planning BR = Research for development BB = Business Systems Management BV = Value chain management T/S = Technical skills (profession specific). PN = Numeracy and literacy PC = Communication	EC = Creativity EI = Innovation EO = Opportunity recognition EM = Role model interpretation ER = Calculated risk taking
PLS = Life skills including problem-solving, adaptability, decision making, negotiating, learning abilities and time management.	

Considering that architects have undergone a minimum of five years of academic education, some of the skills listed would not be applicable to this study, notably technical skills, numeracy and literacy and creativity. Also, this model does not include the roles of business plans and strategic planning which are central to many other programmes and are included in the Pretorius, Nieman and van Vuuren model.

Scott, Penaluna & Thompson (2016:82) believe that whilst many authors claim that experiential approaches are effective, such assertions are not supported by robust evidence and hence that a need to establish more effective student performance evaluation metrics exists.

Moving from programme content to the teaching philosophy that should be followed, Neck and Green (2011:56) advance the concept that entrepreneurship should be taught as a method. The proposed method, according to them, goes beyond understanding and knowledge by demanding action - using application, acting and practice. They believe that the world is ever-changing and as such, teaching a method will remain relevant even when other variables change. They challenge the notion that there is only one type of entrepreneur

and that the entrepreneurship process is linear and predictable as suggested by many authors (2011:60). To them the central question is 'how do people think entrepreneurially?'

They consider that teaching entrepreneurship as a method demands using, applying and acting and not only understanding, knowing and talking. It is about a method and not about contents. It requires 'teaching a way of thinking and acting built on a set of assumptions using a portfolio of techniques to encourage creating' (Neck & Green 2011:62-63). To them the method is based on a number of underlying assumptions including:

- It applies to novices and experts; it works regardless of experience levels because how each learner understands the entrepreneurial world is what is important.
- Like this study, it is inclusive and uses an expanded definition of entrepreneurship and views entrepreneurial performance as idiosyncratic and multidimensional.
- It requires continuous practice and focuses first on doing and then on learning through reflective practice.
- It is aimed at an unpredictable environment.

Applying the method requires the use of a pedagogical portfolio that includes starting businesses as part of coursework (this will let the students experience the role of an entrepreneur), serious games and simulations (lets students play in virtual worlds that reflect reality), design-based learning (to allow the student or learner to look at the world through a different lens and see opportunities) and reflective practice (to give students the time to think and absorb the lessons of their practice-based learning). Of particular interest to this study is the inclusion of design-based learning, a methodology that should resonate with architects.

In contrast to Neck and Green's 'thinking and acting', Jason Cope (2003:429) proposes a process of learning by doing - comprising doing and then thinking about what happened. Cope postulates that entrepreneurs learn from 'learning events'. He believes that learning originates from 'significant, discontinuous events that occur during the entrepreneurial process' (Cope 2003:429). According to Pittaway and Thorpe (2012:840) Cope promotes a 'deeply rooted experience perspective'. This comprises a focus on the 'lived experience' and an understanding of the sense that owner-managers make of their present situation. To Cope (2005) this is essential to understanding why entrepreneurs act and learn in particular ways. Hence he places great importance on 'learning by doing' and 'learning through crises' which should then be internalised by 'reflective learning'. He extends this list to include 'learning about oneself, learning about the business; learning about the environment and environmental networks, learning about small business management and learning about the nature and management of relationships' (Cope 2005:380). He believes that 'real-life'

experiential learning is an essential part of the process because, while 'significant dimensions of entrepreneurial learning can be simulated in a student environment, there are important aspects that cannot be simulated, either for ethical reasons or because they are impractical' (Pittaway & Cope 2007:230).

Jason Cope's Entrepreneurial Learning Framework (Figure 3.8) illustrates the above as a process during which adaptation and adaptive learning in the growth process are at once starting points as well as key features. According to this framework learning takes different forms.

The learning process sees the entrepreneur starting off with skills and knowledge acquired before starting his or her (first) venture. Learning and development continue beyond the point of starting the business and occur due to mistakes made and even from the failure of the (the second) business. This would see the entrepreneur recouping and re-starting. As part of this process, learning will occur due to various processes, particularly learning by doing which, when followed by critical reflection and incorporation, becomes reflective learning. As an alternative, learning through crises will represent situated learning providing it has been reflected upon and the lessons learnt have been assimilated. If the period of critical reflection will have an impact on the entrepreneur's understanding and development, the learning that took place might form either superficial or deeper learning (Pittaway & Thorpe 2012:843-851; Vosloo 2016b:9).

Based on this understanding, the following problems in many entrepreneurial training programmes on offer are identified by Pittaway and Thorpe (2012:854-5):

- The problem of engagement: programmes often fail to gain sufficient student numbers because they fail to engage entrepreneurs in the way that they wish to learn.
- Problem of context: the starting and management of small businesses varies between business types, stages of development and between industries. However, most training provisions do not acknowledge this diversity of needs and contexts.
- Problem of value: entrepreneurs often cannot see how specific training programmes will provide benefits to their businesses.

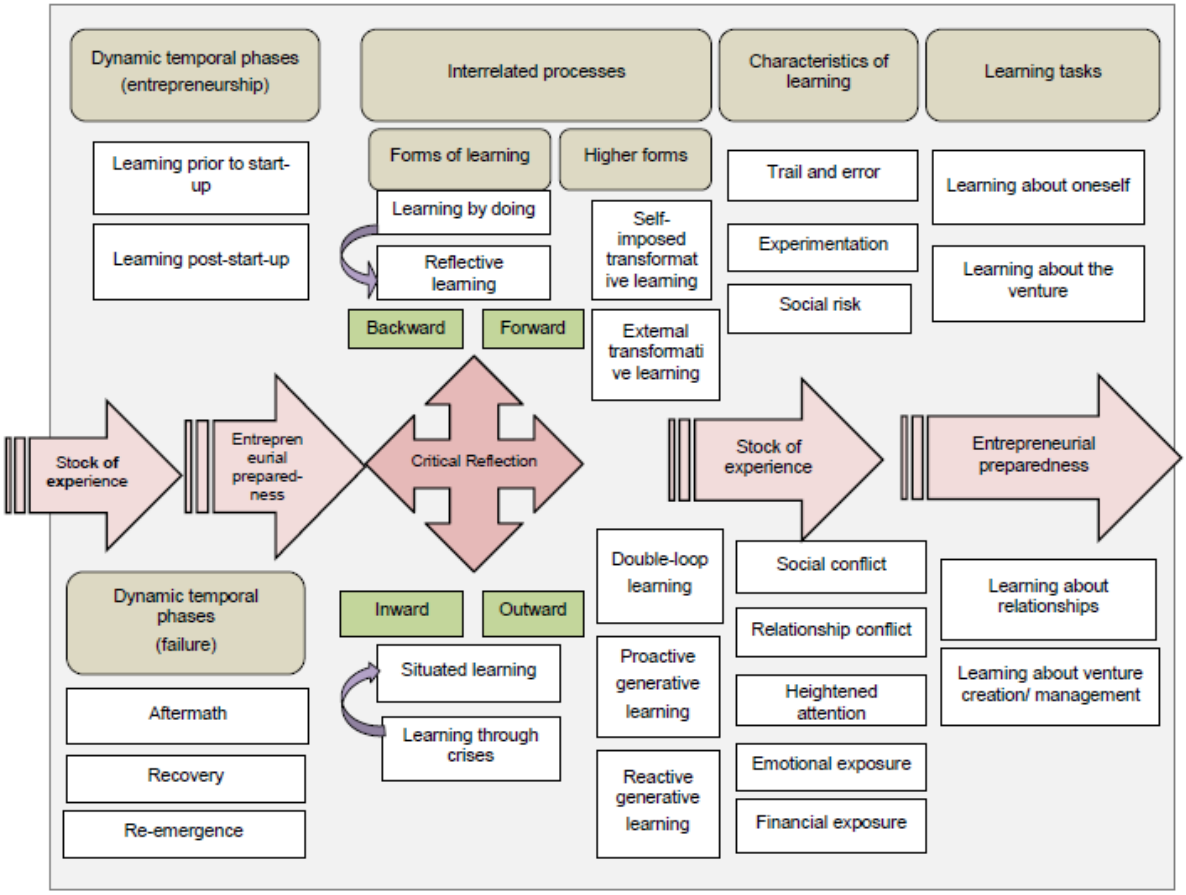


Figure 3.8 Cope's Entrepreneurial Learning Framework (Pittaway and Thorpe 2012:841)

An EET framework that includes experiential learning, developed and offered specifically to a group such as South African architects, can overcome most of the problems listed above, once again providing support for a profession-specific EET programme. The role of reflection as part of experiential learning and Cope's theory led Gordon, Hamilton and Jack (2012:796) to empirically test and confirm the role of reflection in the entrepreneurial process. However, they are of the opinion that it does not have to depend on discontinuous, significant, learning events that occur in the normal managing of a business but that it can be simulated in an academic environment. They also believe that reflective learning does not necessarily depend on the actual experience of a person but could also occur upon reflecting on the experiences of others. Thus, in opposition to the views of many authors, they propose that experiential learning need not necessarily take place outside higher education Institutions and in real-life situations. However, in such an event the real-life aspect and the associated consequences will be absent.

Another aspect of reflective processes is raised by Fayolle and Tautain (2013:170) who propose that students should be taught effectual reasoning. Effectual reasoning is based on Sarasvathy's theory of effectuation developed in 2001. The theory relates to decision-making processes by focusing on decision making by elimination. Here candidates choose a course of action by considering alternative routes towards a goal and by imagining the possible effects of each and then selecting the most appropriate one. In doing so persons must use both what they know and what their environment suggests in making decisions (meta-cognition). Thus, according to Fayolle and Tautain (2013:170), effectuation and meta-cognition can help individuals develop their entrepreneurial identity through introspective (reflective) processes. To them this is one of the key components of EET. Thus, learning to turn ideas into action will require an enacted approach such as experiential learning. They hold that an entrepreneur's total stock of past experiences is directly correlated to his or her ability to turn ideas into action. Therefore, because experiential learning is a drawn-out process it should continue throughout an entrepreneur's life.

Remaining with the subject of reflection and learning by doing, Edelman, Manalova and Brush (2008:67) insist that EET programmes should be made more relevant and reflective of actual profession-specific practice by increased use of simulations in order to move away from notions such as entrepreneurial action being a linear process. Timmons and Spinelli (2007:15) also place immense value on learning through experience. They believe that there is a commonality that can be found amongst successful entrepreneurs: that they have 10 or more years of experience. According to them, these entrepreneurs have used this period to build contacts and to acquire know-how and knowledge about business, distribution, finance and management. Closely related to the value of experience are the benefits of role models. Furthermore, they point out that 'numerous studies show a strong connection between the presence of role models and the emergence of entrepreneurs' (2007:18).

Higgins and Elliot (2011:345) also propose that the development of entrepreneurship knowledge comprises an incremental process that spans the entrepreneur's working life while Scott, Penaluna and Thompson (2016:88) point out that the argument for experiential approaches are that other non-experiential approaches are not achieving the desired outcomes.

Valerio et al (2014:49) believe that ongoing support for new and young entrepreneurs can play an essential role in the success of ventures started by these entrepreneurs. Ongoing support will help these entrepreneurs overcome the challenges faced by all new ventures. The authors refer to Blattman, Green, Annan and Jamison (2013) who found that grants to

new entrepreneurs can be particularly beneficial. Other forms of 'wrap-around services' include technical assistance, administrative support, mentoring and incubators. Gimmon (2014:815) agrees by sharing that one of the ways through which entrepreneurial learning can take place is through exposing learners to living examples or role models. The author points to the fact that successful entrepreneurs and business persons are widely used as mentors in business schools. Citing Ibrahim and Soufani (2002), Gimmon relays that programmes in which mentors provide guidance and support have been found to enhance entrepreneurial attitudes. Klinge (2015:160) agrees by pointing out that mentoring applies transformational theory by means of critical reflection exercised in a non-judgemental manner, thereby giving effect to the andragogical theory which holds that experience is the most effective form of adult learning. Mentoring interventions are beneficial to the survival and growth of new businesses at the start-up level because they increase self-confidence and managerial skills, and encourage entrepreneurial behaviour (Lefebvre & Redien-Callot 2013:371).

However, being an effective mentor is something that must be developed: Gotian ([sa]:2) holds that in order to be effective, the process depends on a mentor who can develop a relationship with the mentee that will allow them to function as a team who can listen to each other, develop mutual trust and depend on each other for support and advice (Gotian [sa]:1). Thus, the mentor's role is not simply to provide solutions or tell the mentee how they would have dealt with the problem, but instead to ask questions that will to help the mentee to gain a better understanding of the situation so that they can develop workable and effective solutions for the problem they are facing (Foundation de l'entrepreneurship [2003] cited by St-Jean & Audet [2013:100]). This is described as the maieutic or non-directive approach. This approach allows individuals to find the knowledge that they possess. This implies more than simply acting as a role model, advisor or coach, and requires that mentors must be trained in the use of this approach. In turn, it implies that the mentoring process should by organised and managed by an organisation, and that it is not something that can be left to individuals within a voluntary framework (Vosloo 2016b:14). Depending on the nature of the support it could be provided either during, or on completion of, an EET programme.

Baptista and Naia (2015:101), following their extensive review of scientific articles on entrepreneurship education, list the following as the best practices that emerge from the entrepreneurial classroom:

- Experiential learning rather than the simple transmission of knowledge.
- Providing a range of educational experiences.

- Active participation by learners, even in designing the educational offering and system.
- Encouraging multidisciplinary approaches.
- Direct participation of experienced entrepreneurs.
- Experience of failure as part of the learning process.
- Risk, responsibility and opportunity-recognition development.
- 'Individual meta-competencies'.
- Use of contingency and constructivist approaches.
- Using online social media.
- Inclusion of a portfolio of entrepreneurship techniques.
- Adapting the programmes to their social contexts.
- Inclusion of an entrepreneurial environment, mindsets and attitudes.

Implementing these findings will also require a profession-specific EET framework that includes experiential learning and 'wrap-around' functions such as mentoring and other forms of ongoing support, for instance funding, technical support and administrative support. Therefore, based on the foregoing, it is also clear that an appropriate EET framework for South African architects must include the aspects listed above.

3.8.3 Participants

Participants refer to the profile, education levels, experience, behaviour, interest and intentions of those benefitting from a particular EET offering. A wide range of individuals and organisations can benefit from EET programme attendance and/or participation. Kuckertz (2013:68) points out that target audiences often comprise specialised business audiences but can even include organisations like charity organisations, political interest groups, sport bodies or other types of associations. Kuckertz (2013:59-66) considers that the target audience of EET programmes, depending on the goal, ranges from the entire student body of an institution to students studying towards a career in an entrepreneurial context, or students who were previously sensitised towards entrepreneurship. He believes that didactic methods can include project-based learning, lectures and cognitive teaching methods.

Valerio et al (2014:43) hold that imbued traits, previous learning and experience of the participants of EET intervention are important determinants of contents and outcomes. They believe that in order to ensure that participants in a programme are at the same level of experience, screening and selection are relatively common practices. Their research shows that the following criteria are commonly used in this process:

- Individual profile (demographic and personal, including the traits often associated with successful entrepreneurs).
- Education.
- Experience.
- Interest and intentions.
- Participant behaviour.

Pretorius and Wlodarczyk (2007:507) believe that a detailed profile of the proposed students of a particular programme is needed in order to determine the training needs of the participants and hence the topics for inclusion. According to these authors, the following should be considered:

- Experience levels of participants at the onset of the programme.
- Educational levels of participants.
- Outcomes to be achieved during the training.
- Reasons for enrolling for the programme.
- Specific needs of the group undergoing training.

They propose that the candidates with some degree of business experience make better candidates than newly qualified candidates with limited technical experience and life skills (2007:526). Nieman ([sa]:3) also points to the need to consider the background and prior learning of participants.

Participants also include the facilitators and mentors who will be involved in an EET programme. Lerner and Malmendier (2013:2447) encourage the participation of experienced business-persons who can help evaluate entrepreneurial plans. Muofhe and Du Toit (2011:256) quantitatively found a correlation between the use of entrepreneurial role models and students' intention to start businesses.

As before, a profession-specific EET framework, which will result in attendees with relatively similar backgrounds, and includes mentoring by experienced practitioners, will account for most of the requirements or success factors suggested by the work covered in this section.

3.8.4 Context

Context describes the economic, political and cultural *milieu* of the EET intervention. Dodd and Hynes (2012:741) assert that there is growing evidence that points to the importance of regional contexts in building entrepreneurial capital and therefore that local context should be emphasised in entrepreneurial knowledge and learning. They suggest that

entrepreneurship is inherently contextualised, relational and embedded in its surroundings and hence that EET interventions must take account of local enterprise practices and challenges. Contextual influences that should be considered in programme design are the economic context, political context and cultural context (Valerio et al 2014:40-41). Importantly in the case of this investigation is the architectural profession's place as part of the built environmental industry and most importantly the implications of being a statutory profession where conduct is subject to professional codes of practice and ethics and where professional liability influence the way in which architects can practice their profession.

3.8.4.1 Economic context

Economic context refers to the range of economic variables that have been shown to influence entrepreneurial performance and EET outcomes. These include local economic conditions (including investment climate and market opportunities), local infrastructure (financial and physical) and regulatory and tax structures that influence the ease or difficulty associated with starting a venture.

3.8.4.2 Political context

Political context relates to the political will to promote entrepreneurship and the stability of the local society and financial institutions. Government support as a reflection of political will comprises the existence or absence of a government-instituted support framework which includes the availability of subsidies.

3.8.4.3 Cultural context

Cultural context concerns factors that stem from local perceptions about entrepreneurship and local attitudes towards failure, success and the perceived roles of individuals within society (Valerio et al 2014:42). According to these authors entrepreneurship occurs in both collectivist and individualistic societies that are low in uncertainty avoidance and power-distance perceptions.

Elia, Margherita, Secundo and Moustghfir (2011:154-155) believe that the success of an entrepreneurship project depends on the degree to which it is responding to its set of specific environmental and other contextual factors. These include the trends in business and society that determines opportunities, the innovativeness of the envisioned solutions and the network of stakeholders involved in the entrepreneurial process.

Similarly, Pretorius and Wlodarczyk (2007:511) believe that theoretical content and the approach adopted by an EET programme must be refined to be in line with the programme's specific context, for instance the developmental phase of the enterprises that are being

served and common problems experienced by entrepreneurs in the area where the programme is presented.

Wickham (2006:100) refines the concept of context further and points out that entrepreneurial performance requires an intimate knowledge of the particular sector, field or industry while Nieman ([sa]:2) points to the need for technical skills, including the ability to apply the knowledge and skills of the particular discipline.

Cope's methodological stance also places great importance on the contexts (the real world) to be faced by individual entrepreneurs. Cope (2005:380) explains his view as follows:

> ...appreciating the past, present and future all impact on the entrepreneurial task, factors such as the environment within which the business operates, the nature of the business and its staff, and its concomitant level of growth will have a[n] *sic* appreciable role to play in defining the learning challenge.

This article argues that it is vital to regard each entrepreneur's learning as a process that is dynamic, contextual and cumulative.

Valerio et al (2014:36) agree that programmes need to address the specific constraints that can affect their outcomes. According to them the programme design should follow from knowledge about the programme's contextual constraints, the participant's unique requirements, institutional framework, capacity and policy objectives.

From the foregoing it is clear that generic EET programmes will have limited benefits and that the need is for contextualised programmes and frameworks that emphasise the common challenges and intricacies facing entrepreneurs in the particular field, country, legal, social, environmental, economic and technical context. Taken together with other points made in this chapter, it is clear that appropriate EET for South African architects will have to be profession and country specific. This means that current government support programmes will have little value beyond providing access to finance. Table 3.8 summarises some of the recommendations of the most prominent proposals reviewed. From the table it is clear that there is strong support for each of the categories identified thus far and hence that all these aspects must be included in the framework that this study aims to propose.

Table 3.8 Summary of recommendations.

Author(s)	Themes supported					
	Phases within a framework	**Holistic, varied & integrated approach**	**Context specific programmes**	**Experiential learning**	**Mentoring**	**Financial, technical & administrative support**
Valerio et al	**O**	**O**	**O**	**O**	**O**	**O**
Pretorius and Wlodarczyk		**O**		**O**		
Fayolle and Toutain		**O**		**O**		
Fretschner and Weber	**O**	**O**			**O**	
Gstraunthaler and Hendry	**O**					
Sánchez	**O**	**O**				
Kozlinska	**O**	**O**	**O**	**O**		
Lerner and Malmendier						**O**
Markov and Kuzmanović				**O**	**O**	**O**
Pardo		**O**	**O**			
Nieman		**O**		**O**		
Pruett	**O**				**O**	**O**
Vanevenhoven				**O**		
Williams-Middleton and Donnelon				**O**		
Kunene		**O**	**O**			
Neck and Green	**O**	**O**		**O**		
Cope		**O**	**O**	**O**	**O**	
Timmons and Spinelli				**O**	**O**	
Bapttista and Naia		**O**	**O**	**O**	**O**	
Antonites and Van Vuuren		**O**		**O**	**O**	
Mandel and Noyes				**O**	**O**	
Pretorius et al		**O**		**O**		

3.9 Conclusion

The literature review in this chapter engaged with this study's fourth, fifth, sixth and seventh research questions, namely:

4. What constitutes the current system for education and training of South African architects?
5. What is currently available and/or offered to South African architectural students and architects in terms of entrepreneurial education training and support?
6. What do South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework?

7. Which issues are highlighted in the current discourse on entrepreneurship education and training?

As far as Research Question 4 is concerned, the research in this study has shown that the education and training system for South African architects consists of three phases, namely university education, followed by in-service training, and finally a CPD system that aims to ensure life-long learning. Entrepreneurship and related aspects are at best scantily touched on during all phases.

Regarding, Research Question 5 it found that there is a somewhat limited range of EET content included in the formal education and the in-service training and CPD offerings available to South African architects. By contrast, the review found that substantial generic entrepreneurship support (funding and training) is available to all South African entrepreneurs. Unfortunately, as was pointed out in Chapter 2 and again on a number of occasions in this chapter, generic EET offerings will have limited benefit to architects. However, official initiatives to promote entrepreneurial activity, particularly to provide funding, can benefit architectural entrepreneurs, and the final proposals resulting from this study should take this into consideration.

As far as Research Question 6 is concerned, it found that a quantitative survey using a questionnaire that asks South African Professional Architects and Candidate Architects to rate the following should be distributed to all SACAP-registered Professional Architects and Candidate Architects:

- The entrepreneurship education, training and/or support offered to them during their studies and their Candidacy period, or since registration as a Professional Architect.
- If they believe that the topics identified as part of this review are relevant and thus should be included in architectural education and training.

Regarding Research Question 7, it found that the intended outcomes of EET interventions cover a broad spectrum and are based on what the perceived requirements of the participants, and the context surrounding the intervention, indicate as appropriate.

There is considerable agreement that a phased approach is recommended and that the phases should be combined into a framework. Furthermore, both entrepreneurship and intrapreneurship should be included.

The first phase should aim at changing perceptions, attitudes and mindsets about entrepreneurship and intrapreneurship. The second phase (becoming entrepreneurial)

should then develop in participants the required socio-emotional skills including self-efficacy, self-confidence, risk propensity, leadership, creativity, motivation, resilience and interpersonal relations. It should also include the entrepreneurial process. The third phase should focus on becoming an entrepreneur and should develop the EO of the participant and cover the knowledge base, skills and attitudes needed to start, develop and grow businesses. All of the foregoing should be framed by the specific needs of architects. To this should be coupled a variety of 'wrap-around' services such as mentoring, administrative support and technical assistance. The review indicated that an appropriate EET framework for South African architects must include elements of experiential learning; or learning by doing as described by Cope (2005:380); over an extended period, and that it should be coupled with a facilitated mentoring process. How these initial pointers can best be combined with the South African architectural education and training system, existing entrepreneurial support mechanisms, and what they should include, can only be determined once the results of the empirical studies have been analysed in Chapter 5. The next chapter will determine appropriate research instruments that can be used to find answers to all the questions identified in Chapters 2 and 3.

CHAPTER 4: EMPIRICAL RESEARCH DESIGN AND PROCEDURE

4.1 Introduction

Identifying an effective integrated education, training and support system for South African architects' firms requires formal research comprising a literature review and an empirical study. The research proposal, including the research problem and research questions, formed Chapter 1 of this document. The previous two chapters comprised the literature review that forms the first phase of this study (refer to section 1.8 and Figure 1.4) and identified certain questions that require exploration via empirical research processes.

This chapter describes the empirical processes used to find answers to the questions posed in Chapters 2 and 3. To this end this chapter focuses on the research design and methodology used to conduct these empirical processes. In order to contextualise the research design and methodology used, the researcher's world view, epistemological stance and the ontological views that frame the research are described.

This chapter also reiterates the research problem, aims and objectives of the study, research questions and research hypothesis already stated in Chapter 1. It elaborates on the research methodology described in Chapter 1 by describing the mixed method research approach. Thereafter it describes each of the three research processes (literature review, qualitative and quantitative studies) in greater detail.

4.2 Research problem

As indicated in Chapter 1, many South African architects' firms are battling to survive and grow (SAIA 2001a:1-5). While all the causes are not known, it is proposed that the absence of an effective integrated entrepreneurship education, training and support system is, at least partly, to blame for the present problem. The situation requires that steps be taken to improve the entrepreneurial performance of firms to reverse this trend, to protect the money and time invested in the training of architectural graduates and to create and protect employment opportunities in the profession.

4.3 Research goal and objectives

The goal of the study is to contribute to the current academic discourse regarding the negligible inclusion of entrepreneurial education and training content in academic curricula by proposing an effective integrated education, training and support system that can enhance the entrepreneurial performance of South African architects' firms. To reach this goal the following objectives were pursued:

Primary objective:

To propose an appropriate entrepreneurship education, training and support framework for South African architects and recommend how the results obtained during the foregoing studies should be incorporated into such a framework.

Secondary objectives:

1. To determine the pertinent aspects of the current discourse on entrepreneurship in architecture and entrepreneurship enablement.
2. To establish what are the current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms.
3. To establish which entrepreneurial actions, practices and orientations enabled enduring South African architects' firms to achieve this status.
4. To determine what constitutes the current system for education and training of South African architects.
5. To find out what is currently available and/or offered to South African architectural students and architects in terms of entrepreneurial education training and support.
6. To determine what do South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework.
7. To determine which issues are highlighted in the current discourse on entrepreneurship education and training.
8. To establish what will constitute an appropriate education, training and support framework for South African architects and how the results obtained during the foregoing studies should be incorporated into such a framework.

4.4 Research hypothesis

The research hypothesis that guides this study is that the entrepreneurial performance of South African architects' firms can be enhanced by an effective integrated entrepreneurship education, training and support system for architects.

4.5 Research approach

Creswell (2014:247) describes a research approach as 'the plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis'.

4.5.1 Research design

According to Creswell, research design is the selection of the 'types of enquiry within qualitative, quantitative and mixed methods approaches that provide specific direction for procedures in a research study' (2014:247).

As stated in Chapter 1 (section 1.4.2) and section 4.1 above, a mixed methods strategy is used. According to Creswell and Plano-Clark (2011:8) this approach is suited to problems where: a single source is insufficient; results must be explained; exploratory findings must be generalised; a second method is required to enhance the primary method; a theoretical stance must be used, or when the overall research objective can best be addressed using multiple phases or projects (as in this case).

The author of this report is of the view that research methods must follow from the nature of the research questions involved. This represents a pragmatic epistemological stance as per (Creswell 2014:10). Persons who hold this view believes that data sources should be selected on the basis of their practical suitability. The author's pragmatic stance is also reflected in his belief that social, economic and physical contexts influence situations, and hence that contextual influences must be considered in all situations. This originates from the author's ontological view that singular and multiple realities exist. In this instance the functionalist and interpretivist nature of the research objectives require both quantitative and qualitative investigations.

This research constituted a formal study (Cooper & Schindler 2008:140) that seeks to test the research hypothesis (refer to 4.4 above), answer the research questions (refer to 4.7 below), and use the results to propose a framework for entrepreneurship education, training and support for South African architects. The study comprised a literature review (Chapters 2 and 3) and an empirical study. The purpose of the literature review was to provide a knowledge base that aimed to:

- Provide an epigrammatic review of current literature and conversations on entrepreneurship and to convey the nature of current positions on the aspects of entrepreneurship that have relevance for this study.
- Provide a review of literature on entrepreneurship enablement, highlighting the role that EET can play in this regard.
- Review literature on entrepreneurship in architecture specifically.
- Describe the current architectural education and training structure in South Africa.

- Explore what EET currently is on offer to architects through existing education, training and support programmes.
- Provide a review of EET and a range of EET models or frameworks.
- Consider the appropriateness of the EET models proposed and to identify from current offerings the aspects that should be retained in the proposed framework.
- Identify shortcomings in current offerings while identifying the aspects of current offerings that should be retained in the proposed system.
- Identify questions that should be included in the empirical processes that will follow.

The empirical study aimed to:

- Find answers to the questions uncovered during the literature review.
- Determine the current entrepreneurial orientations of South African architects, their firm's entrepreneurial performance levels, and the level of business management in their firms.
- Determine which entrepreneurial actions, practices and orientations enabled enduring South African architects' firms to achieve this status.
- Determine the aspects that are unique to architectural entrepreneurship in order that these could be included in the proposal.
- Establish what South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework.

The empirical study consisted of a qualitative study and a quantitative study. A combination of quantitative and qualitative studies results in a mixed methods approach or study (Creswell 2014:217). Mixed methods research involves the collection of both quantitative and qualitative data and the analysis of both types of data in a rigorous manner. The data collected through the respective processes are at some point integrated in the design analysis (Creswell 2014:217). Creswell (2014:215) believes that a major advantage of the mixed methods approach is that it allows for the combination of the strengths of both the quantitative and qualitative approaches. Further advantages are that it allows for a more comprehensive investigation of complex and multi-disciplinary problems and that it offers more insight and an expanded understanding of research problems.

This research study consisted of one qualitative process using semi-structured interviews based on set questions and two quantitative self-administered questionnaires. The empirical

method of the qualitative study was that of a case study design, while that of the quantitative study was statistical surveys conducted according to Cooper and Schindler's (2008:147) descriptions.

Creswell (2014:220) identifies three basic mixed methods designs. The distinguishing factors are the sequence in which the two distinct processes are carried out, the relative weighting or emphasis of the individual processes and the manner in which the data is mixed or integrated.

The first design is the 'Convergent parallel mixed methods design' (Creswell 2014:220). This design sees the researcher concurrently collecting both qualitative and quantitative data. The data is then analysed separately where after the results are compared to determine the extent to which the two sets of results confirm or contradict each other. Equal emphasis is given to the data resulting from both types of research process.

The second basic research design is the 'explanatory sequential mixed methods design'. This design will see the researcher following a two-phase approach in which the first phase comprises the collection and analysis of quantitative data. During the second phase the results of the first phase are used in planning or building the second qualitative phase. Thus, the qualitative phase is used to further explain the results of the quantitative phase (Creswell 2014:220).

The third basic research design is the 'exploratory sequential mixed methods design' in which the researcher also follows a two-phase approach in which the first phase comprises the collection and analysis of qualitative data. During the second phase the results of the first phase are used in developing the second quantitative phase. Thus the qualitative phase is used to further explain the results of the quantitative phase (Creswell 2014:226) particularly to determine if the results of the qualitative phase can be generalised to the larger population.

This mixed methods research design conformed to the 'convergent parallel mixed methods design' type: the qualitative study using Questionnaire A (refer to Addendum B) and the quantitative study using Questionnaires B and C (refer to Addendum B) took place concurrently. Questionnaires A and B both investigated entrepreneurial practice in South African architects' firms. The primary intention with all three instruments or processes was to identify the content that the proposed EET framework should incorporate in its curriculum while providing answers to questions identified as part of the literature review. The

secondary intention with Questionnaire B was to confirm or disconfirm the results of the qualitative process based on Questionnaire A, while the secondary intention of Questionnaire C was to confirm or disconfirm the results of aspects of the literature review.

4.5.2 Timing

The research was carried out at a single point in time and hence represents a snapshot of a situation at that particular point in time. Studies of this type are classified as cross-sectional (Cooper & Schindler 2008:149; Zikmund, Bebin, Carr & Griffin 2013:195) or concurrent (Creswell 2014:217). The other alternatives are either sequential timing where different phases happen one after the other (Creswell 2009:206), or longitudinal, where changes over time are of importance (Zikmund et al 2013:196). This research falls in the concurrent category since the processes took place during the same time.

4.5.3 Emphasis

Creswell explains that emphasis refers to the relative weight or priority given to the quantitative and qualitative research in a particular study (2014:232). This study placed equal emphasis on both types of research.

4.5.4 Data integration

The manner in which the data obtained from the two types of research is integrated is an important aspect in mixed methods research (Creswell 2014:217). Mixing can occur at any or all of the three stages of the research process (collection, analysis or interpretation). However, the way in which mixing is done represents a more substantial problem. Creswell (2014:217) indicates that there are three common alternatives. The first option is ‘connected’ - whereby, in sequential designs, the quantitative and qualitative research are ‘connected’ after data analysis of the first phase of the research but before the start of data collection carried out as the second phase of the research.

The second option is the ‘merging’ option in which the data collected during the qualitative and quantitative processes are merged or integrated. The third option is the ‘embedding’ option. Here the data of one research phase, the secondary phase, are embedded in the data of the larger primary phase. Hence, the data from the secondary phase perform a supporting role in the study. This study adopted the ‘merging’ option where the results of the quantitative process were integrated with the results of the qualitative process by comparison and assimilation.

4.5.5 Theorising or transforming perspectives

Creswell believes that the importance of larger theoretical perspectives must also be considered (2014:74). He believes that 'all researchers bring theories, frameworks and hunches to their inquiries, and that these theories may be made explicit … or be implicit and not mentioned' (Creswell 2009:208).

This research study has indicated the broader theoretical background against which it is conducted in section 3.8 (refer to page 112). Thus, the research belongs to the implicit category. However, it did not seek to extend, refine or transform any of the theories indicated, but simply to propose an appropriate way in which they can be applied to architectural entrepreneurship education and training.

4.5.6 Research environment

According to Cooper and Schindler (2008:150), research designs must choose between carrying out the research under actual environmental conditions; also referred to as field conditions; or alternatively, under staged or manipulated conditions; also referred to as laboratory conditions. This research was conducted in the field environment as it exists in architects' firms.

4.5.7 Participant's perceptions

According to Cooper and Schindler (2008:151), the usefulness of research may be reduced because participants might not take their responses seriously enough. Because of this, these authors state that researchers must seriously examine validation strengths and weaknesses and be prepared to qualify results accordingly.

4.6 Research questions

The study sought to answer the following research questions:

1. What are the pertinent aspects of the current discourse on entrepreneurship in architecture and entrepreneurship enablement?
2. What are the current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms?
3. Which entrepreneurial actions, practices and orientations enable enduring South African architects' firms to achieve this status?
4. What constitutes the current system for education and training of South African architects?
5. What is currently available and/or offered to South African architectural students and architects in terms of entrepreneurial education training and support?

6. What do South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework?
7. Which issues are highlighted in the current discourse on entrepreneurship education and training?
8. What will constitute an appropriate education, training and support framework for South African architects and how the results obtained during the foregoing studies should be incorporated into such a framework.

As stated before the first, fourth, fifth and seventh research questions will be answered with the results obtained as part of the literature review. Research question two will be answered by the results obtained as part of both the qualitative and quantitative studies. Research question three will be answered with the results obtained during the qualitative study while question six will be answered using the results of the quantitative study. Question eight will be answered following the analysis, synthesis and interpretation of the results of all three studies.

4.7 Research methodology

Creswell (2014:247) explains that research methodology describes the forms of data collection, analysis and interpretation that are used. As stated previously, this research was designed as a formal study consisting of a literature review and an empirical study. The empirical study comprised qualitative and quantitative research processes. The processes are illustrated in Figure 1.4 in section 1.8.

4.7.1 Literature review

The first phase comprised a desktop/literature review (Chapters 2 and 3). Current theory and knowledge were compiled from books, journal articles and the internet. The broad aim was firstly to determine the nature of the current discourse on entrepreneurial education and secondly, to determine what comprises current entrepreneurial education frameworks and curricula for architectural and generic EET and support programmes.

Boote and Beile (2005:5) believe that 'A thorough, sophisticated literature review is the foundation and inspiration for substantial, useful research'. There is general agreement that literature reviews function as a very important step in qualitative, quantitative and mixed methods research processes (Combs, Bustamante & Onwuegbuzie 2010; Onwuegbuzie, Collins, Leech, Dellinger & Jiao 2010; Boote & Beile 2005:6).

The literature review provided the initial pointers towards a framework that is to be developed further with the information that will be gathered during the empirical processes. Furthermore, it identified the questions that comprise the interviews and questionnaires that are to be used for the empirical stages and the analysis that must follow thereafter. It will also contribute to the final proposal and recommendations.

4.7.2 Qualitative data collection

The qualitative process set out to establish how some of the most enduring South African architects' firms were established and to determine the entrepreneurial orientations, attitudes, strategies and practices the firms followed that resulted in their survival and entrepreneurial performance. The information gathered will be used to interpret the results of the quantitative processes and to identify additional aspects that should be included into the proposed framework.

4.7.2.1 Research design

The investigation was based on the use of case studies: using the results of the literature review, this process consisted of in-depth, semi-structured interviews using an interview sheet as a guide. Creswell, citing Stake (1995) describes case studies as a strategy of enquiry which sees the researcher exploring a programme, event, activity, process or individuals by collecting detailed information about the subject or subjects (2014:14). Yin (2003:1) regards this method as appropriate. He acknowledges that case studies can be used to extend our knowledge of phenomena relating to individuals and organisations. Eisenhart and Graebner (2007:25) indicate that qualitative research can form the basis for the inductive formulation of theory. Therefore, all the questions that probe the entrepreneurial orientation, the importance of, and roles played by, creativity, innovation, organisational learning, firm structures, values, competitive positioning, business management style and policies, client bases and relationships, fee determination and policy, as well as entrepreneurial support, were combined into Questionnaire A (see Addendum A).

The qualitative approach is most appropriate because it seeks to capture the multiple meanings, opinions and experiences of the participants involved (Cresswell 2014:4) and because limited related South African architectural research exists.

4.7.2.2 Sampling design and data collection

The qualitative process involved the most senior principals of selected firms because they are best acquainted with the establishment and managerial history and processes in the firm. The qualitative investigation took the form of key informant interviews at selected

enduring architects' firms in the four biggest chapters of the South African Institute of Architects. Enduring architects' firms'[11] from the Gauteng, Pretoria, Western Cape and KwaZulu-Natal Chapters were divided into small (one to three persons), medium (four to ten persons) and large (eleven and more persons) firms. In this way, firms of all sizes (two per size category per chapter) were selected on a stratified basis from a list of firms older than 15 years obtained from SAIA and on recommendation of the President of each of the regional chapters of SAIA. In addition, two enduring practices from outside the metropolitan areas of the Western Cape and Kwazulu-Natal Institutes were included in the sample to get a more holistic picture.

Furthermore, the sample was selected to comply with the following criteria:

- The population from which the sample is taken must be architects' firms that are well established and show evidence that they are well managed.
- The sample must not reflect the researcher's personal bias or comprise his circle of personal connections.

This amounted to a total of 26 interviews. All the firms on the list of firms older than 15 years, obtained from SAIA were contacted by electronic mail with the request that those who comply with the parameters for 'enduring firms' and who are willing to be interviewed, to please respond to the researcher indicating that they comply with the aforementioned requirements. Responses received unfortunately did not meet the study's requirements in terms of sample size and distribution.

To make up the required sample size, the Presidents of the four biggest chapters of SAIA at the time were contacted with the request to suggest more firms that could be approached. Using the lists provided, the researcher contacted firms by telephone. After confirming that the firms met the minimum requirements and were willing to be interviewed, appointments for interviews were set up.

After agreeing to be interviewed, the interviewees were asked to sign a letter of consent. This letter explains that their participation is voluntary; they will not be identified and can withdraw at any point, and they will be given a chance to review the transcript of the interview before data analysis ensues. The founding or most senior partner/director of each of the selected firms were interviewed in a face-to-face situation. This ensured relevance and representativity. The interviews were conducted at each firm's premises. Interviews

11 Architects' firms that are older than 15 years, whose current ratio is at least 1.5:1[11] (assets vs liabilities) and have architectural practice as the main source of income of the owner(s).

were recorded by audio file and transcribed by an outside party who undertook to protect the confidentiality of the process. Transcriptions were returned to interviewees for review before data analysis ensued.

4.7.2.3 Data analysis

Creswell (2014:197) recommends conducting a series of analysis, each moving deeper and deeper into an understanding of the data. Hence the transcripts containing data were first organised and readied for analysis. This was followed by a thorough reading of all transcripts while taking notes of statements made, impressions, questions and all points that warrant reflection and or comparison. The purpose of this reading was to get a sense of the whole and a general understanding before beginning the process of analysing the individual transcripts. The next step involved matching interviewee responses captured in transcripts to the structured interview questionnaire.

Codes were then assigned to themes as they emerge from the range of responses to each of the topics included in the interview. 'Selective coding' (Punia 2015:180) was used to pull related codes together and to combine assigned codes to identify general themes pertaining to patterns reflecting the individual questions. Each theme was then comprehensively described (Creswell 2014:199).

The next level of analysis comprised identifying patterns or interrelating themes and grouping related themes to identify possible meta-themes that might underlie the obvious and more superficial analyses (Punia 2015:181). Descriptions and themes with sub-themes (where appropriate) were organised according to the topics investigated through this process. Finally, the results of the investigation were interpreted quantitatively to find the meaning of the results uncovered by the investigation (Creswell 2014:200). Quantitative analysis (frequency count) of the themes was used for this purpose to simplify comparison and merging with the results obtained from the quantitative study.

Reliability of findings was checked, as suggested by Deodhar (2015:163) and Creswell (2014:203), citing Gibbs (2007), in the following ways:

- Firstly, using a semi-structured interview questionnaire with questions identified through a literature review and recording responses on audio file for transcription.
- Checking transcripts for mistakes made during the transcription process.

- Ensuring that, during the open coding phase, there was no drift in the definition or meaning of codes, particularly between cases, by constantly comparing data with the codes used and by compiling a code book containing codes and their definitions.
- Ensuring that, during the selective coding phase, there was no drift in the definition or meaning of themes. This can be done by constantly comparing data with the themes used and by the use of a theme book containing themes and their definitions.

Findings were validated by checking the accuracy of the findings (Creswell 2014:201) from the position of the researcher, the participants and the readers. This was accomplished by the incorporation of the following validity strategies:

- Triangulation through the converging of codes, using a wide range of sources (26 cases) and thereafter the converging of themes from a wide range of codes.
- Using rich and detailed descriptions in conveying the findings.
- Including negative or discrepant findings.
- Clarifying the researcher's bias.
- Spending prolonged periods on fieldwork.
- Using peer debriefing.

The questionnaire used for the semi-structured interviews combined the questions identified in 2.2.1 (refer to page 46); 2.2.2 (refer to page 52); 2.3.2 (refer to page 62); 2.3.3 (refer to page 63); 2.3.5 (refer to page 74); 2.3.6.3 (refer to page 80); 2.3.6.4 (refer to page 82); 2.3.6.5 (refer to page 83) and 2.3.8 (refer to page 87) into Questionnaire 'A'. This questionnaire as well as the letters sent to prospective interviewees are included as Addendum B.

4.7.3 Quantitative data collection

The research also had to establish a general situation, and thus reductionist or quantitative methods were required (Creswell 2014:410). The quantitative process involved all Candidate Architects and Professional Architects registered with SACAP. Two questionnaires were used. The first questionnaire (Questionnaire B - refer to Addendum B) was sent to the most senior partner or director of all architects' firms. The questionnaire aimed to answer the questions identified in section 3.7 (refer to page 110) as a response to Research Question 2.

The second questionnaire (Questionnaire C, refer to Addendum B) was used to ask registered Candidate Architects and Professional Architects who recently passed the major architectural education and training registration exams, as well as career milestones, to

reflect on the education and/or training they had received during the past stage or recent past and to identify the entrepreneurial education and training related shortcomings thereof. This questionnaire responded to the questions identified in section 3.7 (refer to page110) and to Research Question 6. The nature of the inquiry is such that no previously used and validated questionnaires could be found, hence the design and use of unique questionnaires.

4.7.3.1 Research design

This process employed a written cross-sectional descriptive or normative survey using questionnaires. Cooper and Schindler (2008:215) regard questionnaires as a survey that comprises a 'measurement process used to collect information during a highly structured [engagement] with questions carefully chosen and crafted sequenced and precisely asked of each participant'. They hold that the main advantage of this method is that the results (findings and conclusions) can be projected to a larger population to establish a general situation; the aim of this stage of the investigation.

4.7.3.2 Sampling design

According to Zikmund et al (2013:385) the process of sampling comprises any procedure whereby a small number of items or parts of the entire population are used to make conclusions regarding the whole population. He describes a sample as a 'subset, or some part, of a larger population'.

Cooper and Schindler (2008:179) and Wegner (2001:4) describe population as the total body of, or collection, of elements about which the researcher is trying to draw conclusions. According to Zikmund (2003:369), the purpose of sampling is to enable researchers to make estimates regarding some unknown characteristic of the whole population. Hence, when practical reasons make it difficult to survey an entire population, a sample must be selected.
According to Cooper and Schindler (2008:183-203) and Zikmund et al (2013:388) the process of selecting a sample comprises the following process:

- Determining the population.
- Determine the parameters of interest.
- Determine the sampling frame.
- Determine the type of sample.
- Determine the sample size.
- Selecting the sample units.
- Conducting the fieldwork.

For this phase of the study, the population were the 4 486 Candidate Architects and Professional Architects registered with SACAP at the time. This population was chosen because of the nature of the research questions that were to be answered and because these two groups are in the best position to provide the answers. Furthermore, and as far as could be ascertained, no previous research regarding EET in the architectural profession in South Africa has ever Been undertaken.

As far as parameters of interest or variables of interest (Cooper & Schindler 2008:186) are concerned, the following apply to this study:

- All those surveyed must have completed their formal architectural education.
- They must form part of the population of graduates who form part of the professional training system in place for architects and therefore must be registered with SACAP.
- All experience levels in the profession must be included.
- Professionals working at all levels of seniority must be included.

According to Zikmund et al (2013:195) and Cooper and Schindler (2008:102), a sampling frame refers to the list of elements or sampling units from which the sample will be selected. In this case, it was the database of electronic mail contact addresses of SACAP-registered Candidate Architects and Professional Architects.

A choice must be made regarding the type that the sample is to be comprised of; firstly, whether the sample must be a probability or non-probability type of sample. Cooper and Schindler (2008:192) and Zikmund et al (2013:392) describe a probability sample as a sample that has been selected through the use of random selection that ensures that each unit has an equal chance of being selected. A non-probability sample is a sample that has not been selected using a procedure that will ensure that each sampling unit has an equal chance of selection. Different types of probability samples exist. These include simple random samples, systematic samples, cluster samples or stratified samples (Zikmund et al 2013:396-398). Similarly, the range of non-probability sample types includes convenience samples, judgement samples (also called purposive samples), quota samples and snowball samples. The study used non-probability quota sampling.

Sample size is an important consideration: the larger the sample, the less likely it becomes that sampling errors could be present and the greater the accuracy with which results can be generalised (Welman et al 2005:71). The population size of this study was only 4 486

persons. Because of the limited size of the population and the ease with which they could be surveyed, it was decided to not select a sample but to survey the entire population.

However, an important factor to consider is non-response rate. Welman et al (2005:73) define non-respondents as those that have refused to cooperate, and note that this is a common occurrence. The result of this phenomenon is that regardless of how carefully the sample was designed, the response will no longer be representative of the population and the data collected may thus become biased.

According to Data Management and Statistical Analysis (DMSA) (2015:4) the response rate for this survey was 24.6%. Zikmund et al (2013:431) believe that in cases where the population is fairly homogeneous a smaller population might be acceptable. In this study the population is fairly homogeneous (graduated Candidate Architects and Professional Architects). DMSA concluded that, despite the somewhat low response rate, it could be assumed that the responses are representative of the population.

4.7.3.3 Sampling and non-sampling error

When selecting a sample, researchers must bear sample error in mind. Welman et al (2005:74) state that sample error expresses the differences in terms of the 'fit' that exists between the sample and the population. The formula used to determine sampling error takes three factors into consideration. These are the parameter, the sample size and the standard error (Zikmund 2003:423). Zikmund et al (2013:391) point out that sampling error can be divided into random sampling error and systematic sampling error. The degree of variability or the spread of the average values gives an indication of sampling error (Welman et al 2001:74).

Non-sampling errors must also be borne in mind. Zikmund (2003:379-380) describes three non-sampling type errors that might play a role. These are sampling frame error, random sampling error and non-response error. Because this research used the whole population instead of a sample the chances for sampling errors to occur is reduced. However, the non-response rate could have resulted in the presence of non-sampling errors.

4.7.3.4 Data collection

Self-administered questionnaires with questions identified in Chapter 3 were developed with the assistance of DMSA statistical analysis specialists at the University of the Witwatersrand who also assisted with the statistical analysis of data. The questionnaires were submitted to the Research Ethics Committee of the Faculty of Engineering, Built Environment and Information Technology at the University of Pretoria for approval before they were used

(letter of approval attached as Addendum D). The questionnaires were tested by means of a pilot study conducted with a selected group of five architects. The questionnaires and the covering letter sent with it are attached as Addendum B. After making all indicated adjustments the questionnaires were loaded on the 'Qualtrix' platform subscribed to by the University of Pretoria, with links distributed by electronic mail with the assistance of SACAP. Follow-up reminders were sent out via e-mail to improve response rates. Responses were collected on the 'Qualtrix' platform, saved and forwarded to DMSA.

Responses were anonymous. The information entered in the biographical section (Section A) of the Questionnaire identified which group the respondent belongs to and automatically directed him or her to Questionnaire B and/or Questionnaire C to collect data.

Measurement in quantitative research comprises assigning numbers to empirical events in compliance with certain rules (Cooper & Schindler 2008:221). Measurement scales are used for this purpose. The different measurement scales provide for different levels of measurement (Zikmund 2003:299; Cooper & Schindler 2008:223). The four major types of measurement scales are summarised by Groenewald (2010:63) in Table 4.1.

Table 4.1 Types of measurement scales. (Groenewald 2010:163)

Equivalence	**Nominal**	**Ordinal**	**Interval**	**Ratio**
	Yes	Yes	Yes	Yes
Order	No	Yes	Yes	Yes
Equal intervals	No	No	Yes	Yes
Absolute zero	No	No	No	Yes
Typical usage	Store types; Product categories Geographical locations	Occupation; Social class; Business preference; Attitudes	Index numbers; Temperature; Calendar time; Attitudes	Scales; Cost; Age; Number of customers
Numerical application	Counting	Rank ordering	Arithmetic operations on intervals between numbers	Arithmetic operations on actual qualities
Descriptive statistic	Frequency and percentage in each category, mode	Median, range, percentile, ranking	Mean, standard deviation, variance	Geometric mean; Coefficient of variation

The quantitative research that forms part of this study aimed to determine the respondents' attitudes and ratings of firm performance or education and training received. This implies rank ordering. Zikmund et al (2013:315) indicate that the Likert scale 'allows for the

measurement of attitudes by allowing respondents to indicate how strongly they agree or disagree with carefully constructed statements'. Hence the research relied on this type of rating scale to quantify the attitudes of respondents. In addition, a simple Yes/No attitude scale was used where appropriate.

Questionnaire B was sent to all architects' firms (as stated earlier) in order to establish the current levels of entrepreneurial performance in firms, the entrepreneurial orientation of firms and the level of business management in firms. The secondary aim was to confirm or repudiate the information gathered during the qualitative study. Architects' firms that are older than 15 years, whose current ratio is at least 1.5:1 and whose owners have architectural practice as their main source of income were classified as enduring firms (refer to section 1.4.5.4 on page 15 for a description of the rationale behind this classification). Based on the same rationale, firms older than seven years were defined as 'established firms'.

Questionnaire B consisted of three sections. The first section contained questions about entrepreneurial performance in the respondent's firm. The following definition, developed in section 1.4.5.8 (refer to page 20) was included to clarify the meaning of this construct: 'A reflection of a firm's performance that combines a variety of quantitative and qualitative criteria in a comparison between the firm's financial and other achievements and the aims and objectives of its owners'.

Respondents were asked to reflect on their firm's current entrepreneurial performance level and to indicate their level of agreement with a range of statements. Statements were grouped according to the following sub-sections:

- Firm objectives
- Profitability
- Growth
- Stakeholder satisfaction

Respondents were asked to rate their firm's position using a five-point Likert scale comprising the following categories:

1 = Strongly disagree
2 = Disagree
3 = Neither agree nor disagree
4 = Agree

5 = Strongly agree

The second section of the questionnaire investigated the firm's entrepreneurial orientation. The following definition, developed in section 1.4.5.7 (refer to page 19) was included to clarify the meaning of this construct: 'The strategic posture or attitude and actions, used by organisations or individual entrepreneurs to enact their firm's organisational purpose, sustain its vision and create competitive advantage in the creation and nurturing of a new venture'.

Respondents were asked to reflect on their firm's entrepreneurial orientation and indicate their level of agreement with a range of statements. Statements were grouped according to the following sub-sections:

- Innovativeness
- Risk taking
- Proactiveness
- Competitive aggressiveness

Respondents were asked to rate their firm's position using a five-point Likert scale comprising the following categories:

1 = Strongly disagree
2 = Disagree
3 = Neither agree nor disagree
4 = Agree
5 = Strongly agree

The third section of the questionnaire investigated 'firm management'. The following definition, developed in section 1.4.5.10 (refer to page 21) was included for explanation: 'The day-to-day management of an architects' firm in order that it may achieve its objectives by performing the functions of planning, organising, leading and control of its resources, processes, finances and marketing'. Respondents were asked to reflect on business management in their firm and to indicate their level of agreement with a range of statements.

Statements were grouped according to the following sub-sections:

- Planning
- Organising
- Leading
- Control

Respondents were asked to rate their firm's position using a five-point Likert scale comprising the following categories:

1 = Very unlike us
2 = Unlike us
3 = Sometimes but infrequently
4 = Somewhat like us
5 = Very like us

Questionnaire C was sent to all Candidate Architects and Professional Architects. Responses received were recorded according to the groups listed below. This is done to allow comparison across groups:

- Employed Candidate Architects.
- Employed Professional Architects registered for less than a year.
- Employed Professional Architects registered for one year and more but less than five years.
- Employed Professional Architects registered for five years and more.
- Partners or Directors who are not the most Senior Partner or Director in the firm.
- Respondents who are the most Senior Partner or Director in architects' firms younger than seven years.
- Respondents who are the most Senior Partner or Director of an established architects' firms.
- Respondents who are the most Senior Partner or Director of an enduring architects' firm.
- Respondents who are Professional Architects but not working in an architectural firm.

Questionnaire C set out to gain the respondents' views regarding the level of entrepreneurship education, training and support available to them and their views regarding the relevance or need for certain aspects in the envisaged framework for entrepreneurship education, training and support for architects. This was done to find answers to Research Question 7. A-five point Likert scale was used.

Respondents were introduced to the questions by the following explanation: this section of the questionnaire refers to the entrepreneurial education and training you received to date through your professional studies at University or since then through SACAP/SAIA/SAIAT/CPD offerings. Please consider the following questions:

A. Did the education, training and/or support offered to you during your studies or during your Candidacy period or since registration as a Professional Architect (as

applicable), include the following topics extracted from current theory and generic entrepreneurial education programmes?

1 = Not at all
2 = Very limited
3 = Limited but Inadequately
4 = Adequately
5 = Extensively

B. Do you believe that the topic is relevant and thus should be included in architectural education and training?

Y = Yes N = No

Topics included covered:

- Entrepreneurial awareness.
- Entrepreneurial orientation/intent.
- Entrepreneurial skills.
- Entrepreneurial performance.
- Starting an architectural firm.
- Firm design.
- Formalising your plans.
- Developing business skills.
- Support.
- Other topics.
- Business management.

As indicated previously, all responses were collected electronically using the Qualtrix platform, saved and forwarded to DMSA for analysis.

4.7.3.5 Characteristics of a sound measurement instrument

In order for a measuring instrument to be sound it must be valid and reliable (Cooper & Schindler 2008:231; Zikmund 2003:300-301; Welman et al 2005:184). Validity refers to the degree to which an empirical instrument measures what it is meant to measure whereas reliability relates to the ability of a technique, if applied repeatedly to the same object, to yield the same result every time it is applied (Welman et al 2005:9). According to Zikmund (2003:301) reliability is a precondition for validity but that a reliable instrument might not produce valid results.

4.7.3.6 Validity of the measurement instrument

Welman et al (2005:142) indicate that various types of validity exist. These include construct validity, criterion related validity, content validity and face validity. Cooper and Schindler (2008:231) believe that the three most important types are content validity, criterion validity and construct validity. Zikmund et al (2013:303-306) add that criterion validity can be sub-divided into concurrent validity and predictive validity. Table 4.2 from Groenewald (2010:165) summarises the different types of validity estimates.

Table 4.2 Summary of validity estimates (Groenewald 2010:165 based on Cooper & Schindler 2008:232)

Type	What is measured	Methods
Content validity	Extent to which the content of the items adequately represents the universe of all relevant items under study.	Judgemental or panel evaluation with content validity ratio.
Criterion-related • Concurrent • Predictive	Extent to which the predictor is adequate in capturing the relevant aspects of the criterion. Description of the present: criterion data are available at same time as predictor scores. Prediction of the future; criterion data are measured after the passage of time.	Correlation.
Construct	Answers the question, 'What accounts for the variance in the measure?' Attempts to identify the underlying construct(s) being measured and determines how well the test represents it (them).	Judgemental: correlation of proposed test with an established one; Convergent-discriminant techniques; Factor analysis; Multitrait-multimethod analysis.

In this case, validity will be established by comparing the results of the survey using Questionnaire B with the results of the qualitative research process. Test-retest reliability could not be established because of the cross-sectional nature of the study.

4.7.3.7 Reliability of the measurement instrument

Zikmund et al (2013:301-302) believe that reliability depends on repeatability and internal consistency. According to Cooper and Schindler (2008:239), three discrete dimensions form the foundations of reliability. These are stability, equivalence and internal consistency. Welman et al (2005:145-146) state that variation is the opposite of reliability and identifies two types of variation namely systematic variation and non-systematic variation.

According to Cooper and Schindler (2008:237) stability can be estimated using repeat testing (test-retest). However, Zikmund et al (2013:303) point out that the results of the second test could be significantly different due to a number of reasons. As far as

equivalence is concerned they suggest the use of parallel surveys. In this study a qualitative investigation was used to prove or repudiate the results of Questionnaire B. In the case of this research, reliability was ensured by the pilot study undertaken before the main study.

4.7.3.8 Data processing and analysis

Once returned the data were edited, sorted and coded by DMSA. This was done as preparation for the analysis and interpretation thereof. Data analysis of responses received was performed by DMSA using the specialist 'SAS version 9.4' statistical analysis software.
Editing is the process of preparing data for coding and transfer to data storage (Zikmund et al 2013:460). Editing is done to identify errors and omissions such as the 13 respondents to this study who did not answer any questions beyond completing their biographical information (DMSA 2015:4). These responses were excluded from the data analysis.

According to Cooper and Schindler (2008:456) and Zikmund et al (2013:465) coding is a process whereby numbers or other symbols are assigned to answers to make it possible to combine these answers into a limited number of classes or categories. Responses were recorded electronically through the use of the Qualtrix platform, Thereafter, it was saved as a Microsoft Excel spreadsheet that facilitated transferral to the SAS analysis process.

The percentage of positive responses (adequate or extensive) at the respondent level for each of the 11 topics included in Questionnaire C was determined first. Hereafter, the percentage of relevant affirmative responses at the respondent level in each of the same questionnaire was determined. Finally, the average rating at the respondent level for each of the three sections and 12 sub-sections of Questionnaire B was determined.

4.7.3.9 Descriptive statistics

Zikmund et al (2013:410) describe descriptive statistics as the transformation of raw data into a format that is easier to understand and will allow it to be processed by rearranging, ordering and/or manipulation. Wegner (2001:5) explains that descriptive statistics 'condenses large volumes of data into a few summary measures'. According to Welman et al (2005:231) and Zikmund et al (2013:507) if the statistics involve a single variable it is referred to as univariate analysis, if it involves two variables it is known as bivariate analysis, and if it involves more than two variables, it is called multivariate analysis.

The descriptive analysis involved summarising categorical variables as percentages into tables, thereafter illustrating the data by means of bar charts. Continuous variables were

summarised according to the mean, standard deviation, median and interquartile range. Distribution was illustrated with the use of histograms.

4.7.3.10 Inferential statistics

Wegner (2001:5) explains that inferential statistics 'generalises sample findings to the broader population'. According to Zikmund et al (2013:410) the most important function of inferential statistics is to make a judgement about the population.

Regarding association and correlation Welman et al (2005:21) believe that a correlational relationship is implied if a change to one variable results in, or is associated with, changes to the other variable.

Table 4.3 (taken from Cooper and Schindler 2008:534) combines the statistical techniques that can be used for inferential statistics and the situations in which they can be used.

Table 4.3 Recommended statistical techniques by measurement level and testing situation (Cooper & Schindler 2008:534)

Measurement level	**One-sample case**	**Two-sample case**		**k-sample case**	
		Related samples	**Independent samples**	**Related samples**	**Independent samples**
Nominal	• Binomial • Chi-square one sample	• McNemar	• Fisher exact test • Chi-square two samples test	• Cochran Q	• Chi-square for k samples
Ordinal	• Kolmogorov-Smirnov one-sample test • Runs test	• Sign test • Wilcoxon matched paired test	• Median test • Mann-Whitney U • Kolmogorov-Smirnov • Wald-Wofowitz	• Friedman two-way ANOVA	• Median extension • Kruskal-Wallis one way ANOVA
Interval and ratio	• t-test • Z-test	• t-test for paired samples	• t-test • Z-test	• Repeated measures ANOVA	• One-way ANOVA • N-way ANOVA

DMSA (2015:3) reports that in the case of this research, the correlation between the number of respondents who responded 'adequately/extensively' to all 11 sections of Questionnaire C and the responses to the various subsections of Questionnaire B was carried out using the paired t-test with the critical p-value adjusted from 0.05 to 0.017 for Questionnaire C, 0.048 for the biographical section of Questionnaire B, and 0.015 for the remainder of Questionnaire B. In addition, the Kruskal-Wallis test was used to compare the association between each respondent group and the population who responded 'adequately/extensively' to the extent

of entrepreneurship training received, and the overall percentage who indicated 'relevant' to each question in Questionnaire C. Pearson's correlation coefficient was used to assess the relationship between pairs of overall rankings for the sub-sections of Questionnaire B. One-way ANOVA (or Kruskal-Wallis, where the assumptions of the one-way ANOVA were not met) was used to assess the relationship between firm age and the overall rankings for the sub-sections in Questionnaire B. Table 4.4 (taken from Cooper and Schindler 2008:571) gives an indication of some of the measures most commonly used to assess correlation and association.

Table 4.4 Commonly used measures of association (Cooper & Schindler 2008:571)

Measurement	Coefficient	Comment on uses
Interval and ratio	Pearson (product moment correlation coefficient	For continuous linearly related variables
	Correlation ratio (eta)	For non-linear data or relating a main effect to a continuous dependent variable
	Bi-serial	One continuous and one dichotomous variable with an underlying normal distribution.
	Partial correlation	Three variables: relating two with the third's effect taken out.
	Multiple correlation	Three variables: relating two variables with two others.
	Bivariate linear regression.	Predicting one variable from from another's scores.
Ordinal	Gamma	Based on concordant-discordant pairs.
	Kendall's tau b	P-Q based: adjustment of tied ranks
	Kendall's tau c.	P-Q based: adjustment of table dimensions
	Somer's d.	P-Q based: asymmetrical extension of gamma.
	Spearman's rho.	Product moment correlation for ranked data
Nominal	Phi	Chi-square based for 2x2 tables
	Cramer's V	Chi-square based: adjustment when one table >2.
	Contingency coefficient C.	Chie-square based: flexible data and distribution assumptions.
	Lambda	PRE-based interpretation.
	Goodman & Kruskal's tau.	PRE-based with table marginal's emphasis.
	Uncertainty coefficient	Usefull for multidimensional tables.
	Kappa.	Agreement measure

4.7.3.11 Merging qualitative and quantitative results

Creswell (2014:223) proposes that the results of the two research processes, in the case of convergent parallel mixed methods designs, should be integrated by comparing the results of the qualitative process with that of the quantitative process. The aim should be to identify

where they confirm each other and where they repudiate each other. However, he warns that typically the comparison does not provide clear evidence of confirmation or repudiation and that it might be necessary to carry out further research, alternatively to accept this as one of the limitations associated with this type of research.

4.8 Conclusion

This chapter described the empirical processes used to find answers to the questions identified as part of the literature review in Chapters 2 and 3. To this end this chapter focussed on the research design and methodology used to conduct these empirical processes. The researcher's world view, epistemological stance and the ontological views that frame the research were described.

Furthermore, the research problem, aims and objectives of the study, research questions and research hypothesis already stated in Chapter 1 were restated. Thereafter, it elaborated on the research methodology referred to in Chapter 1 by describing the mixed method research approach in terms of research design, timing, emphasis, data integration, theorising or transforming perspectives, research environment and participants' perceptions. Following this it described in greater detail the research methodology and each of the three research processes it comprised. The following chapter reports, explains and interprets the most significant results as revealed by the aforementioned analysis.

CHAPTER 5: RESEARCH RESULTS AND INTERPRETATION

5.1 Introduction

The previous chapter described the research methodology and each of the three research processes it comprised of in great detail. The methods used to ensure the reliability and validity of the findings were discussed in sections 4.7.3.4 and 4.7.3.5 (refer to page 162 and 167).

The results of the literature review were reported in Chapters 2 and 3. This chapter will report the results of the empirical studies described in the previous chapter. It will firstly report on the results and findings derived from the qualitative component of the study (using Questionnaire A; refer to Addendum B in Part 2 document for all questionnaires) and then the statistical analysis of the quantitative component (using Questionnaires B and C). The analysis of the quantitative study will comprise a report on the demographic profile of the individual respondents. This will be followed by a description of the architects' firms whose most senior partner or director responded to Questionnaire B.

The results obtained from the quantitative analysis to Questionnaire B will be described next and after that the results obtained from Questionnaire C. This will be done so that the findings can be used to draw conclusions and make recommendations in Chapters 6 and 7.

5.2 Results of the qualitative study

The qualitative study comprised semi-structured interviews conducted with the founding or most senior partner or director of 26 enduring architects' firms. The interviews were guided by an interview sheet (Questionnaire A - refer to Addendum C) that consisted of 15 topical themes.

The interviews were recorded and transcribed. The transcriptions were returned to the interviewees for verification or editing if required. Thereafter the transcripts were read and analysed using the original interview sheet as guide. The responses from the different interviewees to each of the questions were extracted from the transcripts and collated per question. Themes were identified and coded and analysis was done as set out in 4.7.2.3 Data analysis (refer to page 158). The individual analysis sheets (per question) are attached in Addendum C. The deductions that resulted from the analysis were collated per topic. After further analysis of the initial deductions and a summary of the results of the first level of analysis, findings were made per topic. The results reported per topic are explained/described/outlined below.

5.2.1 Entrepreneurial orientation

The first question asked 'how would you describe your firm's entrepreneurial orientation?'. Twenty-five of the 26 enduring architects' firms interviewed directly responded to this question. Their responses are summarised in Tables 5.1, 5.2 and Figure 5.1 indicate a range of entrepreneurial orientations and intentions (refer to A1 in Addendum C).

Table 5.1 Entrepreneurial orientations and intentions of the founders of enduring architects' firms

Theme	Frequency
To stay small	68% (17 firms)
No plans regarding the size to which they wished to grow	4% (1 firm)
To grow into medium-large firms	8% (2 firms)
To grow into large firms	20% (5 firms)

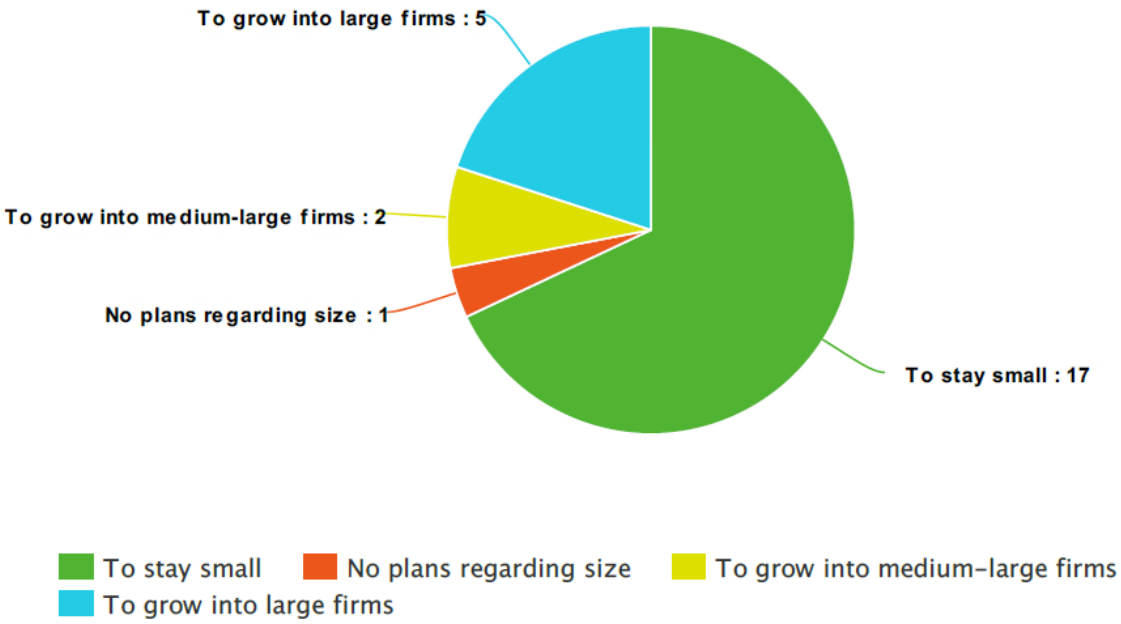


Figure 5.1 Entrepreneurial orientations and intentions of the founders of enduring architects' firms

The reasons offered for starting a firm are tabulated in Table 5.2.

Table 5.2 Reasons why enduring firms were started

Themes	Frequency
Retrenchment	8%
Could not find employment	4%
Lifestyle sought	16%
Altruistic reasons	8%
Spirit of adventure/need for independence	8%
Negative experience with previous employer	8%
Family reasons	4%
To exploit available opportunity	16%
Entrepreneurial ambition	20%
To do good architecture	8%

Table 5.1 indicates that the majority of the enduring architects' firms that directly responded to this question (72%) were started without a specific growth intention while the remaining 28% of firms were started with the intention of becoming medium or large firms. The firms that were started specifically to grow were started in order to create greater wealth for their founders, because the firms intended to do bigger projects, or because the firm intended to operate internationally (refer to A1 in Addendum C). This group displays a degree of entrepreneurial orientation or intention. However, in terms of the definition accepted in 1.4.5.6, some of those who deliberately chose to stay small might also have a degree of entrepreneurial orientation, albeit of a different kind to that reported by the first group.

Table 5.2 indicates that 56% of firms were started for a variety of personal reasons: 36% were started (20%+16%) because of entrepreneurial aspirations, and 8% were started to give expression to creative aspirations. The responses received also indicated that the type of projects envisaged influenced this decision. It is noteworthy that only 16% indicated that they were started as a result of identifying an opportunity. The foregoing indicates that, in general, the entrepreneurial orientation of the founders of these enduring architects' firms were at low levels.

The second question asked 'how would you describe the firm's attitude to risk?'. Twenty-five out of 26 enduring architects' firms provided a direct response to this question. Their responses are shown in Table 5.3.

Table 5.3 Risk attitudes of the founders of enduring architects' firms.

Themes	Frequency
Risk takers	24%
Risk averse	32%
Moderately risk averse	24%
Calculated risks only	20%

From the above it can be assumed that almost 75% of the respondents were not high risk takers but tended to be risk averse (refer to A2 in Addendum C). Furthermore, the different risk attitudes are distributed relatively evenly across respondents with the only spike noticeable in the 'risk-averse' category. This could indicate that architectural entrepreneurs need not be risk takers to start their own firms as the majority of the founders of enduring firms are not 'risk takers'.

The third question asked 'how would you describe the entrepreneurial posture (or entrepreneurial orientation) of your founder(s)?'. Responses were received from 12 of the 26 respondents who answered this question (refer to A3 in Addendum C). Their entrepreneurial postures are shown in Table 5.4.

From the responses received it can be deduced that a total of 25% drifted into starting their own firms by circumstances (hence weak entrepreneurial attitudes or orientations) while 33% were drawn to it for a variety of reasons (medium entrepreneurial attitudes or orientations) with the remaining 42% displaying relatively strong entrepreneurial attitudes or orientations.

Table 5.4 Entrepreneurial postures of the founders of enduring architects' firms

Themes	Frequency
Adventurous	8.3%
Coincidental	8,3%
Adventurous but cautious	8,3%
Highly entrepreneurial	17%
Specialist	8,3%
Skills based	8,3%
Talent based, family driven but cautious	8,3%
Survivalist	8,3%
Entrepreneurial but strongly practice based and quality focussed	25%
Drawn by the lifestyle	8,3%.

The results indicate that, regardless of entrepreneurial attitude, well-managed architects' firms can survive for 15 years or longer. However, it is significant that the biggest single grouping was the 42% of founders of enduring architects' firms who displayed relatively strong entrepreneurial orientations or attitudes. This could indicate that having such an entrepreneurial attitude is beneficial if the firm is to survive for 15 years or more.

The fourth question asked 'which of the personal traits sometimes ascribed to entrepreneurs applies to your firm's founders?'. Twenty-four of the 26 enduring architects' firms provided a direct response (refer to A4 in Addendum C). Their responses are tabulated in Table 5.5.

Table 5.5 Entrepreneurial traits prevalent amongst founders of enduring architects' firms

Themes	Frequency
Most, if not all the traits applied to them	80%
Not sure if they applied	10%
Didn't apply	5%
Prerequisite for endurance in an architects' firm	5%

From the above it seems that the traits often associated with entrepreneurs were present (or have been developed) in many of the founders of enduring architects' firms regardless of firm size.

Twenty-one out of 26 (81%) enduring architects' firms provided a direct response to the fifth question which asked 'would you describe the firm's founders as proactive individuals?' (refer to A5 in Addendum C). The answers provided by the respondents are displayed in Table 5.6.

Table 5.6 Proactiveness amongst founders of enduring architects' firms.

Themes	Frequency
Founders were proactive	85,5%
Not apparent that they were proactive	9,5%
Not proactive	5%

The fact that most of the enduring firms in the sample were started by proactive individuals indicates that having this trait could be advantageous for the founders of architects' firms.

The sixth question asked ‘were they (your founders) highly competitive?’. Twenty-four out of 26 (92%) enduring architects’ firms provided a direct response to the question (refer to A6 in Addendum C). Their responses are listed in Table 5.7.

Table 5.7 Competitiveness of founders of enduring architects’ firms

Themes	Frequency
Founders were/are competitive	54%
Founders were/are competitive but in subtle way	21%
Founders were/are not competitive	25%

The fact that 25% of respondents have indicated that they were not competitive indicate that It could be advantageous, but not essential, for the founders of an architects' firm to be competitive.

Question seven asked ‘did the founders of your firm attend any entrepreneurial education and training or business management programmes?’. Twenty-five out of 26 (96%) enduring architects’ firms directly responded to the question. Their responses are listed in Table 5.8.

Table 5.8 Founders of enduring architects’ firms who attended EET or business management courses

Themes	Frequency
Founders did not attend	84%
Founders did attend	16%

Six of the firms who did not attend any formal education and training indicated that they learnt from others while three firms indicated that they learnt from books (refer to A7 in Addendum C). While relatively few firms attended formal EET or business education and training, 52% acknowledged that they received some form of training or guidance providing credence to the need for a profession-specific EET programme.

The eighth question asked ‘was the firm started due to ‘push’ or ‘pull’ factors?’. Twenty-two out of a possible 26 enduring architects’ firms (85%) provided direct responses to the question (refer to A8 in Addendum C). Their responses appear in Table 5.9.

Table 5.9 Enduring architects' firms started for pull and push factors

Themes	Frequency
Firms were started for 'push'-type reasons	23%
Firms were started for 'pull'-type reasons	77%

Thus, it can be assumed that enduring architects' firms can be started for both 'push'- and 'pull'-type reasons, but because most enduring architects' firms were started for 'pull'-type reasons this could be an advantage.

The ninth question asked 'what form did the opportunity that you recognised and pursued comprise?'. From the sample of 26 enduring architects' firms, 18 firms (69%) provided direct responses to the question (refer to A9 in Addendum C). The responses were varied (as can be expected of viable opportunities). Their responses are shown in Table 5.10 and Figure 5.2.

Table 5.10 Opportunities pursued by enduring architects' firms

Theme	Frequency
Multi-disciplinary background/skills	5,6%
Changes in socio-economic/political environment	11%
Exceptional client service coupled with socio-economic change	5,6%
Family relationships	5,6%
Competition wins	5,6%
Development of new building types/new uses for existing building stock	11%
Specialist knowledge and experience	16,7%
Political connections	5,6%
Project on offer	11%
Technical innovation	11%
New/existing niche market ignored by others	5,6%
Combination of family connections and technical innovation	5,6%

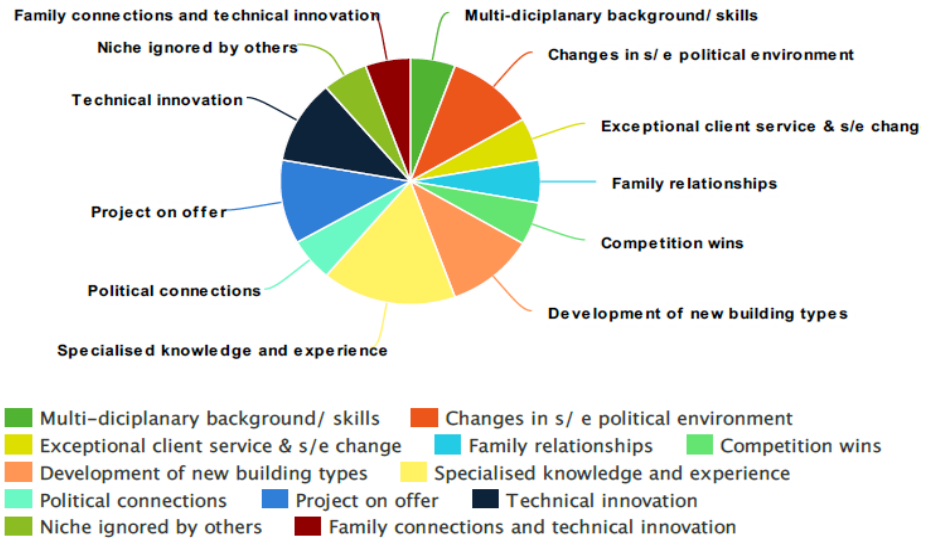


Figure 5.2 Opportunities pursued by enduring architects' firms

If these responses are aggregated the following four generic opportunity types can be identified:

- Using specialist knowledge and new building uses to operate in niche markets.
- Technical and/or socio-economic/political change.
- Family or political connections.
- Being offered a project(s) and performing it in a commendable manner.

However, by their very nature, opportunities often can be found in unexpected places. Hence the previous list of areas cannot be comprehensive.

The tenth question asked 'how important a contribution did this (entrepreneurial orientation) attitude play in the firm's enduring?' (refer to A10 in Addendum C). Only five out of a possible 26 respondents from enduring architects' firms provided direct answers to this question. However, it would appear that the respondents did not fully understand what entrepreneurial orientation means. Nonetheless their responses are listed in Table 5.11.

Table 5.11 Relationship between entrepreneurial orientation and enduring status

Themes	Frequency
Two entrepreneurial traits, confidence and self-efficacy, played an important role	20%
Group support played an important role	20%
Entrepreneurial orientation is a prerequisite	20%
Entrepreneurial traits are a definite requirement	40%

Hence, it can be accepted that, a profession-specific EET framework should, *inter alia*, address three of these aspects, namely, building an entrepreneurial orientation (as indicated in section 3.9), developing entrepreneurial traits (as found before), whilst providing some form of group support.

The eleventh question asked 'in your opinion, what is the nature and type of opportunity that South African architects should look out for?'. Nineteen out of the 26 enduring firms interviewed (73%) responded to the question (refer to A11 in Addendum C). Some offered more than one suggestion resulting in a total of 21 suggestions. The suggestions vary greatly and some suggestions are even contradictory (for instance: specialised and more general work). The suggestions are listed in Table 5.12.

Table 5.12 Opportunities available to South African Architects

Themes	Frequency
Social Development	1 firm
Education sector	1 firm
Retail sector	1 firm
Government work	1 firm
Depends on past experience	1 firm
Inside established firms	1 firm
Where their passion is - know the playing field	1 firm
More general and not specialised work	1 firm
Develop networks - that will guide you to your opportunity	1 firm
Overseas work - even as an independent contractor	1 firm
Specialisation	1 firm
Taking clients from the firm you are working for	1 firm
Commercial sector	2 Firms
Be vigilant - you will gravitate towards your opportunity	2 Firms
Niche markets	2 Firms
Opportunities exist if architects can develop entrepreneurial skills	3 Firms

If these suggestions are aggregated the following mega-themes can be identified:

- Opportunities can be found by developing networks, being vigilant and entrepreneurial.
- Follow one's passions.

- Use past experience (specialisation) or consider intrapreneurship (inside an established firm).

It is significant that three firms believed that opportunities exist if architects can develop entrepreneurship skills. This underscored the advantage that a profession-specific EET can have for architects' firms.

5.2.1.1 Findings: Entrepreneurial orientation.

The foregoing indicates that:

- The entrepreneurial orientation of most of the founders of these enduring architects' firms were at low levels.
- Almost 75% of the respondents are not risk takers but tend to be a degree of risk averse.
- Architectural entrepreneurs can be risk averse as the majority of the founders of enduring firms are not 'risk takers'.
- Regardless of entrepreneurial disposition, well-managed architects' firms can survive for 15 years or longer. However, having such an entrepreneurial orientation or posture could be beneficial if the firm is to survive for 15 years or more.
- The traits often associated with entrepreneurs are present (or have been developed) in many of the founders of enduring architects' firms regardless of firm size.
- Most of the enduring firms in the sample were started by proactive individuals. This indicates that having this trait could be advantageous for the founders of architects' firms.
- It could be advantageous, but not essential, for the founders of an architects' firm to be competitive.
- Enduring architects' firms can be started for 'push' or 'pull' reasons, but most enduring architects' firms were started for 'pull'-type reasons.
- Opportunities for architects can be found by developing networks, being vigilant and entrepreneurial, by following one's passions or by using past experience (specialisation).
- Architects should also consider intrapreneurship.
- Opportunities exist if architects can develop entrepreneurship skills.

5.2.2 Creativity

The first question asked respondents to 'describe the role that creativity plays within their firm - both in terms of positioning the firm and in the way the firm and operations are managed and are employing technology?' (refer to B1 in Addendum C). Seventeen out of a

possible 26 enduring architects' firms (65%) provided a direct response to this question. Their responses are listed in Table 5.13.

Table 5.13 The role creativity plays in firms

Themes	Frequency
It is a matter of principle in all we do	5,8%
Creativity should not be restricted to design only	5,8%
Used it in diversifying the business	5,8%
Applied it in the way in which we present projects	5,8%
We employ it to stay abreast of changes	11,7%
We use it in finding solutions	17,6%
Creativity lies at the core of architectural businesses	23,4%
It is a critical part of generating work	23,4%

This indicate that creativity is used by firms to generate work (23,4%), plays a key role in the functioning of the firm (58,5%), as part of business strategy (5,8%) and to sell their designs (5,8%). Thus, it could be assumed that, creativity is core to the operation of architectural firms.

The second question asked respondents to list some examples that could illustrate how they applied creativity in their firms (refer to B2 in Addendum C). Sixteen out of 26 enduring architects' firms provided examples of creative behaviour in their firms. One firm provided two examples so there was a total of 17 examples. The examples cited cover a range of themes as listed in Table 5.14.

Table 5.14 Application of creative behaviour in enduring firms

Themes	Frequency
Construction methods	11,8%
Knowledge management	5,8%
Solutions that benefit communities	5,8%
Project saving solutions	5,8%
Work procurement	23,5%
Operations	17,6%
Project types undertaken	5,8%
Geographic areas of operation	5,8%
Firm management structure	5,8%
Business diversification	5,8%

The examples cited are of a varying nature. When aggregated, the examples can be grouped as creativity related to:

- Construction methods (11,8%).
- Operations (52,9%).
- Business strategy (23,5%).
- Project related (11,8%).

The above indicate that creativity can play a role in various aspects of an architectural firm's operations and for the benefit of many of the firm's stakeholders.

The third question asked 'did any of the examples listed contribute to your competitive advantage?' (refer to B3 in Addendum C). The direct responses received from the 17 (out of 26 -65%) enduring architects' firms to B2, G7 and B3 were included in the analysis to get answers for question B3. The responses from the majority of firms (76,5%) indicated that there are links between the examples of creativity cited and the firm's competitive advantage. The responses of the remaining 23,5% of firms could not confirm that there were links between the examples of creativity cited and the firm's competitive advantage.

The fact that links could be established between the creative actions and competitive advantage of more than 75% of firms indicate that there is a link between creativity in the firm and building a competitive advantage:

The fourth question asked 'how important a contribution did this attitude play in your firm enduring?' (refer to B4 in Addendum C). Unfortunately, only two direct responses were received which meant results were inconclusive.

The fifth question asked 'do you believe that creativity acts as a moderator between entrepreneurial orientation and entrepreneurial performance?' (refer to B5 in Addendum C). Once again only two direct responses were received which meant that the results were inconclusive.

5.2.2.1 Findings: Creativity

The investigation found that:

- Creativity is used by enduring architects' firms to generate work and it plays a key role in the functioning of the firm, is a part of business strategy and is employed to sell design proposals.

- Creativity is core to the operation of enduring architectural firms.
- Creativity can play a role in various aspects of an architectural firm's operations to the benefit of many of a firm's stakeholders.
- If it is accepted that architects are creative by nature, transferring this ability to all spheres of the firm's activities should be encouraged by a profession-specific EET framework.
- The fact that links could be established between the creative actions and competitive advantage of more than 75% of firms indicates that there is a link between creativity in the firm and building a competitive advantage.

5.2.3 Innovation

The first question asked the 26 enduring architects' firms to 'describe the role that innovation plays within your firm - both in terms of positioning your firm and in the way that the firm and operations are managed and are employing technology?' (refer to C1 in Addendum C). Thirteen of 26 enduring architects' firms (50%) directly responded to the question. Two firms cited two examples resulting in a total of 15 examples. The examples cited cover a broad spectrum of activities and can be grouped into 10 themes as listed in Table 5.15.

Table 5.15 Innovative practice in enduring architects' firms

Themes	Frequency
Resolving problems central to the service offered	6,7%
Expanding beyond architecture	6,7%
Human Resources strategy	6,7%
Communication (between international offices)	6,7%
Diversification of services	6,7%
Procurement of work	13,3%
Policies and procedures	19,9%
Organisational design	19,9%
Project structure	6,7%
Use of technology	6,7%

Accordingly, respondents provided examples of innovations introduced into their firms that cover ten different themes which represent various fields in firm management. If the ten themes are aggregated they can be grouped into two mega-themes namely:

- Innovations relating to firm operations.
- Innovations relating to business strategy.

The responses indicate that innovation is part and parcel of starting and managing an enduring architects' firm.

The second question asked enduring architects' firms 'has your firm developed any new processes or procedures?' (refer to C2 in Addendum C). Eleven out of 26 enduring architects' firms (42%) provided direct responses to the question. Four firms provided more than one example of new processes or procedures developed resulting in a total of 15 examples. The examples provided covered a wide range of applications. The examples were combined with the examples provided to the following question.

The third question asked 'can you list some examples?' (refer to C3 in Addendum C). Twenty-five of the 26 (96.2%) enduring architects' firms surveyed provided direct responses to this question. Sixty-three examples were provided. The examples cited relate to eleven aspects of architectural business as listed in Table 5.16.

The application of innovations as cited cover a wide array of architectural business. The large number of examples cited is in keeping with the creative nature of architects.

Table 5.16 Innovation of processes and procedures by enduring firms

Themes	Frequency
Innovation relating to the way the firm communicates with contractors or communities	6,3%
Innovations pertaining to operations	36,5%
Innovations relating to financial management	11,1%
Innovations regarding to the way firms get projects off the ground	1,6%
Innovations pertaining to operative and managerial systems	14,3%
Innovations relating to the firm's service offering	1,6%
Innovations regarding marketing and client relationships	7,9%
Innovations relating to construction methods and processes	6,3%
Innovations regarding human resources management	7,9%
One innovation regarding strategic management	1,6%
Innovations pertaining to risk	4,8%

The fourth question asked 'did any of the examples listed contribute to your competitive advantage?' (refer to C4 in Addendum C). The responses provided by 21 out of 26 of enduring architects' firms (81%) were compared with their competitive advantages as per their responses to question G7 (refer to Addendum C). In the majority of instances (48%) no conclusive link between the cited innovations and the firm's competitive advantages were

evident. In 38% of the cases the link was probable while in the remaining 14% of cases it was evident that there was no direct link between the cited example of innovation and the firm's competitive behaviour.

This seems to imply that the link between innovation and competitive advantage among enduring architects' firms is relatively weak and not as strong as the link between creativity and competitive behaviour. However, innovative actions could result in other significant advantages for the firm and should not be disregarded.

The fifth question asked 'how important a contribution did this attitude play in your firm enduring?' (refer to C5 in Addendum C). Five out of a possible 26 enduring architects' firms (19%) provided direct responses to the question. All respondents indicated that it did contribute to the firm's survival. From the above it can be assumed that innovation can contribute to the endurance of an architects' firm.

The sixth question asked 'do you believe that innovation acts as a moderator between entrepreneurial orientation and entrepreneurial performance?' (refer to C6 in Addendum C) Only three out of 26 enduring architects' firms (11,5%) provided a direct response to the question. All three firms agreed that it does. However, the low response rate negatively impacts on the validity of any findings in this regard. Thus it will be regarded that innovation can possibly act as a moderator between entrepreneurial orientation and entrepreneurial performance.

5.2.3.1 Findings: Innovation

The responses indicate that:

- Innovation is part and parcel of starting and managing an enduring architects' firm.
- Many enduring architects' firms are innovative in the way they conduct their business.
- Innovations can be implemented in the way firms are managed (76,2%), the product or service they deliver (9,5%) and the ways the firms communicate with their stakeholders (14.3%).
- In spite of the relatively weak link between innovation and competitive advantage among enduring architects' firms, innovative actions could result in other significant advantages for the firm.
- Innovation could possibly contribute to the endurance of an architects' firm and could act as a moderator between entrepreneurial orientation and entrepreneurial performance and hence should not be disregarded.

5.2.4 Organisational learning

The first question asked ‘what is your firm’s attitude to organisational learning?’ (refer to D1 in Addendum C). A total of 25 out of a possible 26 enduring architects’ firms (96%) provided direct responses to this question. Their responses are listed in Table 5.17.

While the quality of learning offerings available was criticised and many firms took a more holistic view of organisational learning, the vast majority (92%) of respondents recognised the need for and importance of dedicated organisational learning. Since everyone working in a firm learns from doing, it must be recognised that experiential learning is valuable but cannot be sufficient in present-day practice; specialised training will be required at times.

Table 5.17 Attitudes to organisational learning

Themes	Frequency
We learn from our mistakes	4%
Travel is important	4%
Attends only when essential	4%
Courses on offer are a waste of time	4%
It is important but we prefer to do self-reading	8%
It is important but self-training (books/travel) or in-house training of staff is preferred	16%
Organisational learning is important (no further detail)	24%
There is a need for ongoing education (no further detail)	36%

The second question asked ‘have you or any of your founders attended any entrepreneurial education programmes?’ (refer to D2 in Addendum C). Because this question was a duplicate of Question A7 the responses were conflated with the responses received for A7.

The third question asked ‘have you or any of your founders attended any business management programmes?’ (refer to D3 in Addendum C). Because of the similarity of this question to the previous question, the responses received were also included in the analysis of question A7.

Fifteen out of 26 enduring architects’ firms (57,6%) provided direct responses to the fourth question which asked ‘how important is learning about and employing the latest software to the firm?’ (refer to D4 in Addendum C). While not asked as part of the interview, three firms (A1S, A3C and C3S) indicated that they do not use Computer Aided Draughting themselves

but rather have this done by outside contractors. The responses received from the respondents are listed in Table 5.18.

Table 5.18 Importance of using the latest software

Themes	Frequency
Learning about and using the latest software is not important to us	13%
Learning about and using the latest software is somewhat important to us	27%
Learning about and using the latest software is important to us	27%
Learning about and using the latest software is very important to us	33%

Thus, a few (13%) small or medium-sized firms do not think that learning about and using the latest software is important (some firms outsource all their Computer Aided Draughting work). However, the majority (87%) think it is somewhat important, important or very important. As discussed further on (refer to G7), some firms used the employment of the latest software as a strategic and competitive advantage in growing their firms.

The fifth question asked ‘do you stay abreast of developments in Architectural Design theory?’. Seven out of possible 26 enduring architects’ firms (28%) provided direct responses to this question. Forty-three percent of respondents indicated that they do not endeavour to stay abreast of the latest developments in Architectural Design Theory while 57% indicated that they do. Slightly more than half the respondents indicated that they do consider it important to stay abreast of the latest developments in Architectural Design Theory. This percentage is concerningly low.

The sixth question asked ‘do you subscribe to and read professional journals?’ (refer to D6 in Addendum C). Fourteen out of a possible 26 enduring architects’ firms (54%) provided a direct response to this question. Their responses are tabulated in Table 5.19.

Table 5.19 Reading of professional journals

Themes	Frequency
We never or seldom read professional journals	21%
We regularly read professional journals	79%

It is noteworthy that all three firms who don't read professional journals on a regular basis are small firms. The above indicates that the reading of professional journals is advisable as it is often associated with firms that have grown beyond the small firm category.

The seventh question asked 'do you subscribe to and read business journals?' (refer to D7 in Addendum C). A total of 18 out of a possible 26 enduring architects' firms (69%) provided direct responses to this question. Their responses are listed in Table 5.20.

Only three respondents indicated that the founders of their firms did not read any form of business-related literature at all. It is again noteworthy that these responses are from two small firms and one medium-sized firm. A further two firms could only point to a single business-related book that their founders had read. The remaining 72% do read business/financial-related literature on a regular basis. Thus, it appears that there is value for architects in regularly reading business/finance-related literature.

Table 5.20 Reading of business journals

Themes	Frequency
The firm's founders do not read business journals; they read the financial section of newspapers	33%
The firm's founders do read business journals	22%
The firm's founders did not read any business journals or books	17%
The firm's founders read business books and the financial sections of newspapers.	17%
The firm's founders had read a business-related book.	11%

Question eight asked 'do you believe that organisational learning capacity acts as a moderator between entrepreneurial orientation and entrepreneurial performance?' (refer to D8 in Addendum C). Only four out of a possible 26 enduring architects' firms (15%) provided direct responses to this question. While the response rate is low the respondents were unanimous in confirming that organisational learning capacity acts as a moderator between entrepreneurial orientation and entrepreneurial performance.

Thus, it was accepted that the founders of enduring architects' firms believe that organisational learning capacity acts as a moderator between entrepreneurial orientation and entrepreneurial performance.

Question nine sought to establish 'how important a contribution this attitude played in your firm enduring?' (refer to D9 in Addendum C). Only four out of a possible 26 enduring

architects' firms (15%) provided direct responses to this question. While the response rate was low, the respondents were unanimous in confirming that organisational learning made an important contribution to their firm's enduring. Thus it is apparent that the founders of enduring architects' firms believe that organisational learning capacity supports a firm's survival and endurance.

5.2.4.1 Findings: Organisational learning

When the foregoing is synthesised, the following findings can be made from the answers obtained:

- The vast majority (92%) of respondents recognised the need for and importance of dedicated organisational learning.
- Experiential learning is valuable but cannot be sufficient in present-day practice.
- The majority of enduring architects' firms (87%) think it is somewhat important, important or very important to employ the latest software.
- The reading of professional journals is advisable as it is often associated with firms that have grown beyond the small firm category.

5.2.5 Firm structures

The first question asked 'how is your firm structured?' (styled or legal format) (refer to E1 in Addendum C). Twenty out of 26 enduring architects' firms (77%) provided direct responses to this question. Their responses are listed in Table 5.21.

Table 5.21 Firm style of enduring architects' firms

Themes	Frequency
Closed Corporations	40%
Private Companies	25%
Sole Proprietorships	25%
Partnerships	5%
Incorporated Companies	5%

This indicates that all the formats or styles of practice available to South African architects' firms are used by enduring architects' firms.

The second question asked 'what lead to the firm adopting this structure?' (refer to E2 in Addendum C). Fourteen of the 26 founders of enduring architects' firms (54%) interviewed

provided direct responses to this question. Four firms each provided different reasons as listed in Table 5.22.

Table 5.22 Reason for choice of firm style

Themes	Frequency
Distrust of others	7%
A partnership's implication of trust	7%
The audit requirements and status inherent in a private company	7%
A private company allows you to manage your firm like a business	7%
On advice from Financial Advisors	14%
The (perceived) protection of personal assets against professional liability claims	36%
The simplicity the option offered	22%

Thus, it shows that enduring architects' firms choose the style or format of their firm based on a variety of considerations. These are:

- For financial reasons.
- For personal reasons.
- As a form of protection.
- For the sake of simplicity.
- Because of the values it espouses.

The third question asked 'is this structure a form of innovation?' (refer to E3 in Addendum C). Regrettably, only 7,6% of firms provided direct responses which meant that no conclusive findings could be made.

The fourth question asked 'do you make use of outside contractors?' (refer to E4 in Addendum C). Question set K9 asked the same question from an operations management perspective. Since that is a more appropriate angle for this aspect the responses to this question were combined with the results of K9 (refer to Addendum C).

The fifth question asked 'how important a contribution did this structure play in your firm enduring?' (refer to E5 in Addendum C). Unfortunately, only 7,6% of firms provided direct responses which meant that no conclusive findings could be made.

5.2.5.1 Findings: Firm structures

The investigation into the topic of firm structure found that:

- All the formats or styles of practice available to South African architects' firms are used by enduring architects' firms and that firms choose the style or format of their firm based on a variety of considerations.
- The choice is based on financial reasons, personal reasons, to provide a form of protection, for the sake of simplicity, or because of the values it espouses.
- That firm structure or style, by itself, is not a critical factor affecting the endurance of a firm, provided that measures are put in place to protect assets as far as possible against claims from outside the firm.

5.2.6 Firm values

The first question asked 'does your firm have an articulated set of values that it subscribes to?' (refer to F1 in Addendum C). Nineteen out of 26 (73%) enduring architects' firms provided direct responses to the question. Their responses are shown in Table 5.23.

Table 5.23 Articulated values existing in enduring firms

Themes	Frequency
No articulated set of values	11%
Firm values available in writing	21%
Values are brought to the attention of staff but these are not in writing	68%

The above indicates that the vast majority (89%) of respondents subscribed to specific values but only four firms had these in written format. Considering the strategic and organisational importance of values, in any type of business, but even more so in the case of a professional firm, architects' firms must be made aware of the importance of clearly articulating the firm's values in written format because of the role such an articulated values statement can play as part of their communication with clients, potential clients and staff.

The second question asked 'would you describe yourself as a "practice-centred business" or a "business-centred practice?"'(refer to F2 in Addendum C). From the sample of 26 enduring architects' firms interviewed, 17 firms (65%) provided direct responses to this question. The responses received are summarised in Table 5.24 and Figure 5.3.

Table 5.24 Practice/business orientations among enduring firms

Themes	Frequency
Firms considering themselves to be 'practice-centred businesses'	70,5%
Firms considering themselves to be 'business-centred practices'	11,7%
Firms considering themselves to be a combination of 'business-centred practices" and 'practice-centred businesses'	17,6%

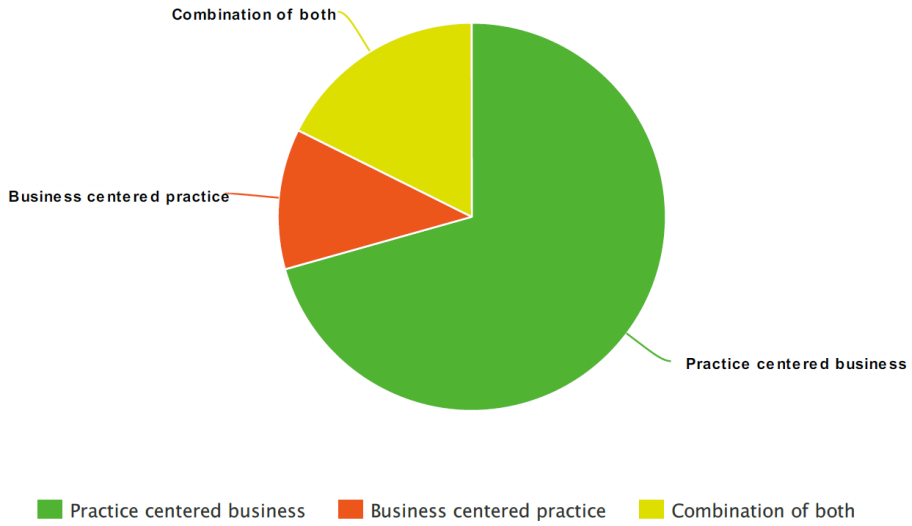


Figure 5.3 Practice/business orientations among enduring firms

This indicates that most of the enduring architects' firms surveyed regard themselves as a pure 'practice-centred business' with some enduring architects' firms regarding themselves as a bit of both - a practice-centred and a business-centred firm - while few enduring architects' firms regard themselves as business-centred practices. The fact that the majority of respondents consider themselves to be 'practice-centred businesses' or a variation thereof suggests that 'practice-centred businesses' might have an increased likelihood of achieving enduring-firm status.

The third question asked 'what are your firm's business-centred aims?' (refer to F3 in Addendum C). Fifty percent of the 26 enduring architects' firms surveyed provided direct responses to this question. The responses received are summarised in Table 5.25.

Table 5.25 Business-centred aims of enduring firms.

Themes	Frequency
No specific business-centred aims	15%
To increase our international footprint	15%
To contribute to society	7,7%
To perform good work in order to sustain the business for the benefit of the people involved	7,7%
To produce the best we can for our clients	7,7%
To produce humane and sustainable environments	7,7%
To pay the bond	7,7%
To do quality work	7,7%
To keep the project running	7,7%
To hand over to the next generation to grow the firm further	7,7%
To use what we have as a foundation for further growth	7,7%

The aims are of a varying nature. However, if the varying aims listed are aggregated, they can be reduced to the following:

- To grow from the current base
- To produce good quality work
- To do work that improves the human experience
- To keep going

Most of the aggregated aims might be regarded as worthy but, with the exception of the first, do not indicate a strong entrepreneurial orientation, confirming the findings in A1 (refer to Addendum C). This again highlights the need for steps to enhance the entrepreneurial orientation of architects.

The fourth question asked ‘what are your firm’s person-centred aims?’ (refer to F4 in Addendum C). Fifteen of the 26 founders of enduring architects’ firms (57,6%) interviewed provided direct responses to the question. Each respondent provided a unique aim. The aims provided are listed in Table 5.26.

Table 5.26 Person-centred aims of enduring firms

Themes	Frequency
To give effect to my humanistic values	6,7%
To help staff achieve their potential	6,7%
To create career paths for members of staff	6,7%

To give the country my services as an architect	6,7%
To give recognition to staff	6,7%
To keep going	6,7%
To leave a legacy of well-designed buildings and reasonably happy clients	6,7%
To have an enjoyable lifestyle	6,7%
To create a positive environment for staff to work in	6,7%
To set up a satellite school of architecture	6,7%
To find enough free time to do sculpture	6,7%
To travel extensively	6,7%
Do more environmentally sensitive buildings	6,7%
To be able to take 3-4 months leave annually	6,7%
Having a strong succession plan	6,7%

The aims listed are of a widely varying nature but can be aggregated to the following mega-themes:

- Personal aims of some of the founders of enduring architects' firms relate to lifestyle (26,6%).
- Personal aims of some of the founders of enduring architects' firms relate to their staff (33,4%).
- Personal aims of some of the founders of enduring architects' firms relate to society and the environment (33,4%).
- Personal aims of a few of the founders of enduring architects' firms are simply to keep going (6,7%).

With the exception of the last aggregated aim, all the aims can be considered worthy but not ambitious. Interestingly the two most popular aggregated aims relate to staff and the environment while personal aims and lifestyle-related aims are less common.

The fifth question asked 'how important a contribution did these values play in your firm enduring?' (refer to F5 in Addendum C). Nine out of the 26 founders of enduring architects' firms surveyed (34.6%) provided direct responses to the question. The responses are summarised in Table 5.27.

Table 5.27 Role of firm values in firm's endurance

Themes	Frequency
Values are very important because architects work with their client's money	33,4%
Values are very important because they give expression to the firm's goals and philosophy	22,2%
Values are very important (no specific reasons provided)	44,4%

Three respondents (33,4%) believe that values are very important because architects work with their clients' money. Two respondents (22,2%) believe values are very important while four respondents (44,4%) simply regard values as very important. Therefore it would seem that values played a very important role in the survival of enduring architects' firms.

5.2.6.1 Findings: Firm values.

Considering the strategic and organisational importance of values, in any type of business, but even more so in the case of a professional firm, architects' firms must be made aware of the importance of clearly articulating the firm's values in written format because of the role such an articulated value statement can play as part of their communication with clients, potential clients and staff.

The fact that the majority of respondents consider themselves to be 'practice-centred businesses' of sorts suggests that 'practice-centred businesses' might have an increased likelihood of achieving enduring firm status.

The aims espoused by many respondents do not indicate a strong entrepreneurial orientation, confirming some of the findings of topic theme A. This again highlights the need for steps to enhance the entrepreneurial disposition of architects.

5.2.7 Competitive positioning

The first question asked 'did you or the founders of your firm engage in detailed strategic or operational planning before starting out?' (refer to G1 in Addendum C). Eight out of the possible 26 respondents (30,7%) from enduring architects' firms interviewed provided the direct responses to this question: Four respondents (50%) indicated that they did not do any form of strategic planning before starting out, while an equal proportion indicated that they did.

More respondents provided information related to this question but their responses did not respond directly to the question. As such the question established that only about 50% of responding enduring architects' firms did some form of strategic or business planning before starting out. This could be as a result of the absence of some form of entrepreneurship education or training uncovered in A7 (refer to Addendum C) and/or the low levels of entrepreneurial orientation uncovered in A1 (refer to Addendum C).

The second question asked ‘do you have articulated vision and mission statements?’ (refer to G2 in Addendum C). Of a possible 26 enduring architects’ firms’ 17 respondents (65%) provided direct responses to this question. Four of the respondents (23,5%) indicated that they have articulated vision and mission statements while the majority (76,4%) of respondents indicated that they do not.

The third question asked ‘did you position your firm as a strong delivery, strong experience, strong ideas or anything that comes through the door firm?’ (refer to G3 in Addendum C). The founders of 15 of the 26 of the enduring architects’ firms (58%) interviewed provided direct responses to this question. Their responses are summarised in Table 5.28.

Table 5.28 Business models of enduring firms

Themes	Frequency
Two firms indicated that they are strong ideas firms	13%
Two firms indicated that they see themselves as strong delivery firms	13%
Four firms indicated that they consider themselves to be strong experience firms	27%
Seven firms consider that they are a combination of all three types	47%

So it was found that 47% of the surveyed enduring architects’ firms regard themselves as firms that are strong on ideas, delivery, and experience while some enduring architects’ firms regard themselves as strong experience firms (27%) and two smaller groupings see themselves as strong ideas and strong delivery-type firms (13% each).

This begs the question of whether the biggest group see themselves as a mixture of the three types because of a lack of strategy, or because they have been forced into this situation as a means of surviving the low levels of economic activity that often stuns growth.

The fourth question asked ‘is your firm competing as cost-leaders or have you managed to differentiate your product offering?’ (refer to G4 in Addendum C). Only five of the 26 founders of enduring architects’ firms (19%) provided direct responses to this question. Their responses are listed in Table 5.29.

Table 5.29 Differentiation amongst enduring architects' firms

Themes	Frequency
One firm indicated that they compete on the basis of cost	20%
Two firms indicated that they competed on the basis of a differentiated offering	40%
Two firms indicated that they did not compete in terms of either of the above	40%

This shows that 60% of the firms who responded developed some form of competitive strategy.

The fifth question investigated the question 'has your firm managed to become specialists in one or more building types?' (refer to G5 in Addendum C). Twenty of the possible 26 (77%) of the founders of enduring architects' firms provided direct responses to this question. Their responses are summarised in Table 5.30.

Table 5.30 Specialisation amongst enduring architects' firms

Themes	Frequency
Four firms indicated that they have not developed a speciality	20%
Twelve firms indicated that they developed a speciality	60%
Four firms indicated that they have become multi-building-type specialists.	20%

In total, 80% of responding enduring architects' firms have developed some form of speciality. This could indicate that it is advantageous for a firm to develop either a single building type or multi-building-type speciality.

The sixth question asked 'did the "contacts" or personality of the founder play a role in the firm's enduring?' (refer to G6 in Addendum C). Only six out of 26 (23%) respondents of enduring architects' firms gave a direct response to this question which constitutes a low response rate. However, of the six respondents, five respondents (83%) agreed that their founder's 'contacts' did play a role in the firm's survival with one respondent (17%) indicating the opposite.

The relatively low response rate means that conclusive deductions could not be made. Thus it would seem that there might be a link between the founders' connections and a firm's endurance.

The seventh question asked ‘what do you regard as your competitive advantage?’ (refer to G7 in Addendum C). Nineteen of the 26 (73%) founders of enduring architects’ firms interviewed provided direct answers to this question. Their responses are summarised in Table 5.31.

Table 5.31 Competitive advantage of enduring architects’ firms

Themes	Frequency
My systems	5%
Being politically connected	5%
People skills	5%
Completing projects on time and within budget	5%
High levels of care	5%
Big match experience	5%
Marketing coupled with design and project management skills	5%
Design backed up by technology and marketing	5%
Flexibility	5%
Being ‘multi-professional’	11%
Being able to produce innovative solutions	11%
Experience with specific building types	16%
Delivery	16%

Aggregating the results indicated that some responding enduring firms have built up a competitive advantage based on:

- Specific skills and knowledge or experience.
- Use of technology.
- Marketing.
- Delivery and connections.

The eighth question asked ‘are you aware of who your biggest competitors are and what their strengths and weaknesses are?’ (refer to G8 in Addendum C). Fifteen of the 26 (58%) enduring architects’ firms interviewed provided direct responses to this question. Their responses are listed in Table 5.32.

Fifty-four percent of respondents to Question A6 (refer to A Topic theme Addendum C) indicated that they regard themselves as ‘competitive’. The responses listed above confirm the previous indicators with 53,1% of respondents indicating that they know who some of their competitors are. However, some of the attitudes expressed are not what would be expected from persons with high levels of entrepreneurial orientation.

Table 5.32 Competitor awareness amongst enduring architects' firms

Themes	Frequency
Five of the respondents indicated that they do know who their competitors are and what their strengths and weaknesses are.	33,4%
Four respondents indicated that they did not know.	26,7%
Two respondents indicated that they know who they are but that they don't know what their strengths and weaknesses are.	13%
One firm indicated they know who their competitors are in some of the types of work they do.	6,7%
One respondent indicated that he doesn't view them as competitors but as colleagues.	6,7%.
One respondent believes that all small practices are in competition with each other and that it thus is impossible to know their individual strengths and weaknesses.	6,7%
One respondent believes that all architects' firms are in competition with each other.	6,7%

The ninth question asked 'in your opinion, what other attributes can South African architects' firms develop into a competitive advantage?' (refer to G9 in Addendum C). Only five out of 26 (19%) enduring architects' firms interviewed provided direct responses to this question. Their responses are summarised in Table 5.33.

Table 5.33 Competitive advantage options for architects' firms

Themes	Frequency
Ability to deliver buildings more efficiently and more cost effectively	40%
Specialise in specific building types.	20%
Providing excellent service.	20%
Rapid service delivery.	20%

Accordingly, it was found that ways in which firms can develop a competitive advantage include learning to provide superior service, deliver buildings more speedily, efficiently and more cost effectively or by specialising in certain building types.

The tenth question asked 'do you do regular strategic planning?' (refer to G10 in Addendum C). Fifteen out of 26 (57,6%) respondents from enduring architects' firms provided direct answers to this question. The responses are summarised in Table 5.34.

Table 5.34 Frequency of strategic planning amongst enduring firms

Themes	Frequency
Three firms indicated that they do it on an informal basis	20%
Four firms indicated that they don't do it	26,6%
Eight firms indicated that they do it formally	53,4%

Thus, it was established that most (73,4%) of the responding enduring architects' firms surveyed do regular strategic planning, either formally or informally. However, it is noteworthy that 20% of the responding enduring architects' firms don't do any strategic planning.

The eleventh question asked: 'can you cite examples of initiatives or changes resulting from your strategic planning activities?' (refer to G11 in Addendum C); the twelfth asked 'is your firm aggressively pursuing specific quantitative or qualitative goals and objectives?' (refer to G12 in Addendum C); and the thirteenth asked 'how did your competitive stance play a role in the firm's enduring? (refer to G13 in Addendum C). Unfortunately insufficient direct responses were received to all three questions. Hence, no deductions could be made regarding these three questions.

5.2.7.1 Findings: Competitive positioning

The foregoing questions established that:

- Only about 50% of responding enduring architects' firms did some form of strategic or business planning before starting out.
- Very few of the surveyed enduring architects' firms have articulated mission and vision statements.
- Many surveyed enduring architects' firms regard themselves as firms that are strong on ideas, delivery, and experience, while some enduring architects' firms regard themselves as strong experience firms, and two smaller groupings see themselves as strong ideas and strong delivery-type firms.
- Twenty percent of enduring architects' firms surveyed compete on the basis of cost while 40% compete on the basis of a differentiated offering, and 40% do not compete on the basis of either.
- At least 60% of the firms who responded developed some form of competitive strategy.

- In total, 80% of responding enduring architects' firms have developed some form of speciality. This could indicate that it is advantageous for a firm to develop either a single building-type or multi-building-type speciality.
- It would seem that there might be a link between the founders' connections and the firm's endurance.
- Responding enduring firms have built up a competitive advantage based on specific skills and knowledge/experience, use of technology, marketing delivery and connections.
- Ways in which firms can develop a competitive advantages include learning to provide superior service; delivering buildings more speedily, efficiently and more cost effectively, and/or by specialising in certain building types.
- Most of the responding enduring architects' firms surveyed do regular strategic planning, either formally or informally. However, a number of the responding enduring architects' firms don't do any strategic planning.

Competitive positioning and competitive attitudes amongst some (but not all) enduring architects' firms are at low levels. Firms were started, and some continue, without any strategy or articulated vision or business plan in place. Some firms continue without any specific competitive advantage or without having developed specialities. This contradicts some of the answers obtained under Topic A where the majority indicated that they considered themselves to be competitive. However, it does confirm earlier findings that the entrepreneurial orientation of enduring architects' firms is an aspect that is lacking. This could possibly be because so few of the respondents attended some form of business/entrepreneurial education and training. While the result cannot be generalised, a profession-specific EET programme that includes strategic management could ensure that this situation is not repeated for future firms.

5.2.8 Business management style and policies

The first question asked 'do you believe architects' firms present a unique managerial challenge?' (refer to H1 in Addendum C). Nineteen out of 26 firms (73%) responded directly to this question. Their responses were as follows:

- Seventeen of the respondents (89,5%) agreed that architects' firms present a unique managerial challenge.
- Two firms (10,5%) indicated that they couldn't say.
- Six firms (31,5%) did not give any reasons why they hold this position.

Various reasons why it is considered to be challenging were offered (read with the next question H2). The reasons offered are tabulated in Table 5.35.

Table 5.35 Reasons why architects' firms are seen as a unique managerial challenge

Themes	Frequency
Due to the nature of the service which architects offer	10,5%
Due to attitudes and personalities of people in the profession	10,5%
Due to the complexity of the architect's function	5,3%
Because architects sell time and not products	5,3%
Because they are dealing with different people with different skills levels all the time	5,3%
Because of the cost of performing this service	5,3%
Because it is a fickle business	5,3%
Because of its relation to economic cycles coupled with a lack of business skills training	5,3%
Because it is considered to be very difficult to make money in this profession	5,3%

Thus, it was found that architects' firms present a unique managerial challenge because of the complexity of the role of an architect, the personalities and persons involved, the low skills levels in the building industry, the nature of the service demanded, and for economic and financial environmental reasons.

The second question asked 'what are the aspects that contribute to this challenge?' (refer to H2 in Addendum C). Fifteen enduring architects' firms provided direct responses to this question. Eight firms (53%) offered more than one reason while the remaining 47% offered single explanations. The explanations offered can be grouped into three mega-themes, namely:

- People Management: dealing with people, both staff and clients (mentioned by 60% of respondents).
- Operating or operational managerial problems (mentioned by 73.3% of respondents).
- Client relations (mentioned by 40% of respondents).

The responses to the first question also have relevance in this regard (see above). While it is difficult to compare the percentages because firms offered more than one answer in this question, the reasons offered still fall into the same three groups. Thus, if the results are synthesised, it can be concluded that the challenges identified fall into two broad areas,

namely operational and business-related problems as the first group, and people or human relationship-related problems as the second group.

The third question asked 'which of these challenges are common to architects' firms internationally and which are South Africa-specific?' (refer to H3 in Addendum C). Ten enduring architects' firms (38,5%) provided a direct response to this question. Their responses are shown in Table 5.36 and Figure 5.4.

Table 5.36 Unique challenges of managing a South African architects' firm

Themes	Frequency
It is actually easier to manage a firm in South Africa	10%
BBBEE is the major challenge	50%
Because of bureaucratic impediments	10%
Because architects are not taken seriously	10%
Due to South Africa's developing country situation	20%

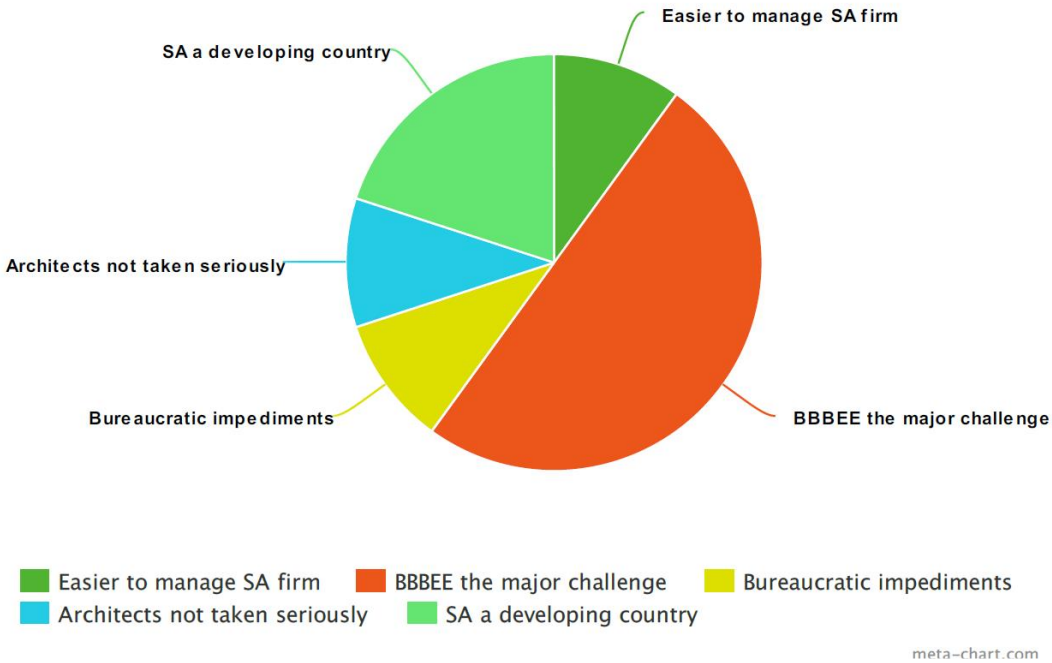


Figure 5.4 Unique challenges of managing a South African architects' firm

Of the 10 enduring architects' firms that provided a direct response to this question approximately 10% believe that it is actually easier to manage a firm in South Africa. As far

as the nature of the differences is concerned, approximately 50% of the respondents identified BBBEE as the major challenge. However, it is interesting to note that diversity and demographics features strongly in the latest (15th) edition of the AIA's *The architect's handbook of professional practice* (AIA 2014:27), giving credence to the view that managing a South African architects' firm is different, but not entirely so. As indicated in 1.5 on page 22 and 2.2.1 on page 46, the problem faced by South African firms relates mostly to the shortage of qualified black architectural staff and the implications this has on their ability to qualify for work from the government and other sectors. None of the respondents indicated that they have any problem with the principle of economic redress.

The fourth question asked **'**how does your firm deal with the SA-specific challenges?' (refer to H4 in Addendum C). Seven enduring architects' firms directly responded to this question. Their responses are summarised in Table 5.37.

Table 5.37 Ways in which enduring firms respond to uniquely South African challenges

Themes	Frequency
By insisting on contract documentation that is of a very high standard	28,5%
We withdraw from a project as soon as anything untoward comes up and by providing in-house staff training to sensitise staff regarding ethical risks while lobbying for change via SACAP	14,3%
By adopting their procedures to local culture and the ways of doing things	14,3%
By selecting and appointing staff carefully	14,3%
By forming joint ventures that will have a favourable BBBEE rating and ensuring that all the basic agreements are in place before starting a new project. Thereafter, they accept the identified challenges as business challenges and deal with them as such; there are challenges in all countries	14,3%
By identifying and employing high potential graduates and developing these (through mentorship) to meet their BBBEE requirements	14,3%

As such, it was found that the enduring architects' firms surveyed have responded in various different ways to the perceived unique challenges facing South African architects' firms. Some responses relate to the way they operate or the way they are structured while others relate to staff selection, appointment and development.

The fifth question asked 'how will this challenge vary between smaller and bigger firms?' (refer to H5 in Addendum C). Six enduring architects' firms directly responded to this question (23%). All agreed that the managerial challenges faced by larger and smaller firms are different. Each of the six respondents offered a different point of view. These are summarised in Table 5.38.

Table 5.38 Difference in challenges faced by small and large firms

Themes	Frequency
Managing a bigger firm is more demanding, but in a predictable or standardised way, while managing a small one is more unpredictable: in a small firm each problem tends to be unique	1 firm
Procedurally managing a small firm is less cumbersome	1 firm
It is better to be either very small or very big. Managing a large firm (as opposed to a biggish firm) you have increased capacity to absorb fluctuations in workload, and directors and others can develop specialist roles such as Human Resources or finance. Also in large firms, the pool of suggestions on how to solve a problem is bigger and hence the level of decisions taken is often one or more notches higher	1 firm
Bigger firms are more assertive than smaller ones and there are times when 'size counts'	1 firm
Bigger firms can have specialist departments taking responsibility for various functions. Small firms rely on 'jacks of all trades'	1 firm
The output of staff in bigger firms is considered to be lower than output in small firms	1 firm

Thus, it was found that the respondents believe that managing a small firm has advantages over managing a bigger firm, for instance, managing a small firm is regarded as simpler from a procedural point of view. Respondents also believe that managing a big firm can be more demanding than managing a smaller one. However, they also believe that large firms have certain advantages such as increased capacity to absorb fluctuating workloads and other demands made on the firm; they offer the chance to develop specialist managerial skills and a wider range of proposed solutions when problems are encountered. Furthermore, the stature of bigger firms could be an advantage.

The sixth question asked **'**how would you describe your management style?' (refer to H in Addendum C). Twenty-two firms responded directly to this question (85%). In doing so the founders of the firms indicated their own understanding of their management style (their employees might have different perceptions!). The responses received from the respondents were, for the sake of convenience, cursorily classified[12] into the management styles as described by Cram (2010) and Tutorialspoint.com ([sa]) and are listed in Table 5.39.

12 Proper classification would require deeper analysis. Also, according to the Situational Leadership Model, management styles are not static (Blanchard, Zigarmi & Zigarmi 2000).

Table 5.39 Management style of respondents

Themes	Frequency
'Autocratic' management style	18%
'Consultative' style	18%
'Participative' style	55%
'Laissez-faire' style	9%

It was found that 22 out of the 26 enduring architects' firms that responded directly to this question practice a wide range of management styles and that the 'participative' style is used by most of the respondents. The 'consultative' and 'autocratic' styles are practiced by equal portions of the sample while a small group use the 'laissez-faire' style.

Considering that architects' firms are staffed by professionals who operate in teams (refer to Operations Management further on and K2 in Addendum C), the participative or consultative styles of management would be the best suited styles to employ, as is done by 73% of the interviewees. However, the fact that 27% of respondents use other styles is of concern, particularly the 18% who use the autocratic style. Considering responses to earlier questions regarding challenges faced and the indication that staff relations is a major problem for some firms, it is revealing that a number of firms still practice the autocratic management style.

The seventh question asked 'does your firm have any set policies?'(refer to H7 in Addendum C). Twenty-one firms directly responded to this question (81%). Their responses are summarised in Table 5.40.

Table 5.40 Availability of set policies in enduring firms

Themes	Frequency
We don't have any policies of any sort in place	41%
We don't have any policies but do have set parameters regarding aspects such as working hours, project performance and performance management	9,5%
We have policies and/or practice manuals in place. These policies cover mostly Human Resources-related matters, ethics, procedures and quality standards	49,5%

Thus 41% of the enduring architects' firms that directly responded to this question do not have any form of policy on any topic in place. This could result in inconsistent behaviour and treatment of staff or services offered. Considering earlier indications that client and staff relations often are a problematic aspect in firms, this aspect could be a contributing factor. In

addition, considering the uniquely South African challenges indicated, the absence of clear policies to guide operations is a glaring omission.

The eighth question was 'what do these policies cover?'. The responses received were incorporated in the previous paragraph. The responses to the ninth and tenth questions were inconclusive because fewer than three firms responded to these questions.

5.2.8.1 Findings: Business management style and policies

From the above it is apparent that:

- The respondents believe that South African architects' firms present a unique managerial challenge.
- The major challenges identified fall into two broad areas, namely operational and business-related problems as the first group, and people or human relationship-related problems as the second group.
- The respondents believe the situation is caused by the complexity of the role of an architect, the personalities and persons involved the low skills levels in the building industry, the nature of the service demanded, and for economic and financial environmental reasons.
- Black Economic Empowerment regulation is regarded as the major unique challenge[13].
- The firms surveyed have responded in various different ways to the perceived unique challenges facing South African architects' firms: some responses relate to the way they operate or the way they are structured while others relate to staff selection, appointment and development.
- Managing a small firm has definite advantages over managing a bigger firm and managing a big firm can be more demanding than managing a smaller one.
- Managing a small firm is regarded as simpler from a procedural point of view.
- Large firms have certain advantages such as increased capacity to absorb fluctuating workloads and other demands made on the firm, the chance to develop specialist managerial skills, and a wider range of input when problems are encountered.
- The stature of bigger firms could be an advantage.
- The respondents practice a wide range of management styles and the 'participative' style is used by most of the respondents.
- The 'consultative' and 'autocratic' styles are practiced by two smaller but significant portions of the sample while an even smaller group uses the 'laissez-faire' style.

[13] Due to the shortage of black architects, Black Economic Empowerment legislation and the preference afforded to black-owned businesses is regarded as the major challenge, as highlighted by Chakarisa (2016:11). Also refer to sections 1.5 and 2.2.1 for a more detailed exploration of the problem.

Considering indications that staff relations is often a problematic aspect in firms, the absence of policies regarding a number of managerial aspects, including human resources, could be a contributing factor. Policies ensure consistent and predictable reactions to crises, requests, proposals and even-handed treatment of all staff. In addition, considering the uniquely South African challenges indicated, particularly BBBEE, the absence of clear policies to guide operations needs attention.

5.2.9 Financial management

The first question asked 'do you employ a full-time financial manager or do you use an outside agent/consultant?' (refer to J1 in Addendum C). Twenty-three of the 26 (or 88%) of enduring architects' firms surveyed provided direct responses to this question. Their responses are summarised in Table 5.41.

Table 5.41 Internal or external financial managers in enduring firms

Themes	Frequency
Three respondents indicated that they use a financial managerial person (no further detail)	13%
An internal non-specialist	21,7%
An internal specialist	21,7%
An external specialist	21,7%
Combination of internal and external person	21,7%

The second question asked 'do you prepare yearly and/or monthly and/or project budgets?' (refer to J2 in Addendum C). Twenty-three of the 26 possible respondents (88%) from enduring architects' firms provided direct responses to the question. Their responses are reflected in Table 5.42.

Table 5.42 Budgeting in enduring architects' firms

Themes	Frequency
Ten firms indicated that they do not prepare budgets	43%
Twelve firms indicated that they do	52%
One firm indicated that they do cash-flow projections only	4%

From this it would seem that 56% of responding firms do some form of budgeting or financial planning.

The third question asked ‘if so, what do you use as basis?’ (refer to J3 in Addendum C). Eight of the 26 enduring architects' firms interviewed (31%) provided direct responses to this question. The responses indicated that the enduring architects’ firms that do budget use a variety of budgeting models as shown in Table 5.43.

Table 5.43 Budget models used by enduring firms

Themes	Frequency
We use historical data	50%
We use an income/cost model	25%
We use a targeted turnover	12,5%
We use current income	12,5%

The fourth question asked ‘how regularly do you monitor adherence?’ (refer to J4 in Addendum C). Fourteen of the 26 (54%) enduring architects’ firms surveyed provided direct responses to this question. Their responses are shown in Table 5.44.

Table 5.44 Budget control intervals in enduring firms

Themes	Frequency
Monthly and quarterly	7%
Four-monthly	7%
Half-yearly	7%
Yearly	7%
Weekly	14%
Monthly	36%

The responses received indicate that monitoring intervals vary between weekly and yearly. One respondent (B3M) indicated a total disregard for any form of financial management (refer to J4 in Addendum C). Likewise, yearly and even half-yearly budget monitoring reflects a lack of appreciation of the importance of this aspect as part of financial management, or of financial management as a whole.

The fifth question asked ‘do you have monthly statements prepared?’ (refer to J5 in Addendum C). Sixteen of the 26 (62%) enduring architects' firms responded to this question. Their responses are summarised in Table 5.45.

The table show that the majority (69%) of responding enduring architects' firms have monthly financial statements prepared.

Table 5.45 Use of monthly statements in enduring firms

Themes	Frequency
We do	69%
We don't	25%
Only when needed	6%

The sixth question asked 'do you apply the normal tests to monitor costs and profitability?' (refer to J6 in Addendum C). Eleven of the 26 surveyed enduring architects' firms (42%) provided direct responses to the question.

Nine respondents (82%) indicated that they did while two respondents (18%) indicated that they did not. This shows that the majority of the respondents to the question do perform ratio analysis to gauge the firm's profitability, liquidity, etc.

The seventh question asked 'do you use outside auditors?' (refer to J7 in Addendum C). Nine out of the 26 (34.6%) enduring architects' firms surveyed that provided responses to the question all responded in the affirmative (100%). Unfortunately, due to the relatively low response rate, it is not possible to make clear pronouncements on this matter. However, this result could be considered with the results of Question E1 which found that 54% of the firms surveyed have adopted a style of practice that legally requires the use of external auditors or accountants. Thus, it would appear that at least 54%, or more than half of the firms, use external auditors, but it may be possible that as many as 100% of the surveyed enduring architects' firms do so.

The eighth question asked 'do you actively manage your cash flow?' (refer to J8 in Addendum C). Twenty-one of the 26 (80,7%) enduring architects' firms surveyed provided a direct response to this question. The majority of architects' firms surveyed believe cash flow must be managed actively, and they do so, since fifteen of the respondents (71%) indicated that they actively managed their cash flow while only 29% indicated that they did not.

The ninth question asked 'how regularly do you invoice clients?' (refer to J9 in Addendum C). Twenty-two of the 26 (84,6%) enduring architects' firms surveyed responded with a direct answer to this question. Their responses are summarised in Table 5.46. Considering the

impact of invoicing on cash flow it is concerning that only 54% of firms invoice on a monthly basis.

Table 5.46 Invoicing periods in enduring architects' firms

Themes	Frequency
Monthly	54,5%
On completion of work-stage	9%
Three-monthly	4,5%
Depends on project stage	13,6%
When it is strategically appropriate	18%

The tenth question asked 'how regularly do you follow up on outstanding invoices?' (refer to J10 in Addendum C). Only six of the 26 (23%) enduring architects' firms directly responded to the question. The responses received are shown in Table 5.47.

Table 5.47 Following up on unpaid invoices by enduring firms

Themes	Frequency
We follow up after two weeks	17%
We follow up after a month	33%
We follow up 'regularly'	50%

The results indicate that half of the respondents don't have a set follow-up policy.

The eleventh question sought to find out 'on average, how long do you have to wait before receiving payment?' (refer to J11 in Addendum C). Nine respondents from the 26 (34.6%) enduring architects' firms questioned responded to this question. The responses received can be summarised in Table 5.48. While some respondents cited government payments that have been outstanding for up to four years, the fact that private sector clients pay within seven or in some cases 30 days is commendable.

Table 5.48 Payment periods experienced by enduring firms

Themes	Frequency
We normally get paid within 30 days	67%
We normally get paid within seven days unless the government is the debtor	22%
We normally get paid within seven days	11%

The twelfth question asked ‘is non-payment a major problem?’ (refer to J12 in Addendum C). Eighteen of the 26 (69%) enduring architects’ firms provided a direct response to this question. The responses received are shown in Table 5.49.

Table 5.49 Non-payment occurrence

Themes	Frequency
We have experienced it	50%
It is not a problem	44%
It is a major problem	6%

The above indicates that 56% of firms have experienced or are concerned about non-payment but 44% of responding firms do not regard it as a major problem.

The thirteenth question asked ‘what measures do you use to ensure payment?’ (refer to J13 in Addendum C). Eleven of the 26 (42%) respondents from enduring architects’ firms provided direct responses to this question. Their responses are listed in Table 5.50.

Table 5.50 Follow-up mechanisms used by enduring architects’ firms

Themes	Frequency
We hand the non-paying client over to our attorneys for follow up	27%
We use in-house follow up by various members of staff	18%
We give clients advance notice of impending invoices	18%
We charge a deposit	18%
We walk away	9%
We include a payment clause in their appointment agreement	9%

When the varying mechanisms are aggregated, it becomes clear that firms deal with non-payment in three distinct ways, namely:

- Being reactive (45%) by following up once non-payment becomes problematic.
- Being proactive (45%) by taking steps that aim to prevent non-payment.
- Walking away.

The first two (or all three) mechanisms can be used together: all service provider contracts should include clauses that clearly stipulate payment terms and the actions that will result from non-payment. Should non-payment occur, follow-up steps, including dispute resolution

mechanisms, as stipulated in the service provider agreement should follow. If so preferred, one can decide to 'walk away' at any time during the follow-up process.

The fourteenth question asked 'how did your financial management style contribute to your firm's enduring?' (refer to J4 in Addendum C). While four of the 26 (15%) enduring architects' firms interviewed provided useful direct responses to this question, the responses provide valuable pointers which all architects should take note of. The responses (one per firm - 25%) are shown in Table 5.51.

Table 5.51 Management style's contribution to endurance

Themes	Frequency
Planning ahead allowed us to endure	25%
Staying out of debt allowed us to endure	25%
Building up resources (reserves) helped us to endure	25%
Seeking and following advice from financial professionals allowed us to endure	25%

These responses confirm that thorough financial planning and management are of critical importance for the survival of architects' firms.

5.2.9.1 Findings: Financial management

The responses received to the questions posed have shown that:

- Eighty-eight percent of responding enduring architects' firms employ financial administrators comprising either internal non-specialists, internal specialists, external specialists or a combination of internal and external persons.
- Only 56% of responding firms do some form of budgeting or forecasting and thus as many as 44% of responding firms don't practice budgeting - the most basic form of financial management.
- Firms that do budget use a variety of budgeting models.
- Budget monitoring takes place at intervals that vary between weekly and yearly.
- Yearly and even half-yearly budget monitoring reflects low levels of appreciation for the importance of financial management.
- The majority (69%) of responding enduring architects' firms have monthly financial statements prepared.

- Eighty-two percent of the respondents to the question indicated that they do perform ratio analysis to gauge the firm's profitability, liquidity, etc.
- At least 54%, but possibly as many as 100%, of the surveyed enduring architects' firms use external auditors.
- The majority of responding architects' firms (71%) indicated that they actively managed their cash-flow situation.
- When considering the importance of invoicing on cash flow it is concerning that only 54% of firms invoice on a monthly basis.
- Equally concerning is the fact that half of the respondents don't seem to have a set follow-up policy.
- Fifty-six percent of firms have experienced or are concerned about non-payment but 44% of responding firms do not regard it as a major problem.
- Firms deal with non-payment in three distinct ways, namely by being reactive, by being proactive, or by 'walking away'.
- Finally, the responses received confirm that thorough financial planning and management is of critical importance for the survival of architects' firms.

5.2.10 Operations management

The first question asked 'how are your operations (design and production of drawings) managed?' (refer to K1 in Addendum C). Seventeen of the 26 enduring architects' firms interviewed (65%) provided direct responses to this question. The responses are summarised in Table 5.52. They indicate that that 88% of respondents operate on a project basis.

Table 5.52 Operations management in enduring firms

Themes	Frequency
Fourteen firms organise their operations on a project basis	82%
Two firms organise their operations on a work stage basis	12%
One firm use both project and work stage to organise their operations	6%

The second question asked 'do you operate on the basis of work-teams?' (refer to K2 in Addendum C). Ten of the 26 (38,5%) enduring architects' firms interviewed provided a direct response to this question. While the response rate was on the low side, all respondents unanimously indicated that they operate on the basis of work-teams.

The third question asked ‘do you plan and manage your operations using ‘management by objectives’ principles?’ (refer to K3 in Addendum C). Twenty of the 26 enduring architects’ firms interviewed (77%) provided direct responses to this question. Their responses are shown in Table 5.53.

Table 5.53 Application of ‘management by objectives’ principles

Themes	Frequency
Management by objective principles applied	70%
Management by objective principles not applied	25%
Management by objective principles sometimes applied	5%

Thus it was established that 75% of respondents use target dates as a mechanism to manage progress and the meeting of deadlines.

The fourth question asked ‘how tightly are these schedules enforced?’ (refer to K4 in Addendum C). Nine of the 26 enduring architects’ firms interviewed (34,6%) provided direct responses to this question. Responses indicate that:

- Six of the firms (66,7%) indicated that they tightly enforce the targets.
- Three firms (33,4%) indicated that they don’t tightly enforce these targets.

The fifth question asked ‘how do you allow for the fact that design inspiration cannot be time managed?’ (refer to K5 in Addendum C). Eleven of the 26 enduring architects’ firms interviewed (42%) provided direct responses to this question. Their responses are summarised in Table 5.54.

Table 5.54 Time management of design inspiration

Themes	Frequency
Keep on working because solutions or inspiration often appear as they progress	64%
If the first designer can’t get going, they give the project to someone who can	9%
We adjust the overall programme somewhat to give the designer some time in order to create the best design possible	27%

So, it can be said that responding enduring architects’ firms have found ways to complete designs without waiting for inspiration.

The sixth question asked ‘who accepts responsibility for ‘quality?’ (refer to K6 in Addendum C). Thirteen of the 26 enduring architects’ firms interviewed (50%) provided direct responses to this question. The responses are summarised in Table 5.55.

Table 5.55 Responsibility for quality in enduring firms

Themes	Frequency
The firm principal	54%
The project architect	15%
Designated quality controllers inside the firm	8%
The partner in charge	15%
We share the responsibility	8%

Because responsibility can’t be completely delegated, the firm’s principals must ultimately accept the risks associated with quality and liability. However, the principals of responding enduring architects’ firms often delegate this responsibility to others in the firm.

The seventh question asked ‘how important is meeting deadlines to the firm?’ (refer to K7 in Addendum C). Four of the 26 enduring architects’ firms interviewed (15%) provided direct responses to this question. In order to form a more representative picture two indirect responses are also included. The responses are summarised in Table 5.56. Thus it was established that achieving deadlines are important or very important to most (83%) of the responding architects’ firms.

Table 5.56 Meeting deadlines in enduring firms

Themes	Frequency
One firm indicated that it is not important to them	17%
Two firms indicated that they try to meet these targets	33%
One firm indicated that it is very important to them	17%
Two firms indicated that it is not negotiable to them	17%

The eighth question asked ‘do you have any views on punctuality?’ (refer to K8 in Addendum C). Four of a possible 26 (15%) enduring architects’ firms provided direct responses to this question. Unfortunately, the low response level to this question limits the value of any conclusions that can be made in this regard. However, 75% of respondents indicated that punctuality is important to them while one firm’s response (25%) highlighted the benefits of

proper time management. Thus, it seems that punctuality coupled with good time management could be a requirement for firms to reach ‘enduring’ status.

The ninth question asked ‘do you make use of independent contractors? (refer to K9 in Addendum C). Twenty of the 26 enduring architects’ firms interviewed (77%) provided direct responses to this question. Responses indicate that:

- Seventeen of the firms (85%) indicated that they make use of independent contractors.
- Three firms (15%) indicated that they don’t make use of independent contractors.

Therefore, it is clear that outsourcing is a common practice amongst respondent enduring architects’ firms.

The tenth question asked ‘how did your operations management style contribute to your firm’s enduring?’ (refer to K10 in Addendum C). Three of the 26 enduring architects’ firms interviewed (11.5%) provided direct responses to this question. None of the responses provided an explanation of ‘how’ their management style contributed to their endurance. However, two firms indicated that they believed it contributed, while one firm indicated that they believed it did not. Unfortunately, due to the low response rate and divergent views, no convincing findings can be made.

5.2.10.1 Findings: Operations management

The questions posed found that:

- Eighty-eight percent of respondents organise their operations on a project basis.
- All respondents indicated that they operate on the basis of work-teams.
- Seventy-five percent of respondents use target dates as a mechanism to manage progress and meeting of deadlines.
- Two thirds of respondents indicated that they enforce target dates tightly while the remainder indicated that they do not enforce them very rigidly.
- Responding enduring architects’ firms have found ways to complete designs without waiting for inspiration.
- Achieving deadlines are important or very important to most (83%) respondent enduring architects’ firms.
- Punctuality coupled with good time management could be a requirement for firms to reach ‘enduring’ status.

- As far as quality management is concerned it was confirmed that ultimately the firm's principals must accept the risks associated with quality and liability.
- The principals of responding enduring architects' firms often delegate this responsibility to others in the firm.
- Outsourcing is a common practice amongst respondent enduring architects' firms.

5.2.11 Risk management.

The first question asked 'do you make use of standard client-architect agreements?' (refer to L1 in Addendum C). Twenty-four of the 26 enduring architects' firms interviewed (92%) provided direct responses to this question. Responses received are shown in Table 5.57.

Table 5.57 Use of standardised service agreements by enduring firms

Themes	Frequency
Ten respondents indicated that it is their first choice but that clients sometimes have their own agreements	41,6%
Eight respondents indicated that they seldom do because they believe that a letter of appointment or a handshake is enough	33,4%
Six respondents indicated that they use their own which is based on, or refers, to the standard agreements	25%

This implies that two thirds of responding architects' firms prefer to use, directly or indirectly, the standard, tried and tested service-provider agreements negotiated between all stakeholders. The remaining third could be exposed to a variety of risks because their agreements might not be balanced or tried and tested, implying inadequate risk management.

The second question asked 'what modifications do you include (if any) to limit the firm's liability?' (refer to L2 in Addendum C). Ten of the 26 enduring architects' firms interviewed (38%) provided direct responses to this question. Their responses are summarised in Table 5.58.

The responses indicate that enduring architects' firms negotiate changes to standard service provider agreements to limit:

- The Professional Indemnity Insurance required.
- The quantum of liability claims allowed.
- The period of liability.

Table 5.58 Modifications to reduce liability in standard service agreements

Themes	Frequency
Two of the respondents indicated that they make changes regarding the Professional Indemnity cover required	20%
One respondent indicated that they make changes to the stipulated liability period	10%
Five respondents indicated that they make changes to limit the quantum of liability claims allowed	50%
We prefer not to make any changes or that changes are negotiated by all parties to the agreements	20%

The third question asked 'what basis do you use to determine the Professional Indemnity cover that you require?' (refer to K3 in Addendum C). Six of the 26 enduring architects' firms interviewed (24%) provided direct responses to this question. Each respondent provided a different indication. Their responses are listed in Table 5.59.

Table 5.59 Basis for quantum of Professional Indemnity Insurance required

Themes	Frequency
The firm's claims history	16,7%
Alternative risk (quality) management strategies in place	16,7%
Profession-specific averages and client requirements	16,7%
Cost and client requirements	16,7%
Value of work-in-hand and client requirements	16,7%
Agreed liability period	16,7%

The fourth question asked 'how do you allow for the risk of unpaid fees?' (refer to K4 in Addendum C). Two of the 26 enduring architects' firms interviewed (92%) provided direct responses to this question. Their responses were:

- We screen their financial status before inception.
- We have funding to fall back on.

Unfortunately, the response rate was too low to allow for any analysis.

The fifth question asked 'how did your risk management efforts contribute to your firm's enduring?' (refer to K5 in Addendum C). One of the 26 enduring architects' firms interviewed (92%) provided direct responses to this question, hence no analysis was possible.

5.2.11.1 Findings: Risk management

The foregoing indicates that:

- Two thirds of responding architects' firms prefer to use, directly or indirectly, the standard service provider agreements negotiated between all stakeholders.
- The remaining third could be exposed to a variety of risks, implying inadequate risk management.
- Respondents from enduring architects' firms that do use the standard multi-party negotiated agreements negotiate changes to limit the Professional Indemnity Insurance required, the quantum of liability claims allowed, and the period of liability.

Enduring architects' firms use a variety of measures to determine the value of Professional Indemnity Insurance cover that they need. These are:

- Their claims history.
- Alternative risk (quality) management strategies in place.
- Profession-specific averages and client requirements.
- Cost and client requirements.
- Value of work-in-hand and client requirements.
- Duration of agreed liability period.

5.2.12 Marketing management

The first question asked 'who is responsible for marketing in your firm?' (refer to M1 in Addendum C). Twelve of the 26 enduring architects' firms interviewed (46%) provided direct responses to this question. Their responses are summarised in Table 5.60.

Table 5.60 Marketers in enduring architects' firms

Themes	Frequency
The principal(s) are responsible for marketing the firm	50%
Members of staff do their marketing	25%
We don't do any marketing	25%

In two of the three cases where members of staff are responsible for this function, this is done by specialists employed specifically for that purpose.

The second question asked ‘how do you market your services?’ (refer to M2 in Addendum C). Twenty of the 26 enduring architects’ firms interviewed (77%) provided direct responses to this question. Some mentioned more than one method. Their responses are shown in Table 5.61. Some of the responses are not active marketing methods in the narrow sense but strategies or goals aimed at procuring work. These include:

- Providing extra service and value (leads to recommendation/return clients).
- Return clients.
- Creating awareness.
- Recommendation.

Table 5.61 Marketing methods used by enduring architects’ firms

Themes	Frequency
Cold calls	1 mention
Socialising	2 mentions
Involvement in social organisations	2 mentions
Advertising	2 mentions
Networking	8 mentions
Website and social media	6 mentions
Winning competitions and awards	3 mentions
Getting published	5 mentions

Hence, it was established that responding enduring architects’ firms use a variety of strategies and marketing methods to procure work. Networking was mentioned by 40% of firms, followed by using websites and social media (mentioned by 30% of firms), getting published (mentioned by 25% of firms) and winning competitions and awards (mentioned by 15% of firms).

The third question asked ‘what do you believe constitutes the most effective means of marketing for SA architects’ firms?’ (refer to M3 in Addendum C). Sixteen of the 26 enduring architects’ firms interviewed (62%) provided direct responses to this question. Their responses can be categorised as shown in Table 5.62 (more than one recommendation per firm).

Table 5.62 Most effective means of marketing according to enduring firms

Themes	Frequency
Actions that will result in 'word-of-mouth' referrals	10 firms
Providing high levels of service	8 Firms
Actions that will result in repeat clients	6 Firms
Getting published	2 firms
Building relationships	2 firms
Cold canvassing	1 Firm
Exposure to potential clients through social or professional organisations/lecturing	1 Firm

Hence, it was established that 94% of respondents agreed that actions that will result in repeat clients or 'word-of-mouth' referrals are the best way to secure future appointments. These goals can be achieved by offering superior levels of service that respond to or exceed expectations, as suggested by 50% of respondents, or by forming relationships, as suggested by 13% of respondents.

Getting published and building relationships were recommended by 13% of respondents. Providing exceptional service should in most cases also result in strong relationships.
Showcasing the firm to potential clients either by cold canvassing or participation in social or professional organisations appears to have a relatively reduced chance of securing future appointments.

The fourth question asked 'in your experience what does not work?' (refer to M4 in Addendum C). Seven of the 26 enduring architects' firms interviewed (27%) provided direct responses to this question. Their responses are listed in Table 5.63. One firm cautioned that everybody's style is different and that one should not generalise. Also, when the foregoing is compared to the assessment of recommendations made earlier in question M3, certain contradictions become evident.

Table 5.63 Ineffective marketing methods identified by enduring firms

Themes	Frequency
Belonging to clubs or social organisations	3 respondents
Publishing in trade magazines (the type of magazines funded by the advertisers and are distributed free of charge to all built-environment professionals)	1 respondent
Doing risk work	1 respondent
Cold canvassing	1 respondent

The fifth question asked ‘how did your marketing management efforts contribute to your firm’s enduring?’ (refer to M5 in Addendum C). Two of the 26 enduring architects’ firms interviewed (8%) provided direct responses to this question. Thus, the result is inconclusive.

5.2.12.1 Findings: Marketing management

The foregoing indicates that:

- In 50% of responding enduring architects’ firms, the principal(s) are responsible for the marketing function.
- In the remaining 50% of responding enduring architects’ firms, the function is performed by members of staff (25%) or alternatively no one in particular is responsible for marketing the firm.
- In the case of two of the firms where staff fulfil this function, marketing specialists have been appointed for this purpose.
- Responding enduring architects’ firms use a variety of strategies and marketing methods to procure work: networking was mentioned by 40% of firms, followed by using websites and social media (mentioned by 30% of firms), getting published (mentioned by 25% of firms) and winning competitions and awards (mentioned by 15% of firms).
- Placing advertisements, getting involved in social organisations and socialising with the specific aim of marketing the firm were each mentioned by 10% of the responding firms while only 5% mentioned using ‘cold calls’.
- Apart from active marketing, firms also rely on other means and strategies to procure work.
- Providing extra service and value to their clients (leads to recommendation/return clients), building relationships with the view of getting return clients, creating general (public) awareness and, very importantly, recommendation(s) (or word of mouth) from past clients or others within their professional networks are strategies employed to secure future appointments.
- Ninety-four percent of respondents agreed that actions that will result in repeat clients or that ‘word-of-mouth’ referrals are the best ways to secure future appointments.
- These goals can be achieved by offering superior levels of service that respond to or exceed expectations, by forming relationships, and by providing exceptional service which, in most cases, results in strong relationships.
- Getting published was recommended by 13% of respondents.

- Showcasing the firm to potential clients either by cold canvassing or participation in social or professional organisations appears to have a relatively reduced chance of securing future appointments.

When the foregoing is compared to the assessment of recommendations in question M3 (refer to Table 5.62), certain contradictions become evident. This situation highlights the wisdom of the statement by B2M (refer to M4 in Addendum C) that one should not be too dismissive of any marketing strategy. The following examples extracted from the interviews with two 'large' firms should highlight this difference.

The first firm, C1G receives about 10% of their approximately 70 projects per year from referrals. The remaining 90% come as a result of marketing actions. The firm specialises in luxury residences and has built up a strong international brand based on various factors but mostly a prominent design signature. The firm markets this image extensively through publication and the internet. The founder cited an example of a particular house that, according to him, appeared around the world in over 50 magazines and on probably more than a thousand websites (CIG:14). The firm employs two full-time specialist marketers.

The second firm D6G is highly commercialized (D6G:20), has offices in the four main centres in South Africa and another elsewhere in Africa. The founder relates that the firm was built through establishing a network of contacts using family connections, social engagements, involvement in church/social organisations, sports clubs and even 'cold calls' (D6G:8-9). They place a strong emphasis on using technology and presentation skills as part of the process to secure commissions (D6G:11-12).

The commonality is providing service and quality: three respondents indicated that they do no marketing. Thus, while different approaches or strategies can be followed, some stand out as being the more likely to result in sustained commissions. Most notable amongst these are the recommendations regarding exceptional service levels and long-term relationships.

5.2.13 Client bases and relationships

The first question asked 'what is the firm's major source of work?' (refer to N1 in Addendum C). Twenty of the 26 enduring architects' firms interviewed (77%) provided direct responses to this question. When their responses are aggregated, the mega-themes shown in Table 5.64 can be identified (and the frequency of mentions):

Table 5.64 Sources of work for enduring firms

Themes	Frequency
Repeat/recurring clients	8 mentions
Government	7 mentions
Various Private sectors	14 mentions
Word of Mouth referrals	2 mentions
Public entities (Universities)	1 mention
New private clients	1 mention
Word of mouth referrals	2 mentions
Four respondents indicated that they received major portions of their work from both government and private sources	4 mentions

The private sector sources mentioned are listed in Table 5.65.

Table 5.65 Private sector sources of work for enduring firms

Themes	Frequency
High-end commercial	1 mention
Luxury residential	2 mentions
Automotive dealership	1 mention
Larger companies	1 mention
Property funds	1 mention
Financial institutions	1 mention
Educational	2 mentions
Retail design	2 mentions

From the analysis, it would appear that 70% of responding enduring architects' firms get all, most or some of their work from the private sector, specifically from repeat clients in the private sector. The retail, education and luxury residential components of the private sector, at the time of the survey, were the major areas from which firms procured appointments. In addition, 35% of responding enduring architects' firms procured all, most or some of their appointments from various government sectors. Both of these groups include the 20% of respondents who get substantial portions of their work from both private and government sources.

The second question asked ‘how do you build and maintain client relationships?’ (refer to N2 in Addendum C). Twelve of the 26 enduring architects’ firms interviewed (46%) provided direct responses to this question. The responses received are summarised in Table 5.66.

Table 5.66 Ways in which enduring firms build client relationships

Themes	Frequency
Building personal relationships	33,4%
Using their personal attributes and the ethics (values) they display in their dealings with clients	16,7%
Showing commitment	8,3%
Producing well-designed work on time and within budget	8,3%
Providing extra value	8,3%
Keeping the client satisfied	8,3%
Establishing trust	16,7%

Hence, it was found that personality, providing good service and added value, genuine interest in your client's dreams and aspirations, and the style and values that your conduct exudes all play a role in building strong relationships with clients.

The third question asked 'do you seek and perform government work?' (refer to N3 in Addendum C). Fourteen of the 26 enduring architects' firms interviewed (54%) provided direct responses to this question. Their responses are summarised in Table 5.67.

Table 5.67 Enduring firms seeking government work

Themes	Frequency
We don't seek government work	43%
While we don't seek government work, we will undertake it if it comes our way	29%
We seek and do government work	29%

The fourth question asked 'have you attempted to secure overseas work?' (refer to N4 in Addendum C). Twenty-one of the 26 enduring architects' firms interviewed (81%) provided direct responses to this question. The responses received can be summarised as shown in Table 5.68.

Table 5.68 Enduring firms seeking overseas work

Themes	Frequency
We actively pursue international work	33,4%
We have done international work but don't actively pursue it	33,4%
We don't do international work	33,4%

This shows that equal numbers of respondents have indicated that they actively pursue international commissions, don't do international work, or have done international work but don't actively pursue it.

The fifth question asked 'do you do work on a contract basis?' (refer to N5 in Addendum C). Fourteen of the 26 enduring architects' firms interviewed (54%) provided direct responses to this question. Their responses are summarised in Table 5.69.

Table 5.69 Enduring firms doing contract work

Themes	Frequency
We do	29%
We don't	57%
We are thinking about it - as a way of using the low value of the South African Rand to our advantage	14%

The sixth question asked 'how do your client management efforts contribute to your firm's enduring?' (refer to N6 in Addendum C). Three of the 26 enduring architects' firms interviewed (11,5%) provided direct responses to this question. While the low response rate means that the results can hardly be considered 'conclusive', all three respondents indicated that their client management efforts did contribute to their firm's endurance.

The responses received indicated that:

- The service they provide means recurring appointments.
- Without work they will perish.
- It has allowed them to build relationships with their past clients.

Thus, client management efforts could contribute to a firm's endurance.

5.2.13.1 Findings: Client bases and relationships

From the above, it was found that:

- Seventy percent of responding enduring architects' firms get all, most or some work from the private sector, specifically from repeat clients in the private sector.
- The retail, education and luxury residential components of the private sector, at the time of the survey, were the major areas from where firms procured appointments.
- Thirty-five percent of responding enduring architects' firms indicated that they get all, most or some of their work from various government sources.

- Twenty percent of responding enduring architects' firms indicated that they get work from both private sector and government sources
- Personality, providing good service and added value, genuine interest in your client's dreams and aspirations coupled with the style and values your conduct exudes all play a role in building strong relationships with clients.
- Less than half (43%) of the respondents indicated that they don't want to do any government work while 57% do. Of the last group, half the firms indicated that they don't actively seek such commissions but will do it if it comes their way while the other half indicated that they actively sought government commissions.
- Equal numbers of respondents have indicated that they actively pursue international commissions, don't do international work, or have done international work but don't actively pursue it.
- While 29% of respondents indicated that they do consider doing work on a contract basis, and 57% indicated that they don't, two firms were looking at the possibility. Interestingly, in terms of the topic of this study, one of these firms (D4S) has recognised this possibility as an entrepreneurial opportunity which they hope to explore.
- Indicators suggest that client management efforts could contribute to a firm's endurance.

5.2.14 Fee determination and policy

The first question asked 'what constitutes your fee policy?' (refer to O1 in Addendum C). All the enduring architects' firms interviewed (26) provided direct responses to this question.

Seventy-seven percent of respondents (20 firms) use the recommended fee scale published by SACAP to some extent as the basis for determining their fees, while the remaining 23% use alternative methods. Their responses are summarised in Table 5.70.

The 31% of responding firms that insist on using the recommended fee scale without deviation display uncompetitive attitudes and hence low entrepreneurial attitudes. Furthermore, setting a fee that doesn't consider the actual cost of providing the service can result in low profit levels - levels that could threaten the survival of the firm or could result in missed commissions.

Table 5.70 Enduring firm's fee policies

Themes	Frequency
Eight firms use the recommended fee scale and are not willing to negotiate a fee that deviates from it	31%
Eight firms use the recommended fee scale but are willing to negotiate a fee that deviates from it	31%
Three firms use a combination of the recommended fee scale and their own cost estimates to derive a competitive or profitable fee	11%
One firm (4%) uses the recommended fee scale as basis but does not quote their fee in terms of it: they offer their clients a packaged fixed fee which is often higher than the recommended fee scale	4%
Three firms calculate a fee based entirely on the projected cost to the firm	11%
One firm bases their fee on the estimated cost of the project (building and furniture - they offer a package service that includes the interior design and furniture)	4%
One firm bases their fee on a variety of factors to arrive at a competitive but profitable fee	4%
One firm bases their fee on the scope of the project (what will be delivered) and not the value of the building	4%

The second question asked 'if pushed for discounts, how do you determine what you can work to?' (refer to O2 in Addendum C). Thirteen of the 26 enduring architects' firms interviewed (50%) provided direct responses to this question. The responses received are summarised in Table 5.71.

Table 5.71 Basis for determining fee discounts

Themes	Frequency
Four respondents indicated that they base it on a rough assessment of what can work for them	30,8%
Two respondents indicated that they calculate what their costs will be and then negotiate the discount	15,4%
Two respondents indicated that they end the conversation and walk away	15,4%
Two respondents indicated that they first reduce the scope of work that will be undertaken but that they ultimately calculate the cost to the firm when a critically low fee becomes a distinct reality	15,4%
One respondent indicated that they estimate what their costs will be based on past projects	7,7%
One respondent indicated that they use software that helps them estimate what their costs will be	7,7%
One respondent indicated that they firstly limit the scope of work and thereafter they discount	7,7%

When the above is aggregated the following mega-themes of actions that are employed singularly or in combination (where practical) emerge:

- They do a rough assessment of what their costs will be and then negotiate (31%).
- They calculate what their costs will be and then negotiate the discount (15,4%)

- They end the conversation and walk away (15,4%).
- They limit the scope of work to be done and then calculate their costs (23,1%).
- They estimate what their costs will be either by using a fee calculator or based on past projects (15,4%).

All of the above are reasonable reactions but ending the conversation does not constitute an entrepreneurial attitude, and doing a rough assessment of costs might not result in a profitable fee offer.

The third question asked 'do you have figures relating to your costs?' (refer to O3 in Addendum C). Nine of the 26 enduring architects' firms interviewed (34,6%) provided direct responses to this question. Their responses are summarised in Table 5.72 and Figure 5.5. It is concerning that a third of respondents are not aware of what their production costs are.

Table 5.72 Awareness of production cost amongst enduring firms

Themes	Frequency
Six of the respondents indicated that they do have cost figures	66,7%
Two respondents indicated that they don't	22,2%
One respondent indicated that they don't have up-to-date figures, but that they have once, in retrospect, compared their fees to their costs	11,1%

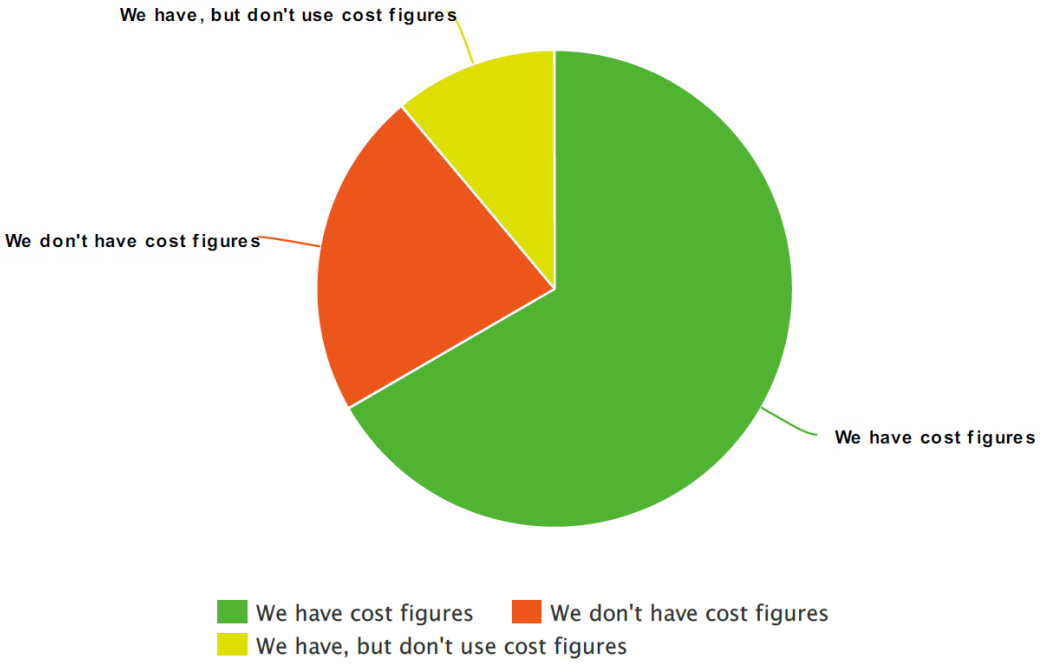


Figure 5.5 Awareness of production cost amongst enduring firms

The fourth question asked 'do you "tender"[14] or "bid" for projects?' (refer to O4 in Addendum C). Thirteen of the 26 enduring architects' firms interviewed (50%) provided direct responses to this question. Seven respondents (54%) indicated that they do while six respondents (46%) indicated that they don't.

The fifth question asked 'on what basis do you prepare your offer?' (refer to O5 in Addendum C). Nine of the 26 enduring architects' firms interviewed (35%) provided direct responses to this question. The responses received are summarised in Table 5.73.

Table 5.73 Basis on which tenders are prepared

Themes	Frequency
A total of six firms use the SACAP-recommended fee scale	66,7%
One firm indicated that they use the value they offer as the basis	11,1%
One firm indicated that they use the estimated cost of performing the project	11,1%
One firm indicated that they use the estimated cost of performing the project and then reduce their fee by negotiating a related reduction in service	11,1%

One of the six firms that base their fee on the recommended fee scale offers discounts linked to early payment. Another of these firms where possible, turns it into a fixed fee

[14] According to Corbett (2015:45), architects are responsible for the design, contract documentation and contract administration of the process leading to the construction of complex projects with substantial environmental impact. In terms of its procurement policy the South African government requires public tendering as a means of procuring architectural services on projects by all government and semi-government agencies, departments and municipalities. These tenders often are poorly structured, do not describe the full scope of work required and are allocated based on a sketchy qualitative assessment of the abilities of firm to provide the services required.

This has resulted in a lowest-price, winner-takes-all situation where the lowest price wins with scant attention paid to the size of a firm, experience, ability, excellence or credentials related to successful projects completed. Currently firms that are desperate for work are tendering fees more that 70% below the gazetted guideline-recommended fee. This is clearly not sustainable: architecture, as a discipline, is a service and the ability of an architectural firm to successfully control a project has a big effect on the cost and quality of a building project. Reduced management and documentation of construction projects driven by the need to remain profitable can, and usually does, lead to cost and program overruns. These problems result in costs of projects escalating way above the original savings made in discounted fees. Furthermore, both the client and the architect are exposed to claims against which they are not adequately protected. This includes claims for additional costs and time made by the contractors on the projects or claims for professional liability: architecture is a regulated profession which serves the public's health and safety. Hence many architects are critical of the tendering system. However, it is not the system that is at fault, it is the poor quality of tender information coupled with architects' inability to accurately calculate/estimate their costs (which should allow for responsibility and risk management) that seems problematic.

coupled with a fixed scope of service while the third firm offers discounts linked to a reduction in liability.

While these last novel strategies might have certain benefits, it might still endanger the sustainability of the firm. The three firms that use a cost estimate follow a far more sustainable strategy by basing their fee on the value they offer, the cost of performing the service or the scope of the appointment.

The glaring shortcoming in many of the responses is the failure to recognise that tendering is by nature a competitive process that aims to identify the most efficient service provider. This implies that firms must be structured and organised to perform work in a very efficient but professional manner and therefore must be able to accurately estimate what their production costs (with the cost of risk management included) will be. However, question three earlier on established that only about two thirds of enduring respondents know what their production costs comprise.

The sixth question asked 'do you do 'risk work'[15]?' (refer to O6 in Addendum C). Fifteen of the 26 enduring architects' firms interviewed (57,7%) provided direct responses to this question. Their responses are shown in Table 5.74 and Figure 5.6.

Table 5.74 Enduring architects' firms and working at risk

Themes	Frequency
Eight respondents indicated that they do	53%
Six respondents indicated that they do not	40%
One respondent indicated that they do take part in design competitions which could be regarded as a form of risk work	7%

[15] Risk work or working at risk is a phenomenon that manifested itself since the abolishment of standard fees in terms of the Competition Act, No 89 of 1998. This phenomenon was driven by private property developers who requested architects to prepare design proposals, 'at risk', for commercial developments they were considering. The proposals would allow them to establish the viability of the project by allowing for cost estimates, etc. Payment of fees was subject to the project going ahead and the firm receiving the commission. This is not a uniquely South African phenomenon but it led to abuse. The problem is that it devalues architects' intellectual capital. As a result, SAIA prepared standard protocols that members had to abide by should they be approached for work of this nature. However, the practice is still frowned upon by many members of the profession.

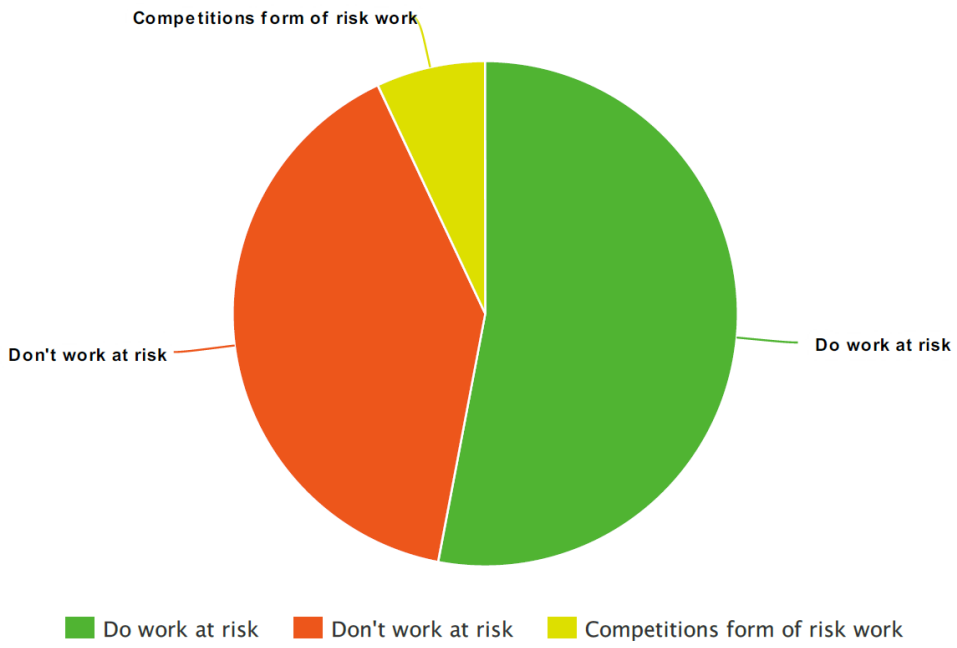


Figure 5.6 Enduring architects' firms and working at risk

The seventh question asked 'how did your fee policy contribute to your firm's enduring?' (refer to O7 in Addendum C). Six of the 26 enduring architects' firms interviewed (23%) provided direct responses to this question. One respondent (16,7%) did not provide a clear answer and was thus disregarded. The remainder all indicated that their fee policy contributed to the firm's endurance (83,3%). Of these:

- Two firms indicated that following an appropriate fee policy was key because it allowed them to do good work.
- One firm indicated that using the recommended fee scale simplified the appointment process for the firm and their clients.

Two firms did not explain their response. Thus, the majority of firms (83.3%) believe that their fee policy contributed to the firm's endurance.

5.2.14.1 Findings: Fee determination and policy

The investigation found that:

- The recommended fee scale published by SACAP forms the basis of the fee determined by 77% of responding enduring architects' firms.
- As many as 31% of these firms use the recommended fee scale religiously and are not willing to deviate (up or down) from it.

While the recommended fee scale might provide a convenient benchmark, this practice could result in low profitability levels. Likewise, other ‘discounted’ fee-setting mechanisms that firms use which do not consider the actual cost to the firm (including risks and required profitability), could pose a serious threat to the viability of the firm.

Furthermore, it was found that when the responding enduring architects’ firms are pushed for a discount they determine what they can work to by doing one or more of the following:

- They do a rough assessment of what their costs will be and then negotiate.
- They calculate what their costs will be and then negotiate the discount.
- They end the conversation and walk away.
- They limit the scope of work to be done and then calculate their costs.
- They estimate what their costs will be either by using a fee calculator or basing them on past projects.

Ending the conversation does not constitute an entrepreneurial attitude while doing a rough assessment of costs might not result in a sustainable fee offer. However, it is worth noting that the investigation also established that only two thirds of responding enduring architects’ firms know what their operating costs comprise. Next it was established that:

- More than half (54%) of responding enduring architects’ firms indicated that they do tender for projects.
- The SACAP-recommended fee scale forms the basis for the preparation of competitive fee offers for most firms.
- The fee indicated by the recommended fee scale is then turned into a fixed fee against a fixed-project scope by one firm.
- Two of the firms use the recommended fee scale and then pragmatically negotiate discounts linked to early payment or a reduction in liability.

While the novel strategies described in the last bullets might have certain benefits, they might still endanger the sustainability of the firm because they are not based on actual costs.

- The remaining three firms follow a far more sustainable strategy by basing their fee on the value they offer, the cost of performing the service and the scope of the appointment.
- Slightly more than half (53%) of the enduring architects' firms that responded do ‘work on risk’.
- Following an appropriate fee policy was key to a firm’s survival and endurance.

Therefore it would appear that a profession-specific EET programme will benefit from highlighting the importance of following the correct fee policy.

5.2.15 Entrepreneurial support.

The first question asked 'what advice would you give to young architects thinking of starting a new firm?' (refer to P1 in Addendum C). Twenty-four of the 26 enduring architects' firms interviewed (92%) provided direct responses to this question. Due to the fact that the question is a relatively open one, relevant indirect responses were also included in the analysis. Firms offered more than one suggestion. The responses received can be summarised as per Table 5.75.

Table 5.75 Advice to start-up architects

Themes	Frequency
Get past clients to recommend you/build up a portfolio of work	1 mention
Operate under your own name	1 mention
Take Professional Practice seriously	1 mention
Make sure you remain relevant	1 mention
Produce good design within whatever limitations the client sets	1 mention
Understand how you arrive at your cost	1 mention
Build up networks	1 mention
Get to understand how the economy works	1 mention
Make sure your work gets exposure	1 mention
When you do something, just think how you are going to defend this when you are standing in court	1 mention
I think, if you want to do your own thing, you have to develop your own philosophy and that takes some introspection and self-discovery	1 mention
Act with integrity	1 mention
Be diligent about contracts - all contracts	1 mention
Go with others - don't do it alone	1 mention
Specialise in a field you can sell	1 mention
Values and common sense are important	1 mention
Beware of unscrupulous 'developers'. Ask the right questions	1 mention
Respond to the demands of the day	1 mention
Come with the expertise or have a contact that will trust you and give you the opportunity	1 mention
Do your best with every project that comes your way	2 mentions
Save up money before starting out	2 mentions

Select your premises carefully	2 mentions
Don't take on projects that you can't handle	2 mentions
Think big. Big firms are better for the profession	3 mentions
Learn how to market yourself, how to be a business person and how to procure work	3 mentions
Be entrepreneurial – also by thinking outside conventional practice	3 mentions
Get enough experience before starting on your own firm	3 mentions
Learn to, and do, market yourself; look after your clients	3 mentions
Make sure that, for the first twelve months, you are going to get an income to survive. Do cash-flow projections would be my recommendation, and if you can't survive, don't start a firm	3 mentions
Get a mentor	4 mentions
Learn from another firm	5 mentions
Attend entrepreneurship/business management training	9 mentions

The most-repeated pointer offered by the responding enduring architects' firms is that young architects thinking about starting a new firm should attend entrepreneurship and/or business management training. The second and third most-repeated advice also relates to entrepreneurial education and training (but could include other operational and professional aspects). These are that prospective founders of architects' firms should learn from another firm (experiential learning) and/or enlist the services of a mentor. Both of these aspects resonate with the suggestions made by entrepreneurship education and training theorists (refer to 3.8.3 on page 141).

Many of the pointers given fall within the following entrepreneurship related fields:

- Marketing Management
- Strategic Management
- Operations Management
- Financial Management
- Risk Management
- General Business Management

Thus, a profession-specific EET programme will benefit from including these fields.

The second question asked 'what form of support is needed by 'young' architects' firms?' (refer to P2 in Addendum C). Of the 26 enduring architects' firms interviewed, 25 (96%) provided direct responses to this question. Due to the fact that the question is a relatively

open one, relevant indirect responses were also included in the analysis. Firms offered more than one suggestion. The responses received are summarised in Table 5.76.

Table 5.76 Support needed by new architects' firms

Themes	Frequency
A programme that teaches assertiveness training	1 mention
Mid-career training courses	1 mention
A programme that teaches time-management skills	1 mention
Legal support	1 mention
A programme that teaches building economics	1 mention
A programme that teaches negotiation skills	1 mention
A programme that teaches how to set up and structure a firm	1 mention
A programme that teaches contractual knowledge	2 mentions
Advice on practice matters	2 mentions
A sounding board	2 mentions
A programme that teaches marketing skills	2 mentions
A programme that teaches people skills	3 mentions
An MBA for architecture	3 mentions
Entrepreneurship education and training	4 mentions
Opportunities to gain experience	4 mentions
Financing	5 mentions
A programme that teaches basic accounting knowledge	6 mentions
A programme that teaches the basics of running a firm	10 mentions
Mentorship	13 mentions

These suggestions can be aggregated into the following mega-themes:

- An EET framework - possibly in the format of a post-graduate degree and follow-up training courses - should include the basics of running a firm, basic accounting knowledge, people skills, marketing skills, contractual knowledge, how to set up and structure a firm, negotiation skills, building economics, assertiveness training and time management skills, amongst other things.
- A support system that can offer mentorship, financing, opportunities to gain experience, advice, legal support and a sounding board.

Thus, responding enduring architects' firms suggest that young architects' firms will benefit from specialised education and training and a support system that will offer, amongst other things, mentoring and advice.

The third question asked 'would you be willing to act as a mentor to a 'young firm'?'. Twenty out of 26 (77%) enduring architects' firms provided direct responses to this question. Seventeen of the 20 enduring architects' firms which responded (85%) indicated that they would be willing to act as a mentor to a newly established firm. The remaining 15% indicated that they have reservations about acting as a mentor.

5.2.15.1 Findings: Entrepreneurial support.

To summarise: Responding enduring architects' firms believe that young architects thinking about starting a new firm should:

- Attend entrepreneurship and business management training.
- Learn from another firm (experiential learning) and/or enlist the services of a mentor.

The following aspects should, inter alia, be included in the content of such a profession-specific EET programme:

- General Business Management
- Marketing Management
- Strategic Management
- Operations Management (including time management)
- Financial Management
- Risk Management
- Human relations management (including negotiation and assertiveness training)
- Commercial law
- Building economics

These aforementioned suggestions from respondents as to what will most benefit young architects' firms can be aggregated into a specialised EET and a support system that will offer, amongst other things, mentoring and advice.

Most of the respondents from enduring architects' firms are willing to act as mentors for newly established firms. Thus, a profession-specific support framework could make use of the knowledge and experience of this group.

5.3 Results of the quantitative study

5.3.1 Response rate

The survey was sent to 4 486 potential respondents - all the professional architects and candidate architects registered with SACAP at that point in time. A total of 1 102 completed responses were received, constituting a response rate of 24,6%. While on the low side, this response rate is, according to DMSA, a fairly good one for an online survey and hence it is assumed that the responses are representative of the population.

The somewhat low response could be due to the fact that all the potential respondents are candidate professionals or professionals and might be too busy to spare the time to complete the survey. Thirteen respondents did not answer any questions beyond the demographic questions (Q1-10). Hence, they were excluded from the data analysis, leaving a sample size (for analysis) of 1 089 respondents.

5.3.2 Descriptive statistics

'Descriptive statistics condenses large volumes of data into a few summary measures' (Wegner 2001:5).

Descriptive analysis of the data was done as follows:

- Categorical variables were summarised by frequency and percentages, and are presented as tables and bar charts.
- Continuous variables were summarised in the form of tables by the mean, standard deviation, median and interquartile range. Their distribution is presented by means of histograms (not included but available upon request).

Data analysis was carried out by Data Management and Statistical Analysis (DMSA) at the University of the Witwatersrand using SAS version 9.4 for Windows software. The five percent significance level was used. This means that p-values <0.05 indicate significant results.

5.3.2.1 Demographics

Descriptive statistics regarding the age group, qualification, professional registration status employment status and geographic location of respondents to both Questionnaires B and C are as follows:

A. Age of respondents

Table 5.77 hereunder indicates that the majority of respondents (73,6%) were aged between 20 and 49 years with more than 50% being younger than 39 years. This is notably different to the respondents of the qualitative study who have all been in practice for more than 15 years meaning that they are all older than about 40 years. This could result in differences between the results obtained from the two studies.

Table 5.77 Age of respondents (DMSA 2015)

Variable	Category	Overall		
		n	%	% without missing data
N		1089		
Age	20-29y	222	20,4	20,5
	30-39y	364	33,4	33,6
	40-49y	216	19,8	19,9
	50-59y	155	14,2	14,3
	60-69y	88	8,1	8,1
	70y+	39	3,6	3,6
	Missing	5	0,5	

B. Qualifications of respondents

Table 5.78 indicates that the most common qualifications were BArch (48,8%) and MArch (Prof) (44,9%).

Table 5.78 Qualifications of respondents (DMSA 2015)

Variable	**Category**	**Overall**		
		n	**%**	**% without missing data**
n		**1089**		
Qualification	BArch	531	48,8	49,0
	MArch (Prof)	489	44,9	45,2
	M Tech (Prof)	60	5,5	5,5
	Dip. Arch	27	2,5	2,5
	MArch (Research)	25	2,3	2,3
	MBA	11	1,0	1,0
	PhD	9	0,8	0,8
	Other	87	8,0	8,0
	Missing	6	0,6	

Note that the percentages do not add to 100% since some respondents had more than one qualification.

A number of the qualifications grouped under 'other' are specialist Master's degrees such as Master of Urban Planning, Master of Urban Design and research-based degrees such as MPhil, etc.

C. Registration and experience of respondents

Table 5.79 indicates that the respondents consisted of 19.6% Candidate Architects and 80,3% Professional Architects. The majority of the Professional architects (66,3%, or 53,3% of all respondents) had been registered for more than five years. Once again, the respondents to the qualitative study were all professional architects with more than 15 years of experience. This could result in differences between the responses received from the two studies.

Table 5.79 Registration and experience of respondents (DMSA 2015)

Variable	Category	Overall		
		N	%	% without missing data
Registration and Experience	Candidate Architect	213	19,6	19,6
	Professional Architect registered for less than 1y	73	6,7	6,7
	Professional Architect registered for 1-5y	165	15,2	15,2
	Professional Architect registered for more than 5y	580	53,3	53,3
	Professional Architect not working in an architects' firm	57	5,2	5,2
	Missing	1	0,1	

D. Employment status of respondents

Table 5.80 indicates that the respondents mostly consisted of salaried employees (47,4%) and the most senior partners or directors of firms (39,6%).

Table 5.80 Employment status of respondents (DMSA 2015)

Variable	Category	Overall		
		n	%	% without missing data
Employment Status	Salaried Employee	516	47,4	48,1
	Partner, Senior Partner or Director but not the most Senior Partner or Director in architects' firm	125	11,5	11,7
	Most Senior Partner or Director in the firm	431	39,6	40,2
	Missing	17	1,6	

The demographics of the respondents to Questionnaire B (Entrepreneurship in firms) completed by most senior partners or directors of firms, are as follows:

E. Age of responding firm

As illustrated by Table 5.81 and Figure 5.7 the age of responding firms was fairly evenly spread across the three categories (less than seven years, seven-15 years, more than 15 years), but firms over 15 years of age provided most responses. The respondents to the qualitative study would all fall in the last group. Once again, this could be the cause of differences between responses received.

Table 5.81 Age of responding firm (DMSA 2015)

Variable	Category	Overall		
		n	%	% without missing data
Age of firm (Most Snr Partner/Dir only; n=431)	Less than 7y	133	30,9	30,9
	7-15y	110	25,5	25,5
	Older than 15y	188	43,6	43,6

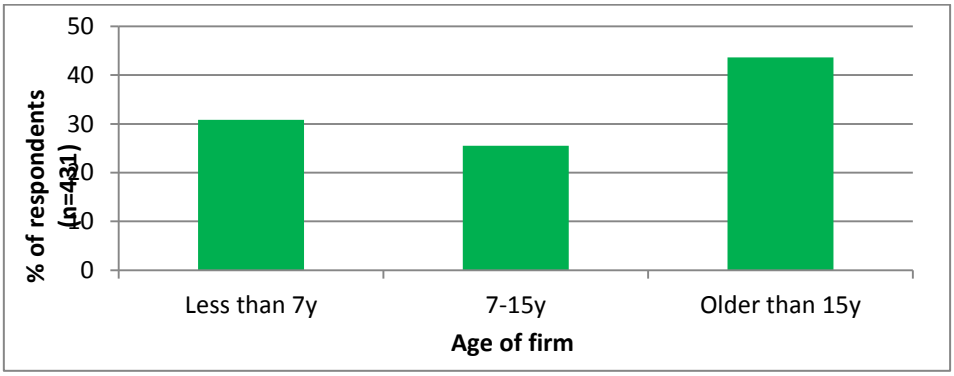


Figure 5.7 Age of responding firm (DMSA 2015)

F. Number of partners or directors in the responding firm.

As shown in Table 5.82 and Figure 5.8, the majority of responding firms (68,9%) have only a single partner or director.

Table 5.82 Number of partners or directors in responding firm (DMSA 2015)

Variable	Category	Overall		
		n	%	% without missing data
Number of partners/directors (Most Snr Partner/Dir only; n=431)	1	297	68,9	69,6
	2-3	111	25,8	26,0
	4-9	17	3,9	4,0
	10-20	2	0,5	0,5
	Missing	4	0,9	

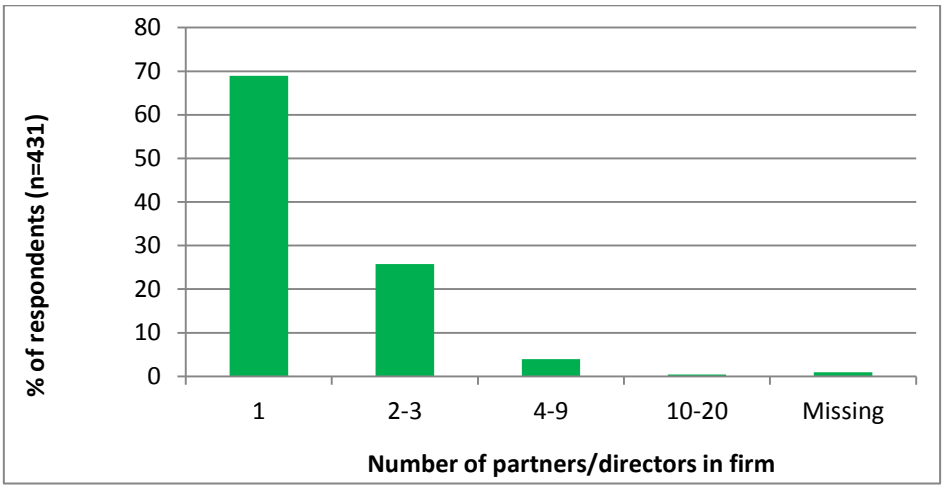


Figure 5.8 Number of partners in responding firm (DMSA 2015)

G. Number of full-time architectural staff in firm

Table 5.83 and Figure 5.9 show that the majority of firms (55,0%) had between one and three full-time architectural staff members. This means that the responses will be skewed towards small firms. In the case of the qualitative study the respondents were spread evenly across firm sizes. Once again this could result in differences between responses received.

The high level of missing data is of concern – it's unlikely the respondents didn't know the answer to the question. It is possible that they did not see the second part of the question or that they employ a large portion of their staff on a contract or part-time basis. Whatever the reason, the results should be interpreted with circumspection.

Table 5.83 Number of full-time architectural staff in firm (DMSA 2015)

Variable	Category	Overall		
		n	%	% without missing data
Number of FT architectural staff (Most Snr Partner/Dir only; n=431)	1	135	31,3	41,0
	2-3	102	23,7	31,0
	4-9	70	16,2	21,3
	10-20	17	3,9	5,2
	21+	5	1,2	1,5
	Missing	102	23,7	

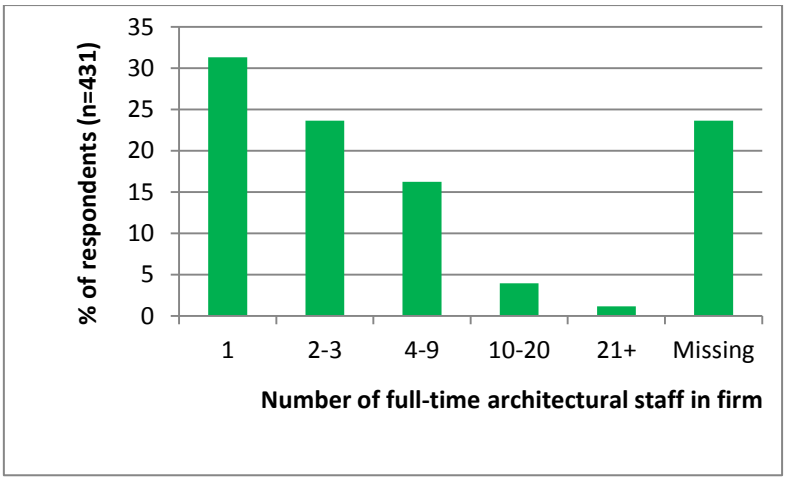


Figure 5.9 Number of full-time architectural staff in firm (DMSA 2015)

H. Current ratio of responding firms.

Table 5.84 shows that 29,5% of respondents indicated that their firms had a current ratio of less than two to one (>2:1)[16]. The high level of missing data might be due to the fact that respondents did not know what their firm's current ratio was or did not have updated figures at hand. In the case of the qualitative study all the respondents were from firms with a current ratio of more than 1,5:1.

[16] Current ratio = current assets/current liabilities. As a rule of thumb the current ratio should be in the region of 2:1

Table 5.84 Current ratio of responding firms (DMSA 2015)

Variable	Category	Overall		
		n	%	% without missing data
Current ratio (Most Snr Partner/Dir only; n=431)	<2:1	171	39,7	43,5
	2:01	95	22,0	24,2
	>2:1	127	29,5	32,3
	Missing	38	8,8	

I. Source of income of responding firm.

A total of 431 firms responded to the question regarding the firm owners' main source of income. Of these, 85,8% indicated that architectural practice is firm owners' main source of income (0,2% missing data). In the case of the qualitative study all the respondents indicated that architecture is their main source of income.

J. Location of responding firm:

Table 5.85 shows that the majority of respondents were located in Gauteng (48,4%), the Western Cape (31,2%) and Kwazulu-Natal (14,5%).

Table 5.85 Location of responding firm (DMSA 2015)

Variable	Category	Overall		
		n	%	% without missing data
Location	Gauteng	527	48,4	48,6
	W Cape	340	31,2	31,4
	KZN	158	14,5	14,6
	E Cape	75	6,9	6,9
	Free State	41	3,8	3,8
	Mpumalanga	18	1,7	1,7
	Limpopo	15	1,4	1,4
	N Cape	13	1,2	1,2
	North West	13	1,2	1,2
	Other	79	7,3	7,3
	Missing	5	0,5	

Table 5.86 shows the location of the 79 or 7,3% of responding firms classified as 'other' in Table 5.85. These respondents are working in 24 or more (some indicated Europe as their location) different countries. Five of the six large firms included in the qualitative study (19,2% of respondents) have extensive international experience and offices in a variety of

countries. Thus, while the study is focused on the South African context, respondents include architects with broad international experience.

Table 5.86 Location of responding firms from outside South Africa (DMSA 2015)

Variable	Category	Overall		
		n	%	% without missing data
Q9 Location (Other)	UK	10	0,9	0,9
	Namibia	9	0,8	0,8
	Kenya	6	0,6	0,6
	UAE	6	0,6	0,6
	Australia	3	0,3	0,3
	Germany	3	0,3	0,3
	Mozambique	3	0,3	0,3
	Nigeria	3	0,3	0,3
	Botswana	2	0,2	0,2
	Global (unspecified)	2	0,2	0,2
	Ireland	2	0,2	0,2
	Mauritius	2	0,2	0,2
	Portugal	2	0,2	0,2
	USA	2	0,2	0,2
	Canada	1	0,1	0,1
	China	1	0,1	0,1
	Europe (unspecified)	1	0,1	0,1
	Ghana	1	0,1	0,1
	Kuwait City	1	0,1	0,1
	Lesotho	1	0,1	0,1
	Madagascar	1	0,1	0,1
	Netherlands	1	0,1	0,1
	Poland	1	0,1	0,1
	Seychelles	1	0,1	0,1
	Swaziland	1	0,1	0,1
	Zimbabwe	1	0,1	0,1

In addition, it was noted that 93,1% of the respondents were from metropolitan areas while only 7,1% indicated that they worked in a rural area. The anomaly that these figures add up to more than 100% could be ascribed to firms having offices in both metropolitan and rural areas.

The qualitative study included two rural firms (7,7% of respondents) resulting in an urban: metropolitan ratio similar to the ratio of the quantitative study. Taken with the respondents with international experience referred to on the previous page, the respondents to this

research study represented a broad group of persons with national, international (developed and developing countries), urban and rural exposure and experience.

K. Grouping of firms for further analysis.

The respondents were allocated to ten groups with a view to further analysis in the form of inter-group comparison. The groups are:

- Employed Candidate Architects.
- Employed Professional Architects registered for less than a year.
- Employed Professional Architects registered for one year and more but less than five years.
- Employed Professional Architects registered for five years and more.
- Partners or Directors who are not the most Senior Partner or Director in the firm.
- Respondents who are the most Senior Partner or Director in an architects' firm younger than seven years.
- Respondents who are the most Senior Partner or Director of an established architects' firms.
- Respondents who are the most Senior Partner or Director of an enduring architects' firms.
- Respondents who are the most Senior Partner or Director of a non-enduring architects' firm older than 15 years.
- Respondents who are Professional Architects but not working in an architectural firm.

Due to missing data, 30 respondents could not be allocated to a group. All groups were big enough (bigger than 20 respondents) to allow for between group analysis.

5.3.2.2 Results obtained from Questionnaire B

The results will be reported as follows:

A. Descriptive analysis of responses and comparison of the overall average rating for the 12 indicators.
B. Composite scores for the three constructs and 12 indicators in Questionnaire B:
C. Comparison of the overall scores between the three constructs.
D. Comparison of the overall average rating for the 12 indicators.
E. Comparison of the relationship between each pair of overall ratings for the three constructs and the 12 indicators.
F. Comparison of the overall ratings for the three constructs and 12 indicators in terms of firm age.

G. Assessment of the between-group differences in the responses with relation to the age of the firm.

The responses are reported per construct which is then subdivided into indicators and items.

The following abbreviations are used in the figures: SA - Strongly agree; A - Agree; N - Neutral; D - Disagree; SD - Strongly disagree. The histograms indicate the percentage of respondents whose response fell in a particular category.

A. Descriptive analysis of responses and comparison of the overall average rating for the 12 indicators**.**

i. Entrepreneurial performance

The first construct was 'Entrepreneurial performance'. The question asked 'reflecting on your firm's current entrepreneurial performance, indicate your level of agreement with the following statements'.

The first indicator was '**firm objectives'** which contained three items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.4).

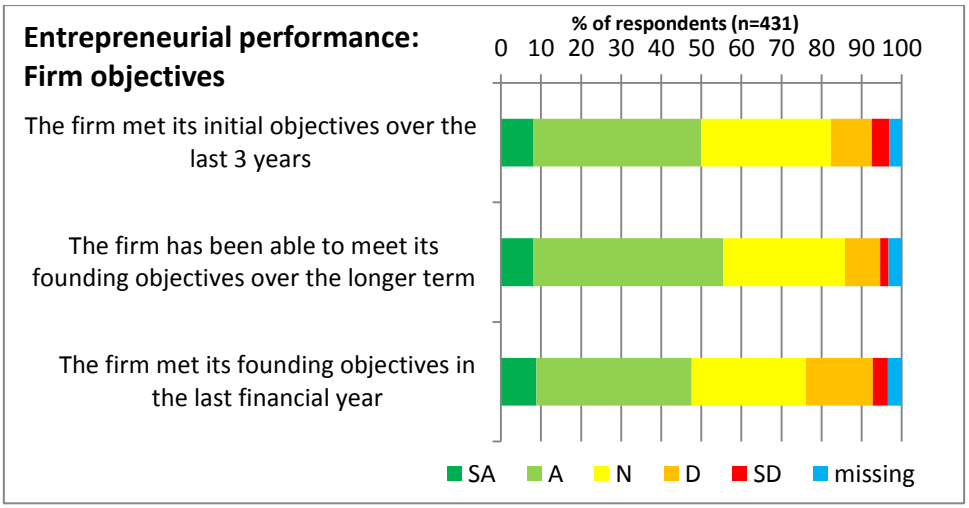


Figure 5.10 Entrepreneurial performance: Firm objectives (DMSA 2015)

Figure 5.10 illustrates that:

- A total of 49,8% of respondents believe that their firms met their initial objectives over the last three years.
- A total of 55,45% of respondents believe that their firms have been able to meet their founding objectives over the longer term.
- A total of 47,57% of respondents believe that their firms met their founding objectives during the last financial year.

Hence, only approximately half the firms have been able to meet their founding objectives over the longer term. It must be noted that the qualitative study found that 25% of enduring architects' firms 'drifted' into starting their own firms (refer to 5.2.1 on page 174). If this finding could be generalised to all firms, it could cast some light on the reason for the relatively more positive response to the second question. It should also be kept in mind that the general economy has been somewhat lacklustre during the recent past.

The second indicator was **'Profitability**' which contained seven items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.11).

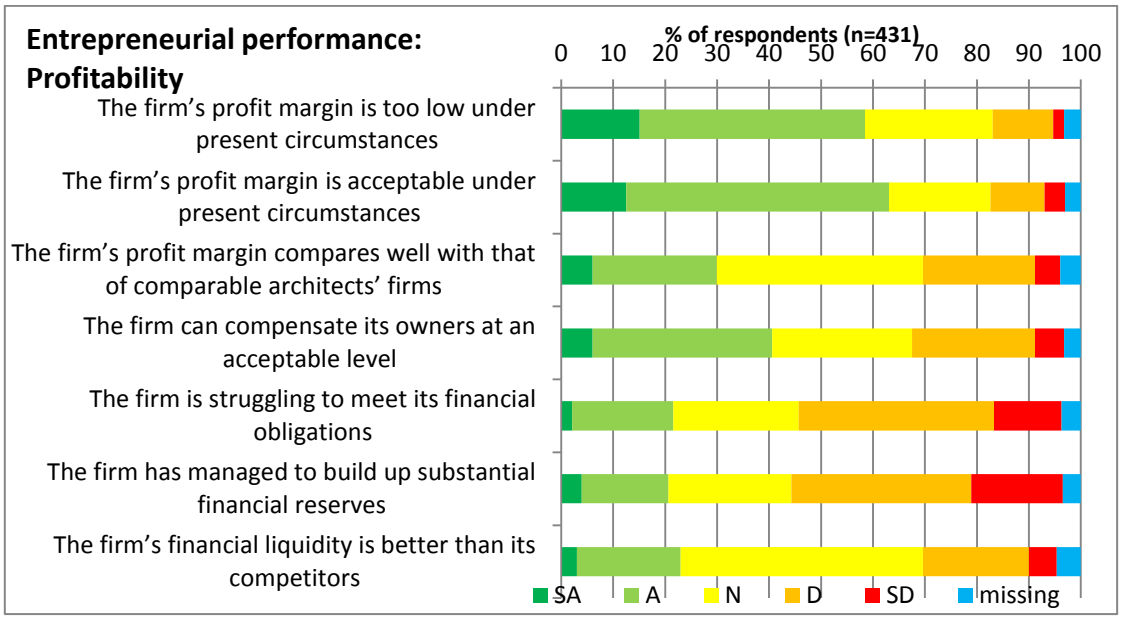


Figure 5.11 Entrepreneurial performance: Firm profitability (DBSA 2015)

Figure 5.11 illustrates:

- That 58,57% of respondents believe that their firm's profit margin is too low (but acceptable) under present circumstances.
- That 63,11% of respondents believe that their firm's profit margin is acceptable under present circumstances.
- That 29,93% of respondents believe that their firm's profit margin compares with that of comparable architects' firms.
- That 40,6% of respondents believe that their firm can compensate its owners at an acceptable level.

- That 50,58% of respondents do not believe that their firm is struggling to meet its financial obligations.
- That 52,2% of respondents do not believe that their firm has managed to build up substantial financial reserves.
- That 25,76% of respondents do not believe that their firm's financial liquidity is better than its competitors.

Thus, it is accepted that there is agreement that the firm profit margin is too low (but acceptable) under present circumstances, and that firms are not struggling to meet their financial obligations. Of concern is the high level of disagreement (52.2%) that firms had managed to build up substantial financial reserves. For composite analysis, items one and five were reverse-scored.

The third indicator was **'Growth'** which contained five items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.6).

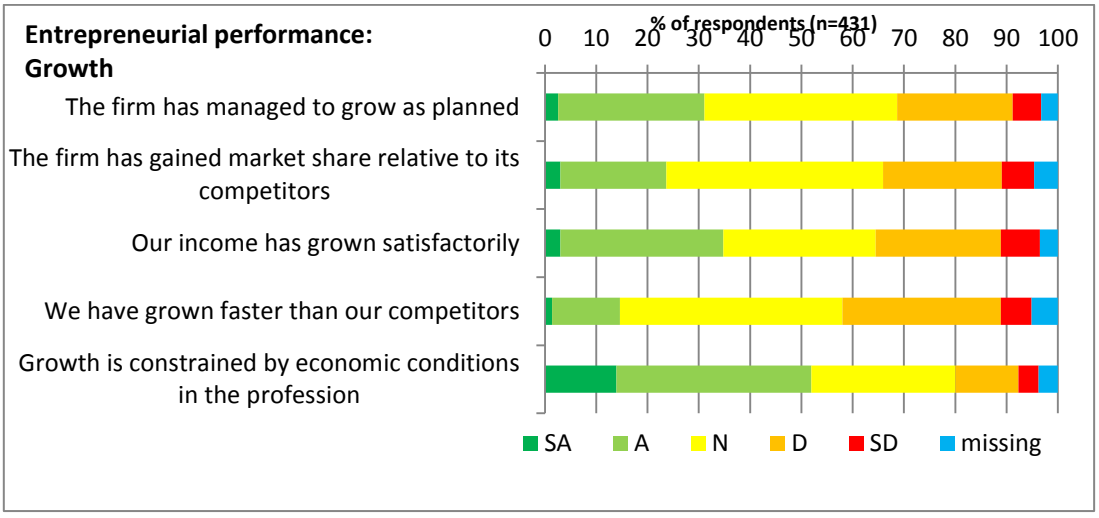


Figure 5.12 Entrepreneurial performance :Firm growth (DBSA 2015)

Figure 5.12 illustrates:

- That 31,09% of respondents believe that their firm has managed to grow as planned.
- That 29,46% of respondents do not believe that their firm has gained market share relative to its competitors.
- That 34,8% of respondents believe that their firm's income has grown satisfactorily.
- That 36,89% of respondents believe that their firm is not growing faster than their competitors.

- That 51,97% of respondents believe that their firm's growth is constrained by economic conditions in the profession.

This indicates that there is moderate agreement that growth is constrained by economic conditions in the profession. For composite analysis, item five was reverse-scored. It must be noted that the qualitative study found that 72% of enduring architects' firms were started without any growth intention (refer to 5.2.1 on page 174) . While the same might not apply to all architects' firms, the results of the quantitative study, when considered against this backdrop indicate an even more negative picture than that suggested by the results on their own.

The fourth indicator was **'Stakeholder satisfaction'** which contained six items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.13).

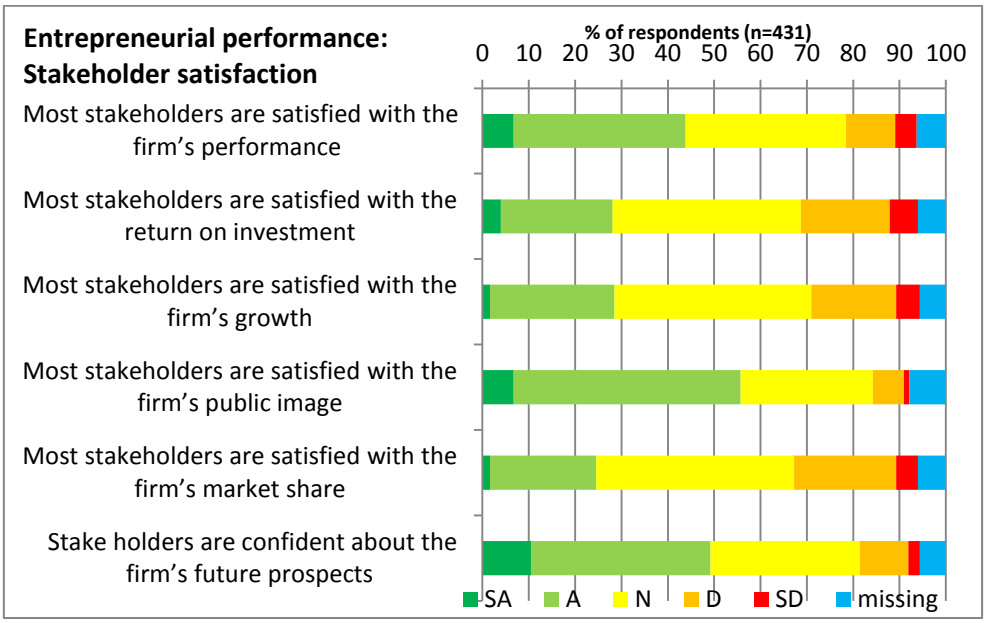


Figure 5.13 Entrepreneurial performance: Stakeholder satisfaction (DBSA 2015)

Figure 5.13 illustrates:

- That 43,83% of respondents concur that most of their firm's stakeholders are satisfied with firm performance.
- That 28,07% of respondents believe that most of their firm's stakeholders are satisfied with return on investment.
- That 28,53% of respondents believe that most of their firm's stakeholders are satisfied with the firm's growth.

- That (55,69%) of respondents believe that most of their firm's stakeholders are satisfied with the firm's public image.
- That 24,59% of respondents believe that most of their firm's most stakeholders are satisfied with the firm's market share.
- Almost half (49,19%) of respondents believe that most of their firm's stakeholders are confident about the firm's future prospects.

Hence it can be concluded that there is low to moderate agreement that most stakeholders are satisfied with the firm's public image and future prospects.

ii. Entrepreneurial orientation

The second construct was 'entrepreneurial orientation'. The question asked 'reflecting on your firm's current entrepreneurial orientation, indicate your level of agreement with the following statements'.

The first indicator was '**Innovativeness'** which contained five items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.14).

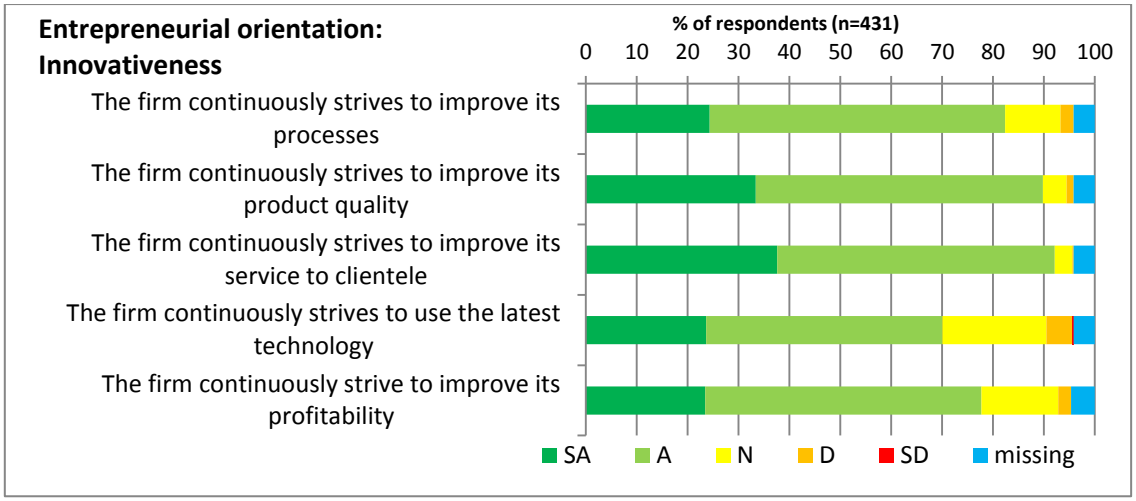


Figure 5.14 Entrepreneurial orientation: Innovativeness in firm (DBSA 2015)

Figure 5.14 illustrates:

- That 82,36% of respondents believe that the firm continuously strives to improve its processes.
- That 89,79% of respondents believe that the firm continuously strives to improve its product quality.

- That 92,51% of respondents believe that the firm continuously strives to improve its service to clientele.
- That 70,07% of respondents believe that the firm continuously strives to use the latest technology.
- That 77,72% of respondents believe that the firm continuously strive to improve its profitability.

It can be assumed that there is high agreement that the firm continuously strives to improve its processes, product quality, and service. There is moderate agreement that the firm continuously strives to use the latest technology, and to improve profitability. This is consistent with the findings of the qualitative study (refer to 5.2.3.1 on page 187).

The second indicator was '**risk taking'** which contained seven items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.15).

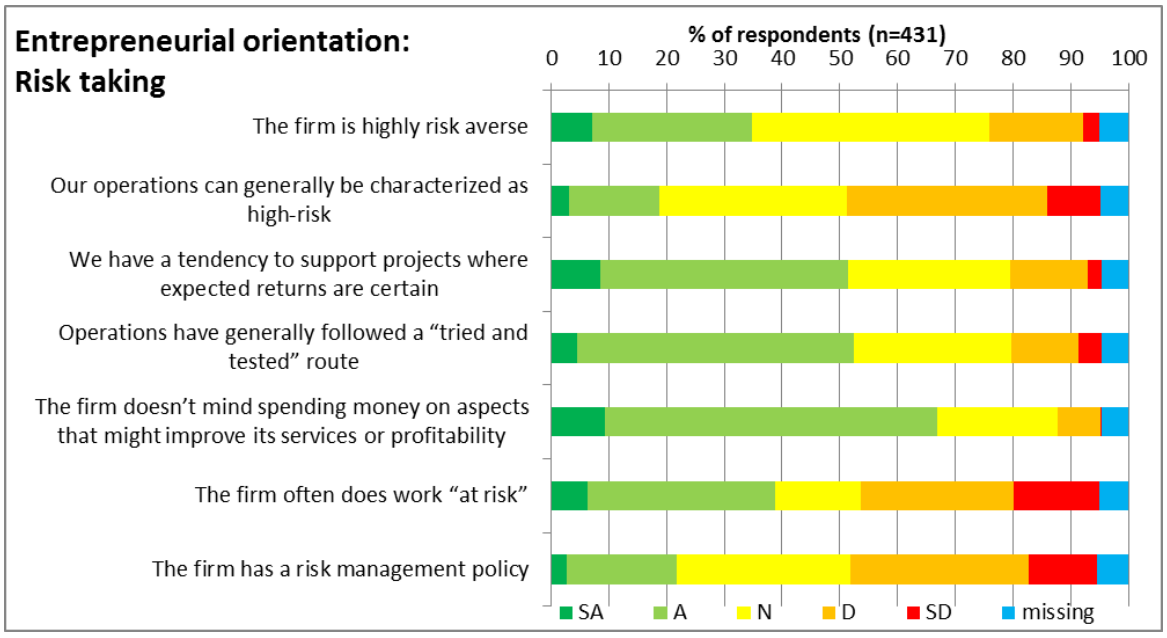


Figure 5.15 Entrepreneurial orientation: Risk taking in firm (DBSA 2015)

Figure 5.15 illustrates:

- That 34,8% of respondents agree that the firm is highly risk averse.
- That 43,85% of respondents don't agree that their firm's operations can generally be characterised as high-risk.
- That 51,5% of respondents agree that the firm has a tendency to support projects where expected returns are certain.

- That 52,44% of respondents agree that the firm's operations have generally followed a 'tried and tested' route.
- That 66,82% of respondents agree that the firm doesn't mind spending money on aspects that might improve its services or profitability.
- That 41,3% of respondents don't agree that the firm often does work 'at risk'.
- That 45,92% of respondents don't agree that the firm has a risk management policy.

The above indicates that there is moderate agreement that firms will spend money on aspects that might improve services or profitability, but that firms had a tendency towards seeking certain returns and following 'tried and tested' routes. For composite analysis, items one, three and four were reverse-scored. While responses relating to the firm's attitude to risk are supported by the findings of the qualitative study (refer to 5.2.1.1 on page 182) the responses indicating that the firm follows 'tried and tested' routes contradicts findings about innovation in the previous discussion and in 5.2.3.1. The reason for this difference is not apparent and will require further investigation for clarification (not as part of this study).

The third indicator was **'proactiveness'** which contained six items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.16).

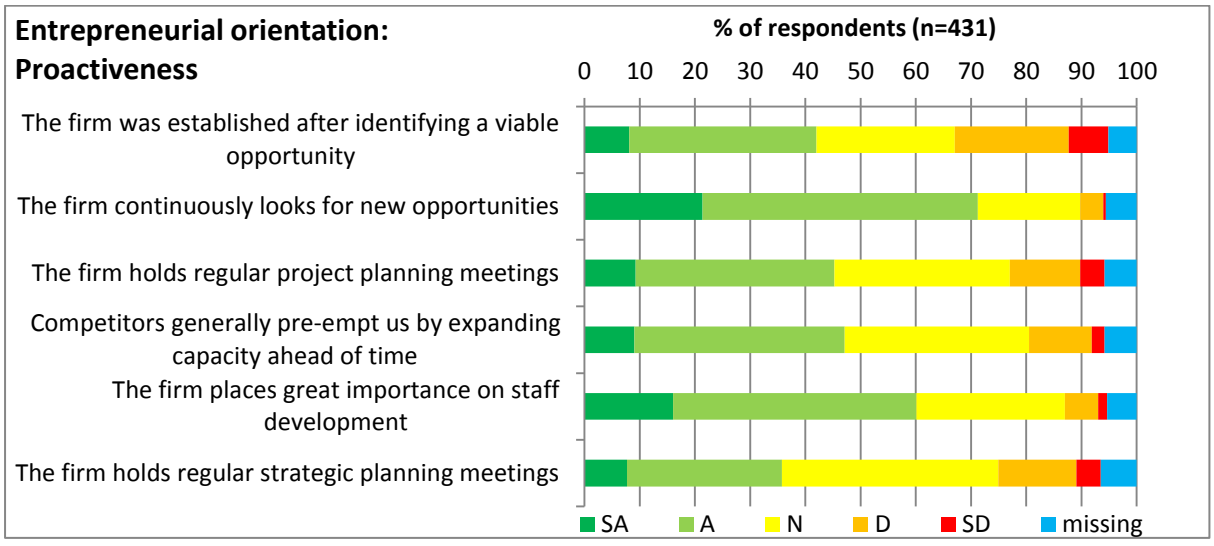


Figure 5.16 Entrepreneurial orientation: Proactiveness of firm (DBSA 2015)

Figure 5.16 illustrates:

- That 41,99% of respondents agree that their firm was established after identifying a viable opportunity.

- That 71,23% of respondents agree that their firm continuously looks for new opportunities.
- That 45,24% of respondents agree that their firm holds regular project planning meetings.
- That 47,1% of respondents agree that their competitors generally pre-empt the firm by expanding capacity ahead of time.
- That 60,09% of respondents agree that their firm places great importance on staff development.
- That 35,73% of respondents agree that their firm holds regular strategic planning meetings.

Therefore, it can be assumed that there is moderate agreement that firms continuously look for new opportunities, and place great importance on staff development. Regular project planning is not done on a regular basis and firms were not established following the identification of a viable opportunity. For composite analysis, item four was reverse-scored. The results of the first question are at odds with the findings of the qualitative study which found that 16% of respondents established after identifying an opportunity. The reason for this difference could lie in the differences between the two respondent samples (see 6.2.2.2 on page 291). The responses to the third question, in principle, are similar to the findings of the qualitative study (refer to 5.2.10 on page 216). The differences lie in the extent to which enduring firms follow this practice. The difference might be due to the inherent differences between the two groups of respondents highlighted in 5.3.2.1. As far as the fifth question is concerned the findings of the qualitative study (refer to 5.2.4.1 on page 191) supports the findings of the quantitative study, but with one difference, namely the extent to which the two groups regard organisational learning as important: responding enduring firms attach greater importance to this aspect. The same applies to the last question: 53.4% of enduring architects' firms responded that they do regular strategic planning. While this is still low it could highlight the basic difference between the two groups, namely their composition.

The fourth indicator was **'competitive aggressiveness'** which contained six items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.17).

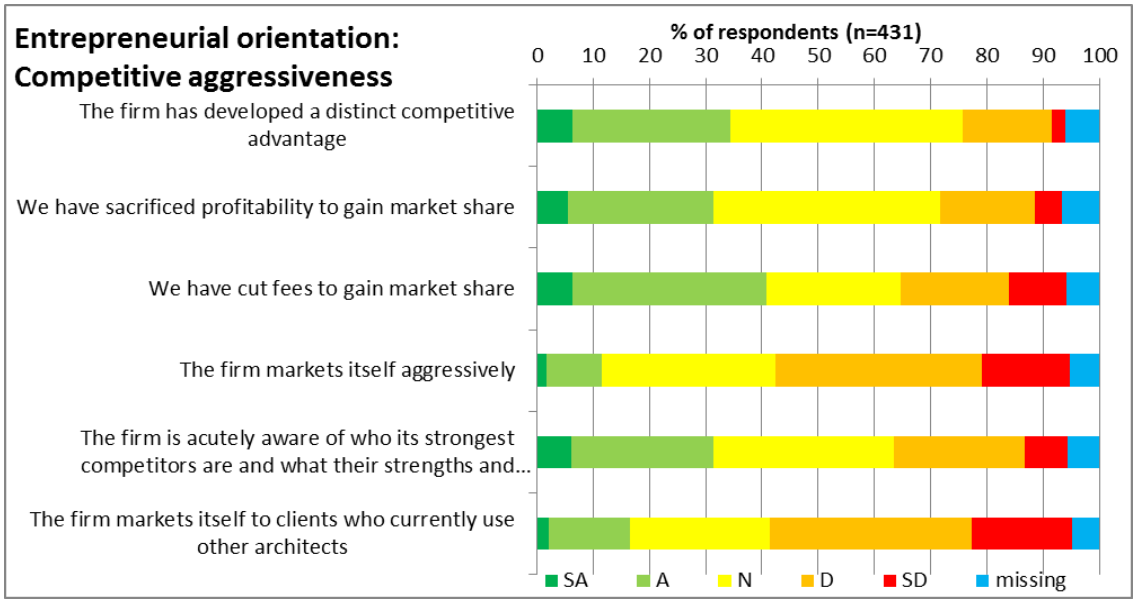


Figure 5.17 Entrepreneurial orientation: Competitive Aggressiveness of firm (DBSA 2015)

Figure 5.17 illustrates:

- That 34,33% of respondents agree that their firm has developed a distinct competitive advantage.
- That 31,32% of respondents agree that their firm has sacrificed profitability to gain market share.
- That 40,83% of respondents agree that their firm has cut fees to gain market share.
- That 52,62% of respondents don't agree that their firm markets itself aggressively.
- That 31,32% of respondents agree that their firm is acutely aware of who its strongest competitors are and what their strengths and weaknesses are.
- That 53,33% of respondents don't agree that their firm markets itself to clients who currently use other architects.

Hence, it can be assumed that there is less than 50% agreement that the firm has developed a distinct competitive advantage, has sacrificed profitability and has cut fees to gain market share, and moderate disagreement that the firm markets itself aggressively, and to clients who currently use other architects. When compared with the results of the qualitative study some differences and similarities emerge. Respondents from enduring firms believe that at least 60% of such firms have developed a form of competitive advantage (refer to 5.2.7.1 on page 202). The difference can be ascribed to the different composition of the respondents.

The two studies agree to a large extent regarding competitive attitudes towards fellow architects and marketing.

iii. Firm management.

The third construct was ‘firm management’. The question asked ‘reflecting on business management in your firm indicate your level of agreement with the following statements’.

The first indicator was **‘planning’** which contained six items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.18).

Figure 5.18 illustrates:

- That 39,91% of respondents agree that planning meetings take place on a weekly basis.
- That 47,56% of respondents agree that that strategic planning/ review meetings are held at least once a year. The findings of the qualitative study concurs by finding that 53,4% of respondents indicated that their firms do regular formalised strategic planning.
- That 47,33% of respondents agree that that budget planning meetings are held at least once a year.
- That 37,59% of respondents agree that that the firm’s budget responds to decisions taken during strategic and other planning meetings.
- That 63,57% of respondents agree that that project planning is done before the start of a project.
- That 53,36% of respondents agree that project planning includes a project budget.

Thus, there is moderate agreement that project planning is done at the start of a project, and includes a project budget. The qualitative study’s findings are different: respondents from the enduring firms surveyed indicated that 43% of firms don’t prepare budgets (refer to 5.2.9 on page 210). It is difficult to understand or explain this difference because it could be expected that enduring firms might exercise more stringent financial management procedures. The only possible explanation could be that enduring firms are managed by older persons who might not be as 'managerial' as the predominantly younger group who responded to the quantitative survey. However, there is no evidence to support this explanation.

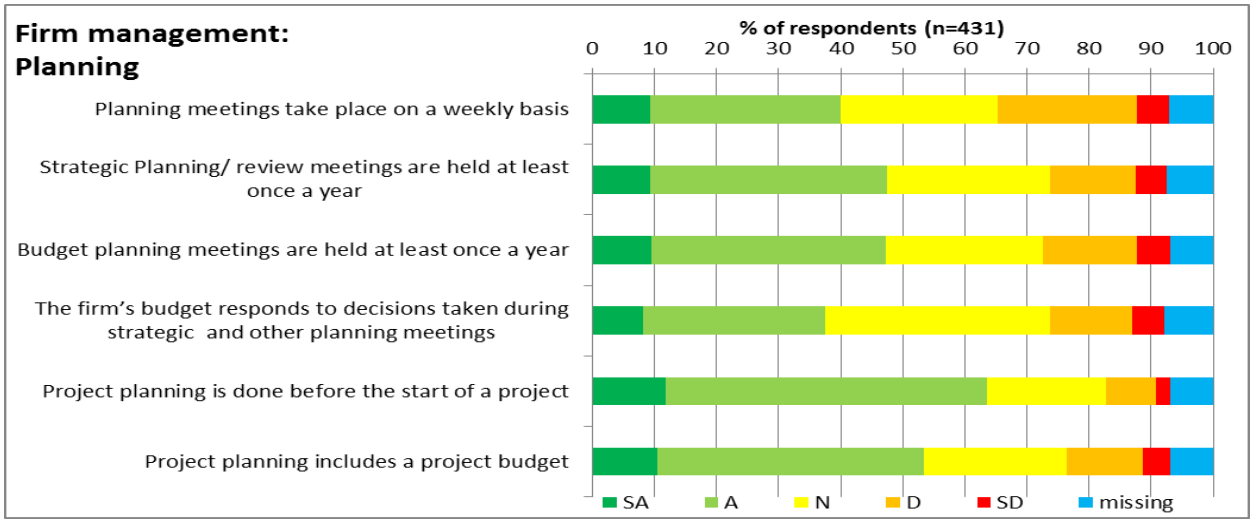


Figure 5.18 Firm management: Planning (DBSA 2015)

The second indicator was **'organising'** which contained five items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.19).

Figure 5.19 illustrates:

- That 57,77% of respondents agree that resources are allocated on a project basis.
- That 46,17% of respondents agree that resource allocation is based on decisions taken during planning meetings.
- That 57,31% of respondents agree that projects are performed by project teams under the direction of a project architect.
- That 59,63% of respondents agree that the partners/directors of the firm each have specific responsibilities.
- That 44,55% of respondents agree that the firm employs support staff who deal with a variety of administrative and support functions.

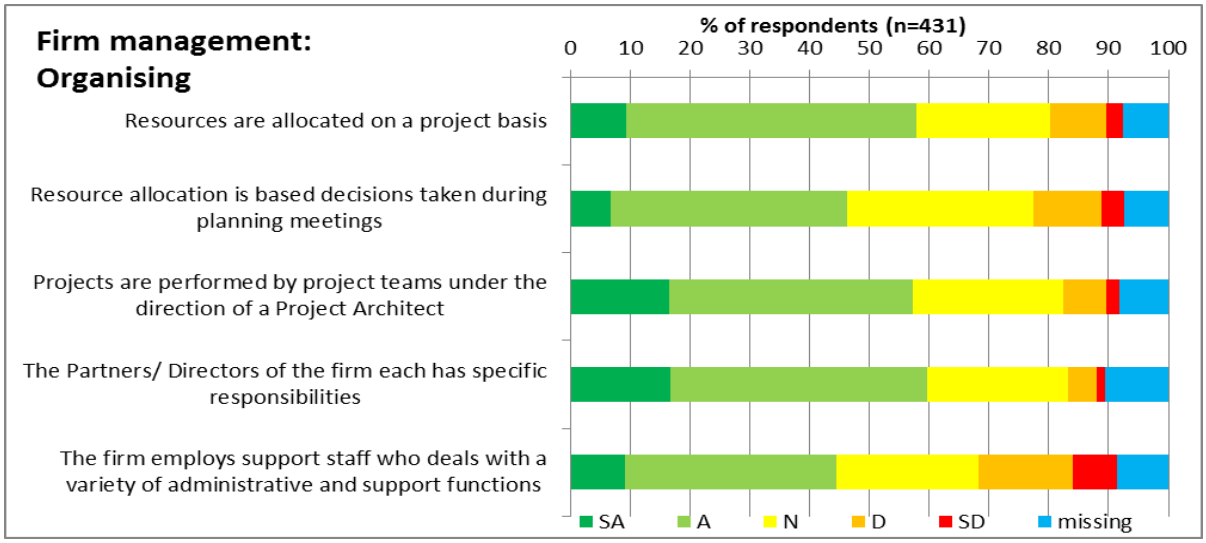


Figure 5.19 Firm management: Organising (DBSA 2015)

The above indicate that there is moderate agreement that resources are allocated on a project basis, that project are performed in teams under a Project Architect, and that the partners/directors each have specific responsibilities. The results of the qualitative study are slightly different in some aspects. As reported in 5.2.10 (refer to page 216), 88% of respondents from the surveyed enduring firms reported that resources are allocated on a project basis and all respondents indicated that projects are performed by project teams. Also, according to 5.2.9 (refer to page 210), 43.4% of the enduring firms that responded have specialist support staff who are responsible for financial management, while 5.2.12 (refer to page 222) indicates that one respondent also employed specialist marketers. Again the differences could be due to the composition of the responding groups.

The third indicator was **'leading'** which contained five items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.20).

Figure 5.20 illustrates:

- That 39,68% of respondents agree that partners or directors have to account for their performance on a regular basis.
- That 45,74% of respondents agree that project architects have to account for the project team's performance.
- That 43,15% of respondents agree that organisational learning and development receives its due responsibility.
- That 64,15% of respondents agree that the firm's culture includes aspects like experimentation, open exchange of ideas and accepting responsibility.

- That 46,4% of respondents agree that actions aimed at developing team spirit and loyalty are organised from time to time.

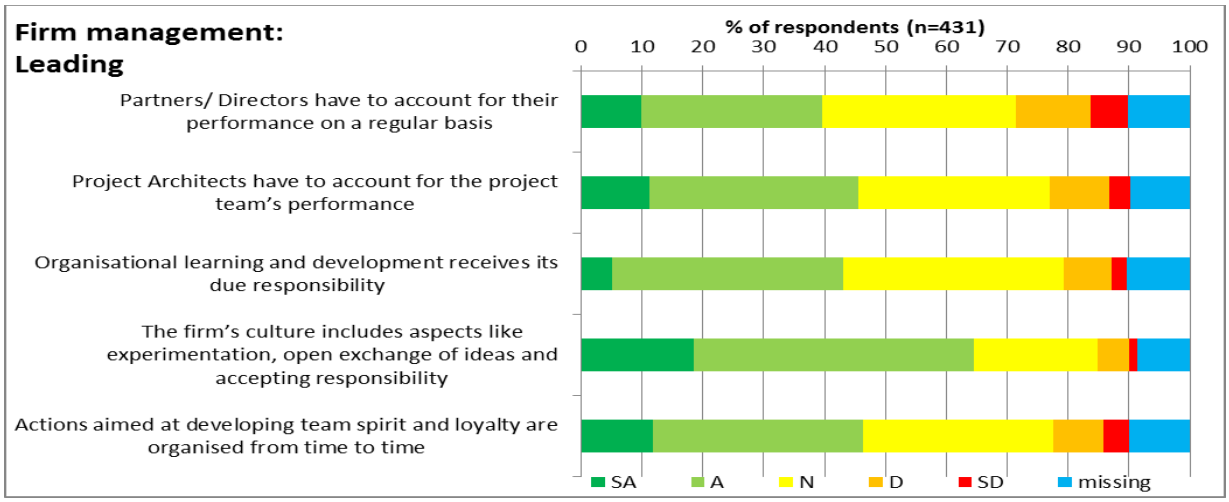


Figure 5.20 Firm management: Leading (DBSA 2015)

Thus it can be assumed that there is moderate agreement that the firm's culture includes aspects like experimentation, open exchange of ideas and accepting responsibility, but low agreement that performance appraisal, organisational learning and team building take place. The findings of the qualitative study pertaining to organisational learning are different; here 92% of respondents from enduring firms indicated that organisational learning is important to their firms.

The fourth indicator was **'control'** which contained five items or statements to which respondents had to indicate their agreement or disagreement (refer to Figure 5.21).

Figure 5.21 illustrates:

- That 55,22% of respondents agree that planning meetings include project progress review.
- That 34,34% of respondents agree that progress review includes a comparison between project budget and project expenses.
- That 34,11% of respondents agree that staff complete time sheets.
- That 52,65% of respondents do not agree that specialist software is used to record and track project expenses
- That 36,42% of respondents do not agree that at completion, project costs are analysed and reviewed to enable cost planning and future fee estimates.

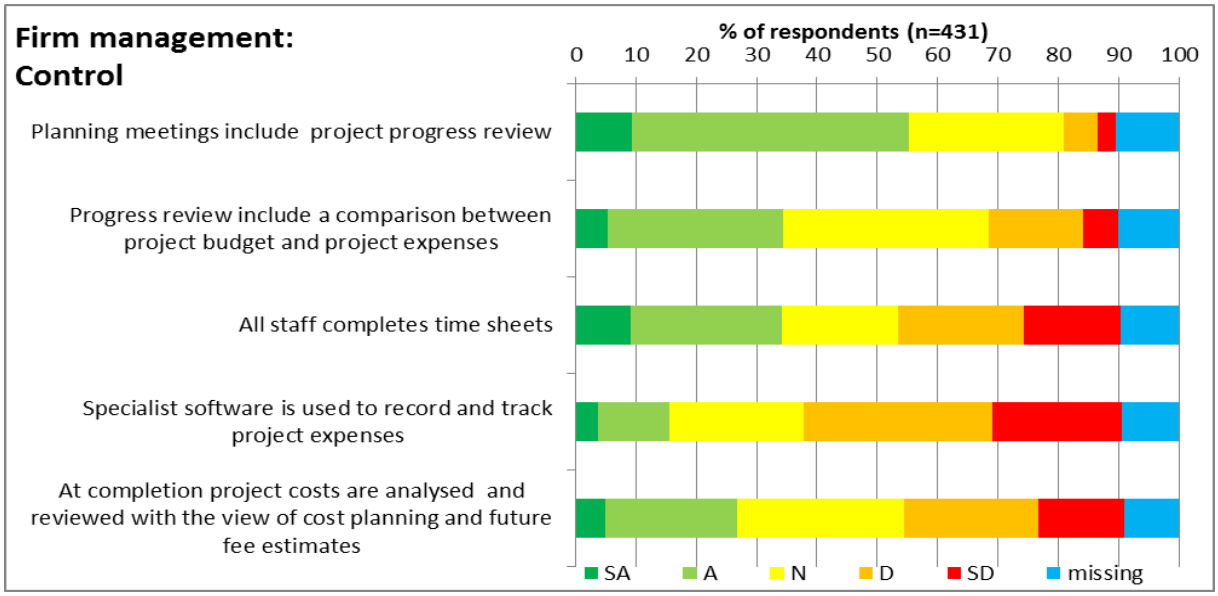


Figure 5.21 Firm management: Control .....(DBSA 2015)

The foregoing indicates that there is moderate agreement that planning meetings include project progress review. There was moderate disagreement that specialist software is used to record and track project expenses and low disagreement or low agreement that project costs are controlled monitored and analysed for future use.

B. Composite scores for the three constructs and 12 indicators in Questionnaire B.

The descriptive statistics for the composite measures are presented below in Table 5.87. The data are relatively normally distributed (with the exception of Innovativeness, which is negatively skewed).

Table 5.87 Composite scores: Questionnaire B (DBSA 2015)

	Variable	N	N Miss	Mean	Std Dev	Median	Interquartile range		Minimum	Maximum
Overall	Entrepreneurial performance	421	10	3,09	0,60	3,05	2,71	3,48	1,19	4,61
	Entrepreneurial orientation	413	18	3,25	0,36	3,25	3,04	3,46	1,83	4,38
	Firm management	403	28	3,33	0,62	3,33	3,00	3,71	1,05	5,00
Entrepreneurial performance	Firm objectives	420	11	3,42	0,81	3,58	3,00	4,00	1,00	5,00
	Profitability	420	11	3,01	0,64	3,00	2,57	3,43	1,00	4,86
	Growth	420	11	2,83	0,66	2,80	2,40	3,20	1,00	4,80
	Stakeholder satisfaction	415	16	3,22	0,72	3,17	3,00	3,75	1,00	5,00

Entrepreneurial orientation	Innovativeness	413	18	4,13	0,53	4,00	3,80	4,60	2,20	5,00
	Risk taking	413	18	2,85	0,50	2,86	2,57	3,14	1,43	5,00
	Proactiveness	413	18	3,33	0,47	3,33	3,00	3,67	1,33	4,67
	Competitive aggressiveness	412	19	2,88	0,59	2,83	2,50	3,27	1,00	4,83
Firm management	Planning	403	28	3,38	0,76	3,33	3,00	3,83	1,00	5,00
	Organising	400	31	3,53	0,67	3,60	3,00	4,00	1,00	5,00
	Leading	398	33	3,48	0,70	3,55	3,00	4,00	1,00	5,00
	Control	396	35	2,95	0,82	3,00	2,40	3,50	1,00	5,00

Figure 5.22 illustrates mean percentage of adequate or extensive responses for each of the three constructs. All three means are significantly different to each other ($p<0,0001$), thus 'firm management' has a higher mean score (3,33) than 'entrepreneurial orientation' (3,25), which in turn has a higher mean score than 'entrepreneurial performance' (3,09). These small differences have little practical significance.

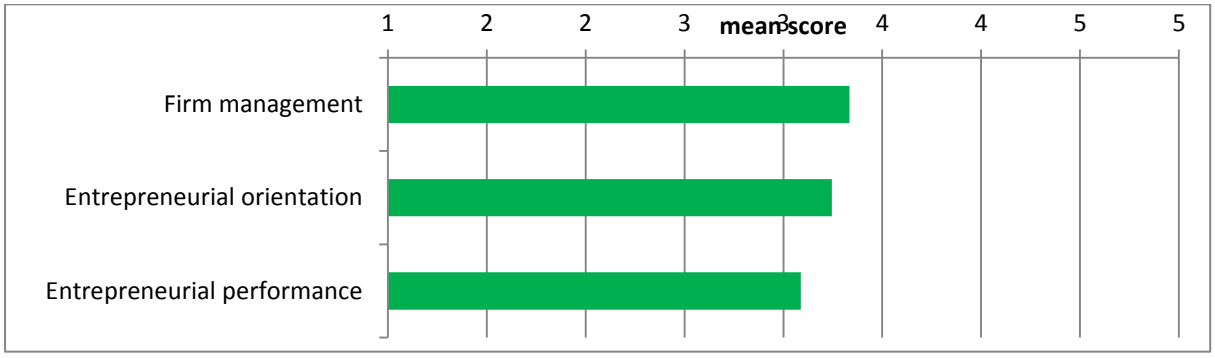


Figure 5.22 Mean percentage adequate or extensive responses received per construct (DBSA 2015)

C. Comparison of the overall average rating for the 12 indicators.

Figure 5.23 illustrates the mean percentage of adequate or extensive responses received for each of the 12 indicators in Questionnaire B.

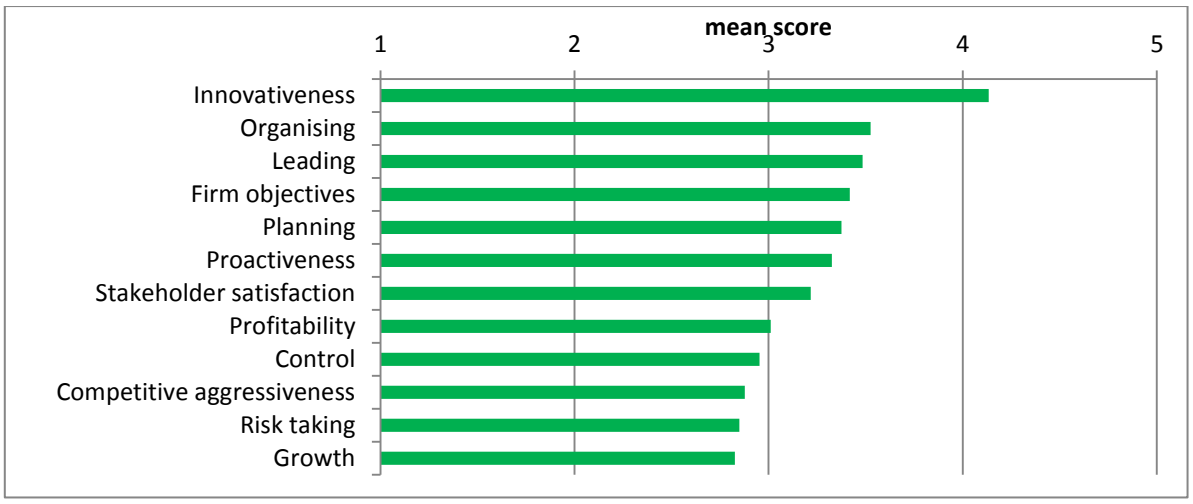


Figure 5.23 Mean percentage adequate or extensive responses received (DBSA 2015)

The following indicators have mean scores which were not significantly different:

- Organising, leading
- Firm objectives compared to organising, leading, planning and proactiveness
- Proactiveness, planning
- Profitability, control
- Control, competitive aggressiveness
- Growth, competitive aggressiveness, risk taking

Thus, the most highly rated indicator is innovativeness, while growth, competitive aggressiveness and risk taking had the lowest ratings. This once again confirms findings regarding low levels of entrepreneurial orientation found by both studies.

D. Comparison of the relationship between each pair of overall ratings for the three constructs and the 12 indicators.

The correlation coefficients between each pair of overall ratings for the three constructs are shown in Table 5.88.

Table 5.88 Correlation coefficients between each pair of overall ratings for the three constructs (DBSA 2015)

Pearson Correlation Coefficients			
Prob > |r| under H0: Rho=0			
Number of Observations			
	Entrepreneurial performance	Entrepreneurial orientation	Firm management
Entrepreneurial performance	1		
	421		
Entrepreneurial orientation	0,157	1	
	0,0014		
	411	413	
Firm management	0,263	0,558	1
	<,0001	<,0001	
	401	403	403

While all three correlation coefficients are significant, only correlation coefficients with absolute value greater than 0,60 are considered to be of practical value in the social sciences. Hence, there are no correlation coefficients of any significance here.

Indicator ratings:

The strongest correlations occurred within two sections:

Entrepreneurial performance:

- Firm objectives were positively correlated with Profitability (r=0,65)
- Growth was positively correlated with Profitability (r=0,68)
- Stakeholder satisfaction was positively correlated with Profitability (r=0,67) and Growth (r=0,69)

Firm management:

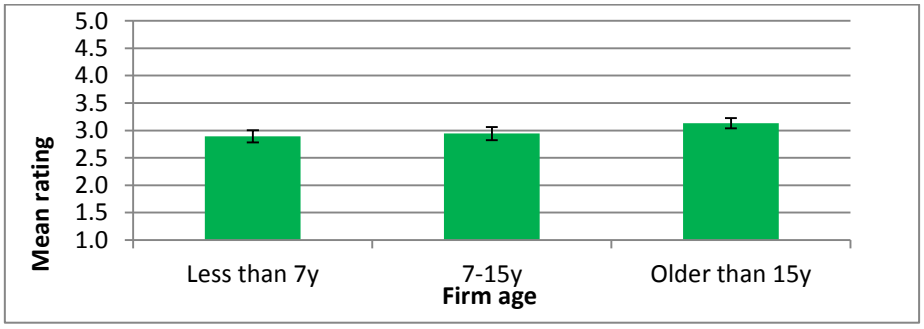
- Planning was positively correlated with Organising (r=0,72), Leading (r=0,61) and Control (r=0,64)
- Leading and Organising were positively correlated (r=0,68)

This indicates that in architects' firms, there is a link between firm management and entrepreneurial performance. This confirms the need for training that includes business management.

E. Comparison of the overall ratings for the three constructs and 12 indicators in terms of firm age**.**

The results for the between-group comparisons (in terms of firm age) of the overall ratings for the three constructs and 12 indicators are as follows:

- Entrepreneurial performance: the overall test was not significant (p=0,13). Thus, there was no significant difference in the mean ratings between the three groups of firm age.
- Entrepreneurial orientation: the overall test was not significant (p=0,24).
- Firm management: the overall test was not significant (p=0,87).
- Firm objectives: the overall test was not significant (p=0,06).
- Profitability: the overall test was significant (p=0,0020). Post-hoc tests showed that the firms older than 15 years of age (enduring firms) had a higher mean rating (3,13) than firms younger than seven years of age (2,89) and established firms of between seven and 15 years of age (2,94) see Figure 5.24.



Note: the error bars denote the 95% confidence interval for the mean.

Figure 5.24 Mean ratings for profitability and age comparison (DBSA 2015)

- Growth: the overall test was not significant (p=0,96).
- Stakeholder satisfaction: the overall test was not significant (p=0,48).
- Innovativeness: the overall test was not significant (p=0,49).
- Risk taking: the overall test was not significant (p=0,08).
- Proactiveness: the overall test was not significant (p=0,10).

5.3.2.3 Results obtained from Questionnaire C.

The results will be reported as follows:

A. Descriptive analysis of responses and comparison of the overall percentage adequate or extensive responses for Part A and overall percentage of relevant responses received for Part B for each of the 11 aspects of Questionnaire B.

B. Overall percentage of adequate or extensive responses for each of the 11 sections in Questionnaire C.

C. Comparison of the overall percentage adequate or extensive responses between each of the 11 sections in Questionnaire C.

D. Overall percentage of relevant responses received for each of the 11 sections in Questionnaire C.

E. Comparison of the overall percentage adequate or extensive responses between each of the 11 sections in Questionnaire C.

A. Descriptive analysis of responses and comparison of the overall percentage adequate or extensive responses for Part A and overall percentage of relevant responses received for Part B for each of the 11 aspects of Questionnaire C.

Respondents were asked to respond, in terms of the 11 aspects; to the following two questions:

Part A. Did the education, training and/or support offered to you during your studies or during your Candidacy period or since registration as a Professional Architect (as applicable), include the following topics extracted from current theory and generic entrepreneurial education programmes?

Part B. Do you believe that the topic is relevant and thus should be included in architectural education and training?

Note that throughout, the level of missing data was higher for the relevance questions (Part B) than for the coverage questions (Part A). Since the relevance questions were not difficult to answer, the cause is most likely that respondents did not see the second part of the question on the layout or that they were completing the questionnaire while under time pressure.

i. Entrepreneurial awareness.

The first aspect was entrepreneurial awareness which contained three items to which respondents had to reply. Figures 5.25 and 5.26 indicate that these aspects received poor coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

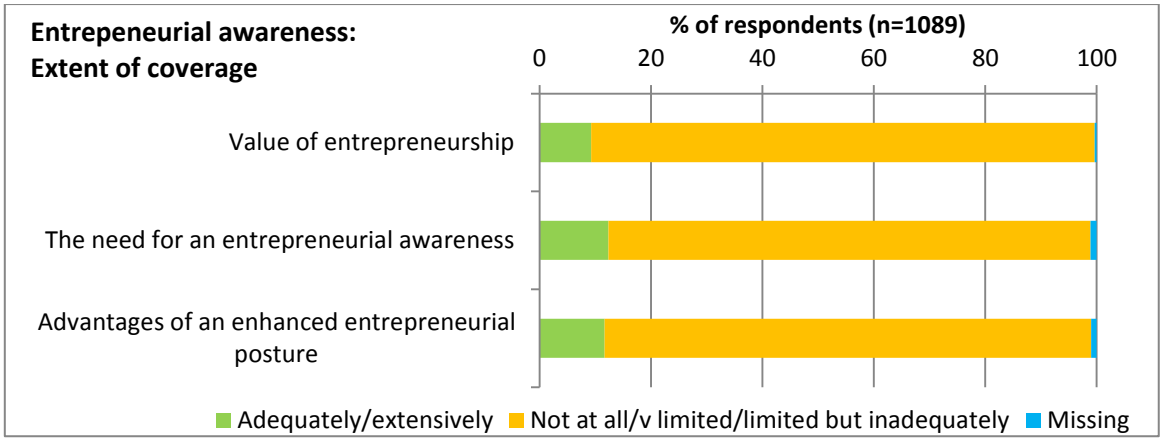


Figure 5.25 Entrepreneurial awareness: Coverage (DBSA 2015)

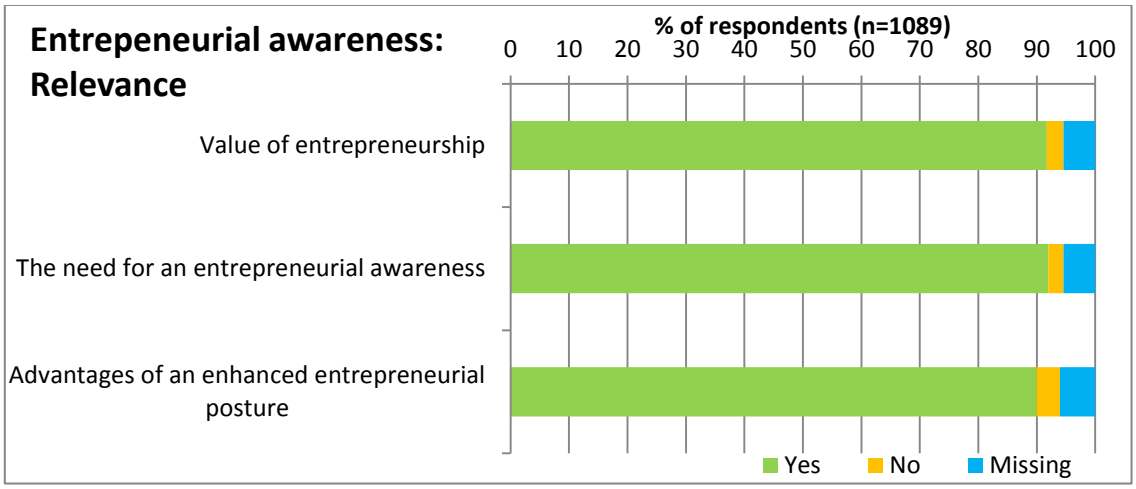


Figure 5.26 Entrepreneurial awareness: Relevance (DBSA 2015)

ii. Entrepreneurial orientation/intent.

The second aspect was entrepreneurial orientation/intent which contained nine items to which respondents had to reply. Figures 5.27 and 5.28 indicate that most of these aspects received poor coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant. The need for creativity and the importance of innovation are the only exceptions.

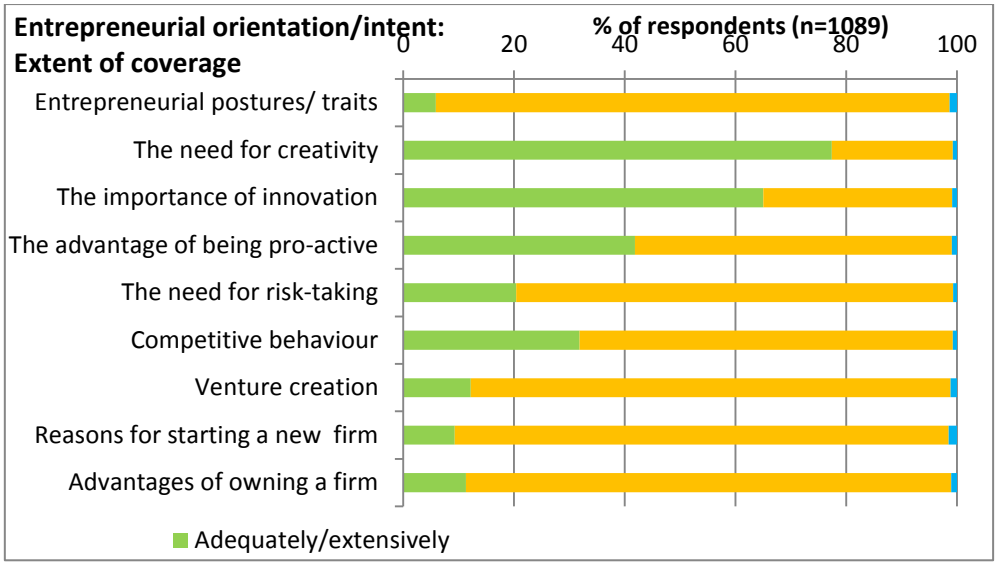


Figure 5.27 Entrepreneurial orientation/intent: Coverage (DBSA 2015)

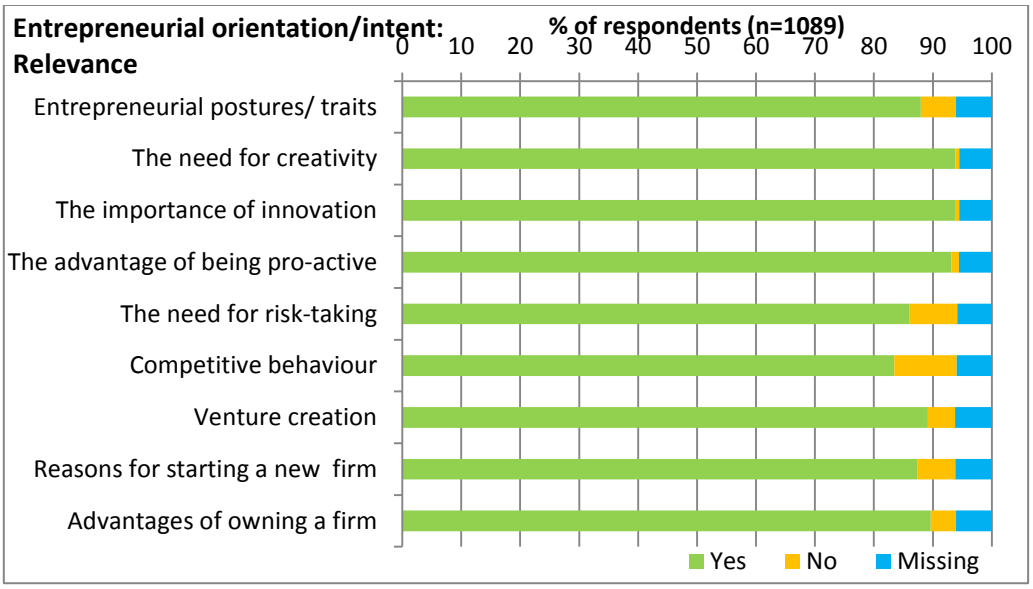


Figure 5.28 Entrepreneurial orientation/intent: Relevance (DBSA 2015)

iii. Entrepreneurial skills.

The third aspect was entrepreneurial skills which contained seven items to which respondents had to reply.

Figures 5.29 and 5.30 indicate that the majority of these aspects received poor coverage in the education and training they had received thus far in their careers. Once again innovation

and creativity are the only exceptions. Respondents believe that all these aspects are highly relevant.

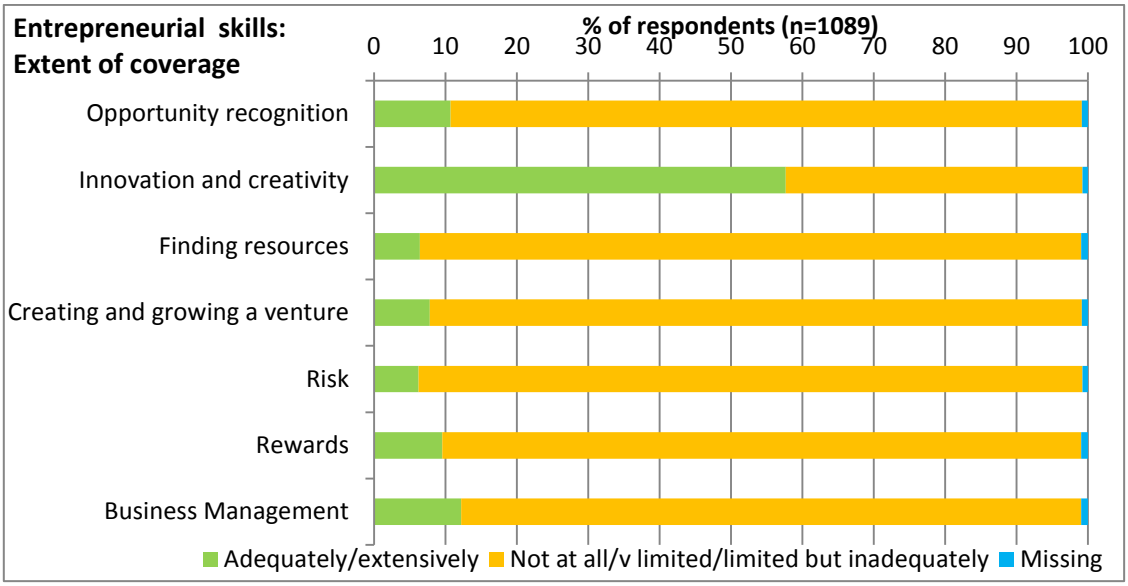


Figure 5.29 Entrepreneurial skills: Coverage (DBSA 2015)

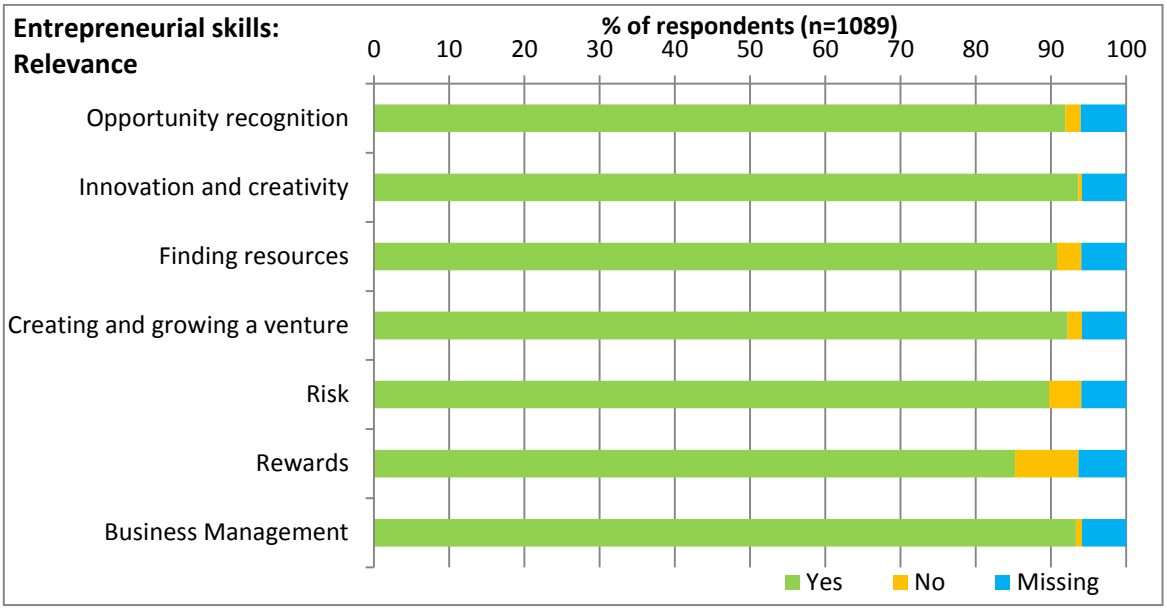


Figure 5.30 Entrepreneurial skills: Relevance (DBSA 2015)

iv. Entrepreneurial performance

The fourth aspect was entrepreneurial performance which contained four items to which respondents had to reply. Figures 5.31 and 5.32 indicate that these aspects received poor

coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

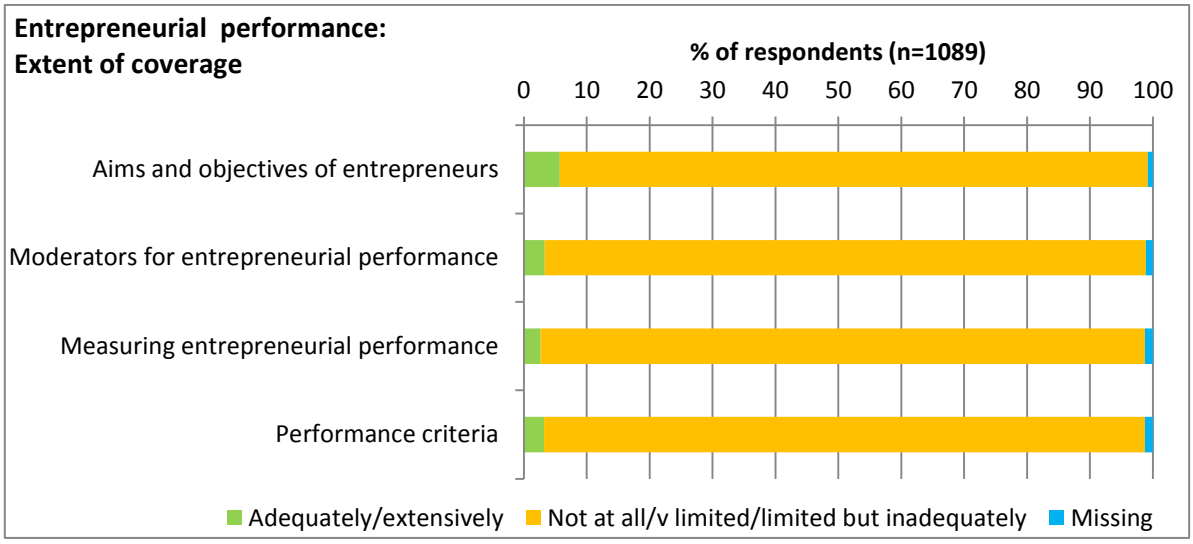


Figure 5.31 Entrepreneurial performance: Coverage (DBSA 2015)

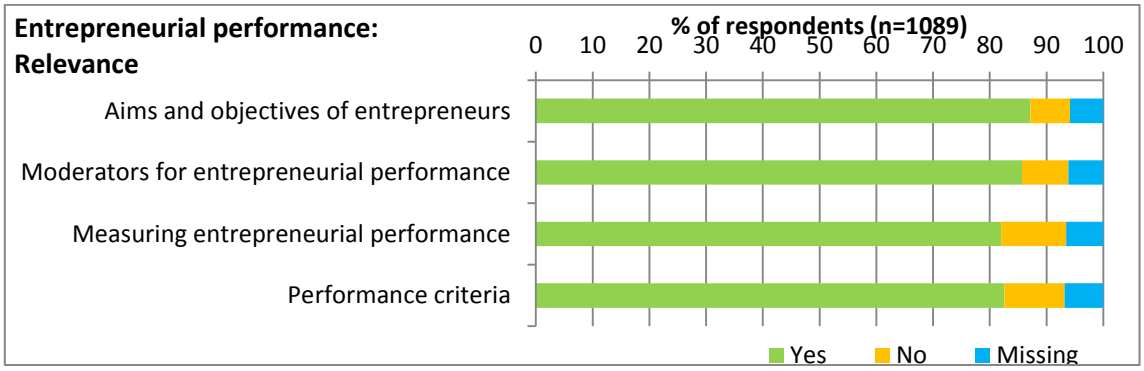


Figure 5.32 Entrepreneurial performance: Relevance (DBSA 2015)

v. Starting an architectural firm

The fifth aspect was starting an architectural firm which contained four items to which respondents had to reply. Figures 5.33 and 5.34 indicate that these aspects received poor coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

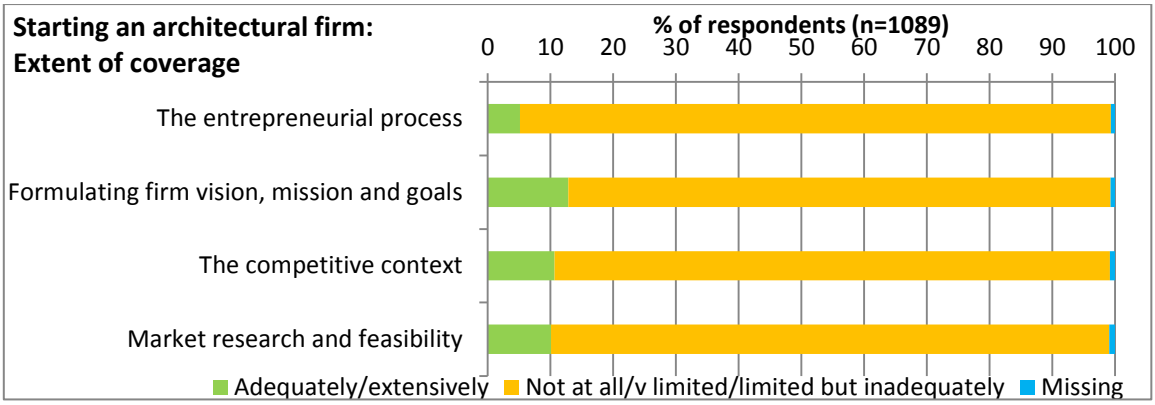


Figure 5.33 Starting an architectural firm: Coverage (DBSA 2015)

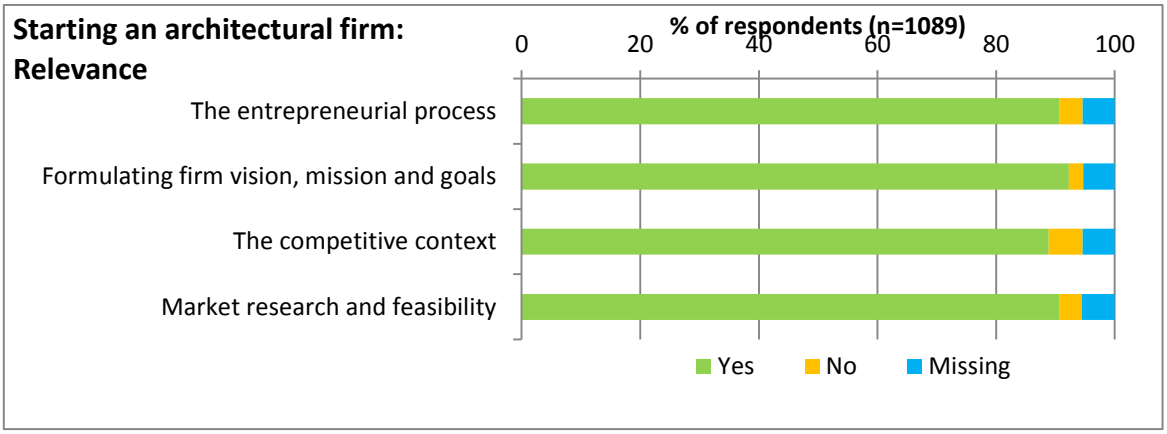


Figure 5.34 Starting an architectural firm: Relevance (DBSA 2015)

vi. Firm design

The sixth aspect was firm design which contained six items to which respondents had to reply. Figures 5.35 and 5.36 indicate that these aspects received poor coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

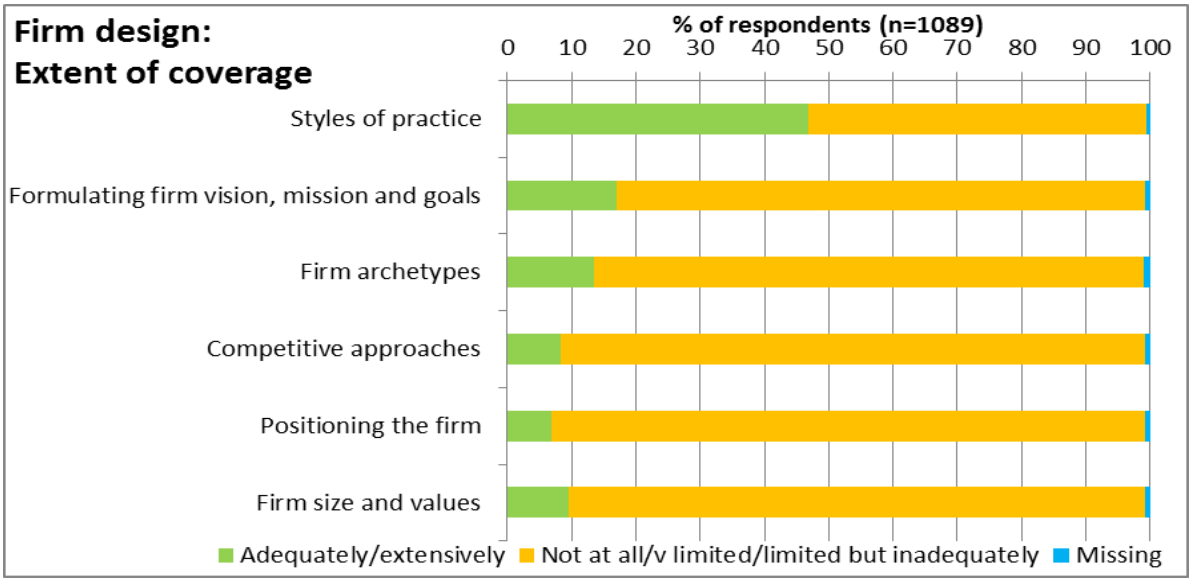


Figure 5.35 Firm design: Coverage (DBSA 2015)

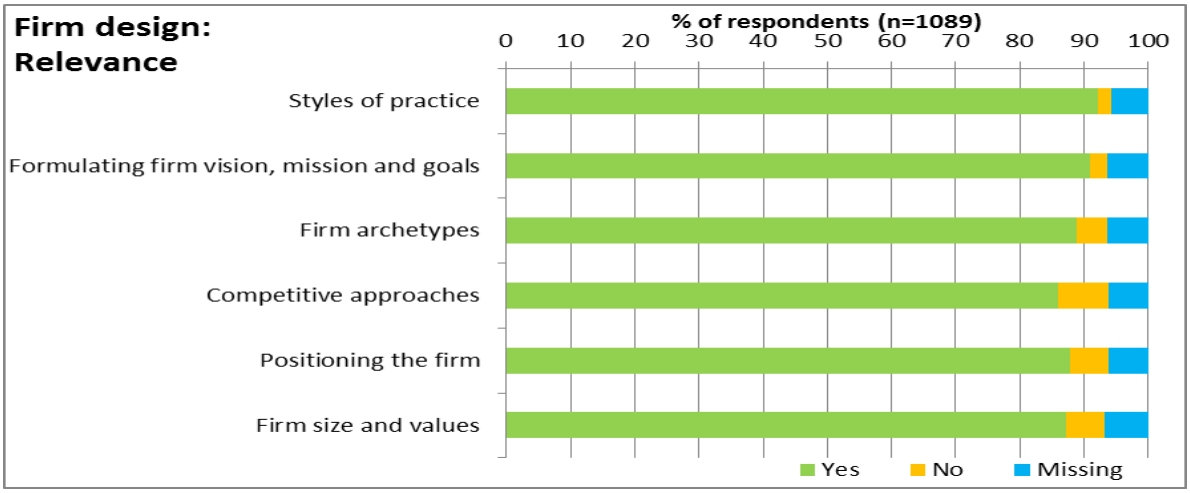


Figure 5.36 Firm design: Relevance (DBSA 2015)

vii. Formalising your plans

The seventh aspect was formalising your plans which contained five items to which respondents had to reply. Figures 5.37 and 5.38 indicate that these aspects received poor coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

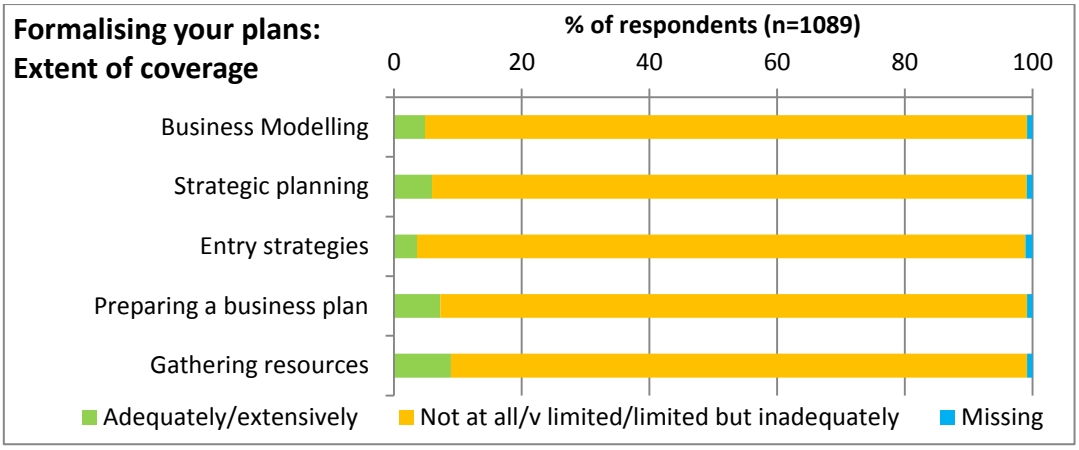


Figure 5.37 Formalising your plans: Coverage (DBSA 2015)

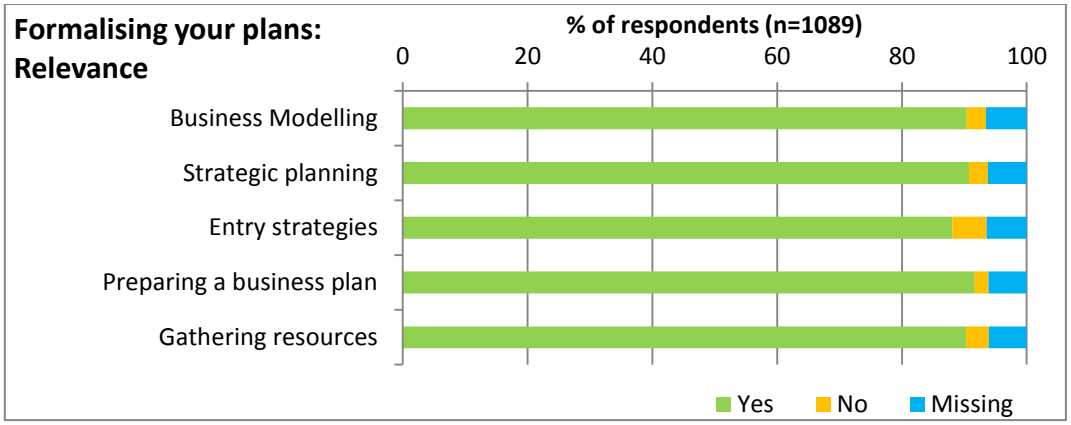


Figure 5.38 Formalising your plans: Relevance (DBSA 2015)

viii. Developing business management skills

The eighth aspect was developing business management skills which contained seven items to which respondents had to reply. Figures 5.39 and 5.40 indicate that these aspects received poor coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

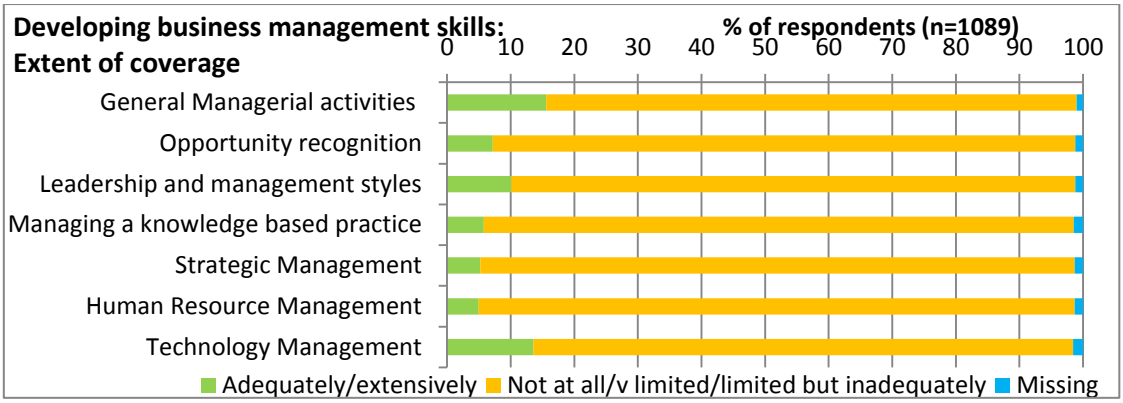


Figure 5.39 Developing business management skills: Coverage (DBSA 2015)

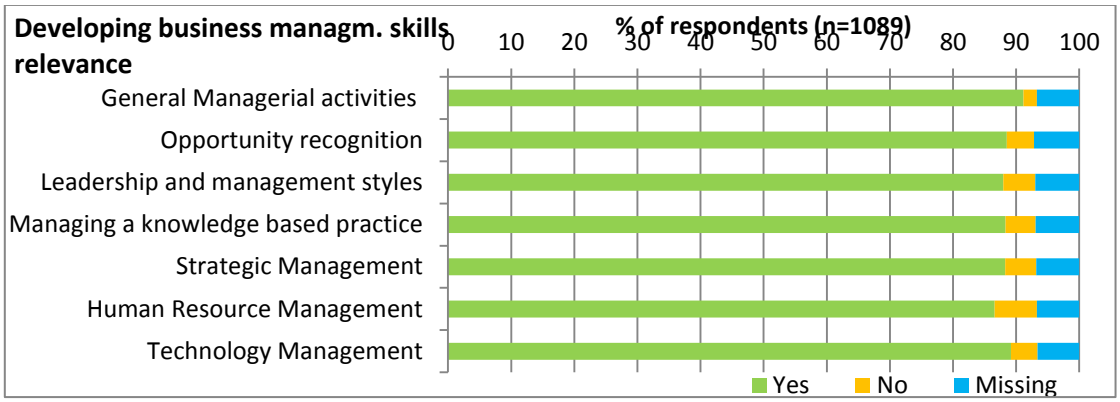


Figure 5.40 Developing business management skills: Relevance (DBSA 2015)

ix. Support

The ninth aspect was support which contained three items to which respondents had to reply. Figures 5.41 and 5.42 indicate that these aspects received relatively low coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

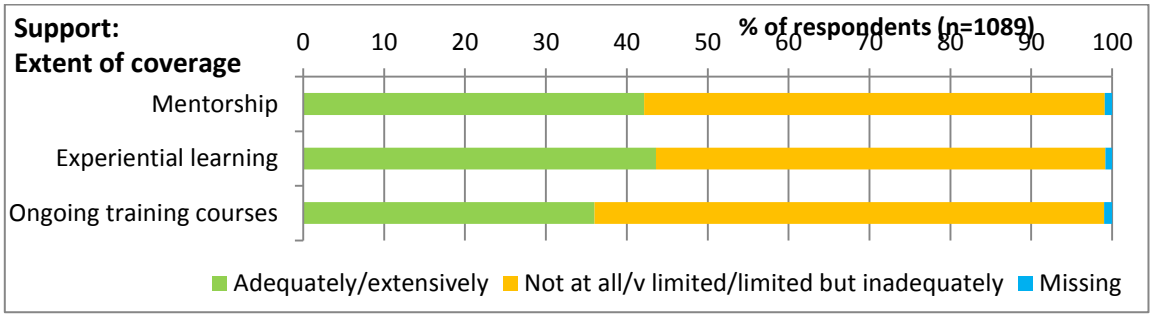


Figure 5.41 Support: Coverage (DBSA 2015)

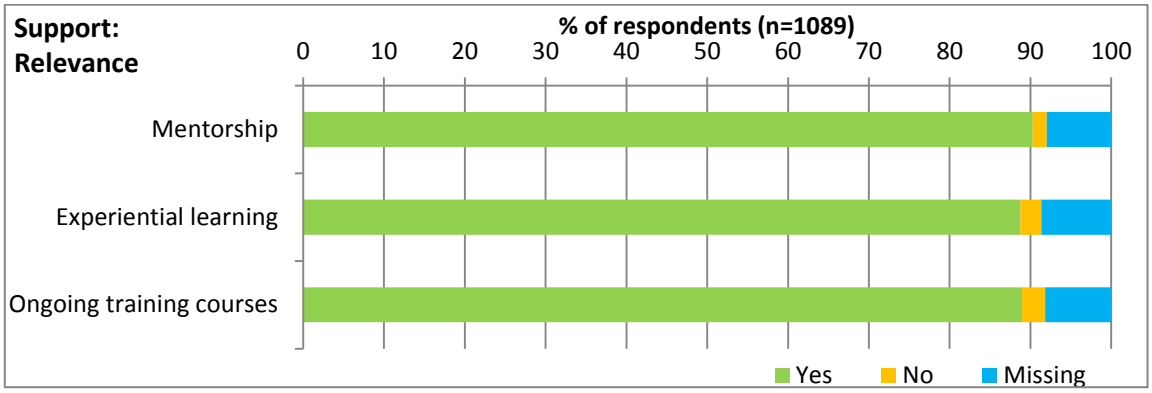


Figure 5.42 Support: Relevance (DBSA 2015)

x. Other topics

The tenth aspect was other topics which contained ten items to which respondents had to reply. Figures 5.43 and 5.44 indicate that these aspects received poor coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

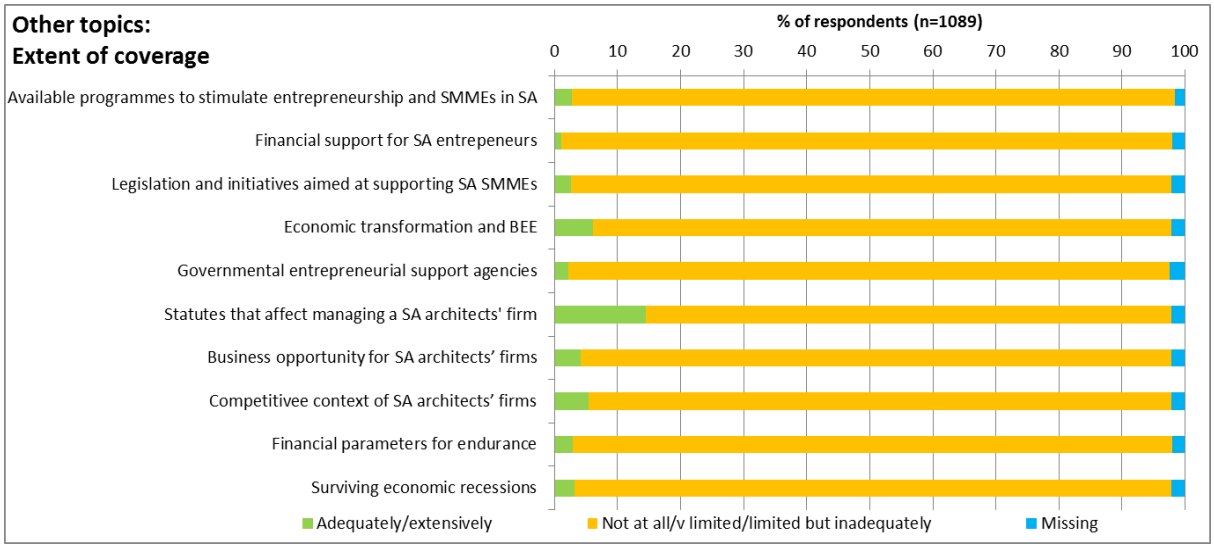


Figure 5.43 Other topics: Coverage (DBSA 2015)

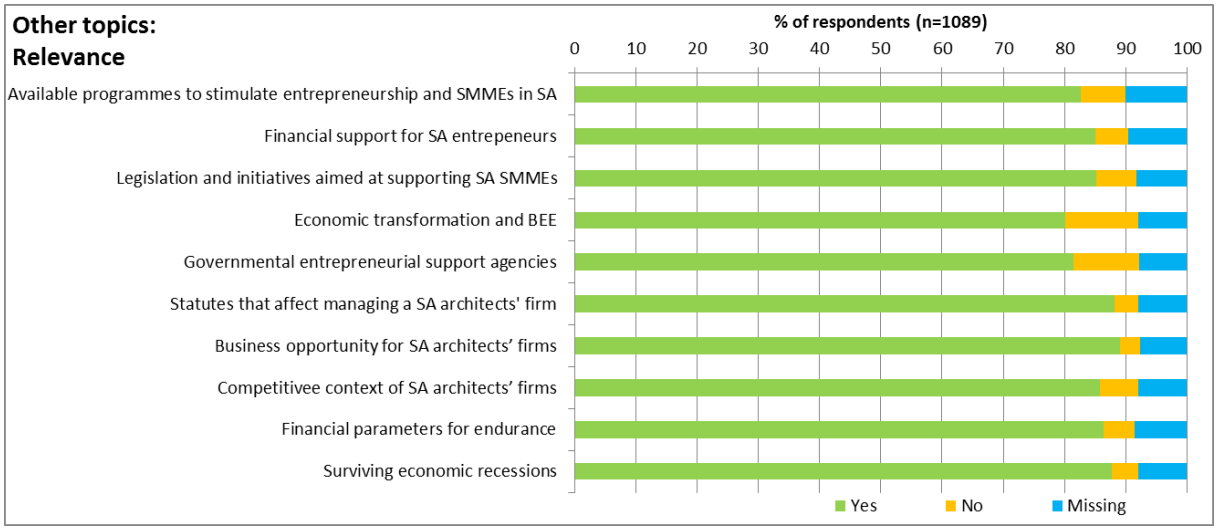


Figure 5.44 Other topics: Relevance (DBSA 2015)

xi. Business management

The eleventh aspect was business management which contained eight items to which respondents had to reply. Figures 5.45 and 5.46 indicate that these aspects received poor coverage in the education and training they had received thus far in their careers and that they believe these aspects to be highly relevant.

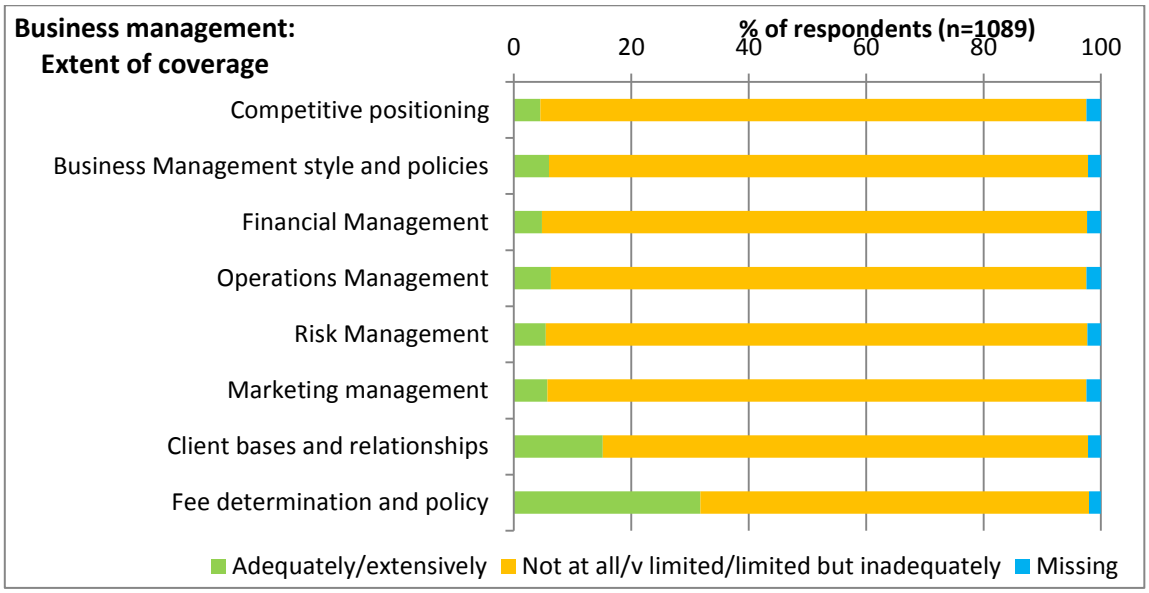


Figure 5.45 Business Management: Coverage (DBSA 2015)

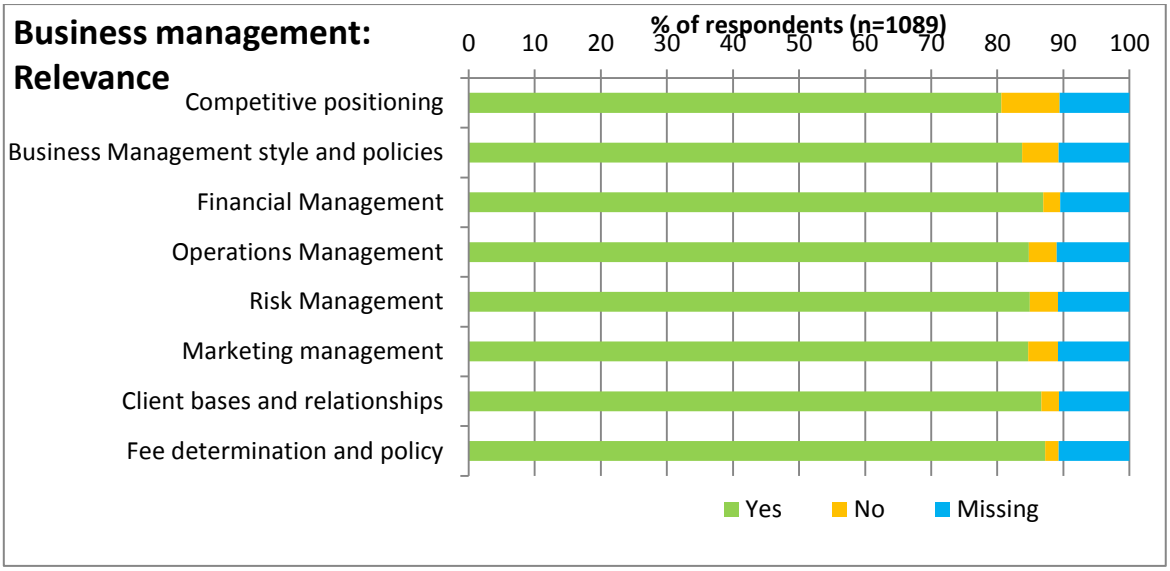


Figure 5.46 Business Management: Relevance (DBSA 2015)

B. Overall percentage of adequate or extensive responses for each of the 11 sections in Questionnaire C.

Table 5.89 show the descriptive statistics for the overall percentage of adequate or extensive responses received for each of the 11 sections. The data are very positively skewed.

Table 5.89 Percentage adequate or extensive responses received for variables in Questionnaire C (DBSA 2015)

Variable	N	N Miss	Mean	Std Dev	Median	Interquartile range		Minimum	Maximum
Entrepreneurial awareness	1075	14	11,1	27,9	0,0	0,0	0,0	0,0	100,0
Entrepreneurial orientation/intent	1045	44	30,8	23,4	22,2	11,1	44,4	0,0	100,0
Entrepreneurial skills	1064	25	15,9	20,1	14,3	0,0	14,3	0,0	100,0
Entrepreneurial performance	1069	20	3,8	16,2	0,0	0,0	00	00	100,0
Starting an architectural firm	1076	13	9,8	22,4	0,0	00	0,0	0,0	100,0
Firm design	1069	20	17,1	23,8	16,7	0,0	16,7	0,0	100,0
Formalising your plans	1075	14	6,1	18,4	0,0	0,0	0,0	0,0	100,0
Developing business management skills	1058	31	8,9	20,5	0,0	0,0	14,3	0,0	100,0
Support	1077	12	40,9	3,.8	33,3	0,0	66,7	0,0	100.0
Other topics	1042	47	4,5	12,6	0,0	0,0	0,0	0,0	100,0
Business Management	1045	44	10,2	18,9	0,0	0,0	12,5	0,0	100,0

C. Comparison of the overall percentage adequate or extensive responses between each of the 11 sections in Questionnaire C

Figure 5.47 shows the mean percentage of adequate or extensive responses received for each of the 11 sections. With a few exceptions, all the means for the 11 sections differ significantly. The area with the most coverage is Support, followed by Entrepreneurial orientation/intent (the latter largely due to the creativity and innovation items therein).

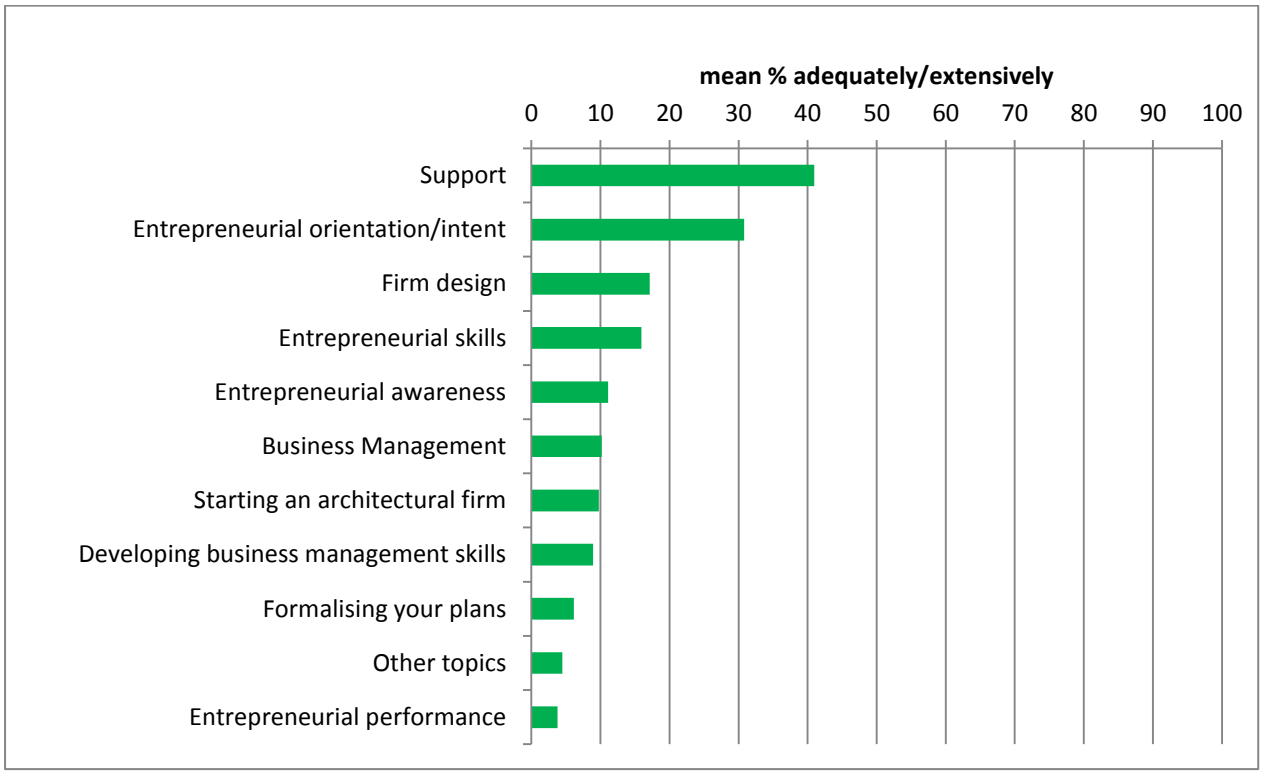


Figure 5.47 Comparison of the overall percentage adequate or extensive (DBSA 2015) responses received between sections in Questionnaire C

A comparison of the overall percentage of adequate or extensive responses for each of the 11 sections in Questionnaire C received from the respondent groupings was carried out. While many of the tests were significant the results are not useful and hence are not included.

D. Overall percentage of relevant responses received for each of the 11 sections in Questionnaire C.

The descriptive statistics for the overall percentages of relevant responses received for each of the 11 sections in Questionnaire C are presented in Table 5.90. Once again, the data are very positively skewed.

Table 5.90 Percentage relevant responses received for Questionnaire C (DBSA 2015)

Variable	N	N Miss	Mean	Std Dev	Median	Interquartile range		Minimum	Maximum
Entrepreneurial awareness	1017	72	96,8	15,0	100,0	100,0	100,0	0,0	100,0
Entrepreneurial orientation/intent	992	97	95,1	11,3	100,0	100,0	100,0	0,0	100,0
Entrepreneurial skills	995	94	96,9	9,9	100,0	100,0	100,0	0,0	100,0
Entrepreneurial performance	1004	85	89,9	26,1	100,0	100,0	100,0	0,0	100,0
Starting an architectural firm	1023	66	95,8	14,8	100,0	100,0	100,0	0,0	100,0
Firm design	1002	87	94,7	16,2	100,0	100,0	100,0	0,0	100,0
Formalising your plans	1014	75	96,3	15,1	100,0	100,0	100,0	0,0	100,0
Developing business management skills	999	90	95,1	16,1	100,0	100,0	100,0	0,0	100,0
Support	989	100	97,4	12,4	100,0	100,0	100,0	0,0	100,0
Other topics	951	138	92,9	18,0	100,0	100,0	100,0	0,0	100,0
Business Management	949	140	95,1	16,0	100,0	100,0	100,0	0,0	100,0

E. Comparison of the overall percentage of adequate or extensive responses between each of the 11 sections in Questionnaire C

Figure 5.48 shows the mean percentage relevant for each of the 11 sections. The mean percentage relevance differs significantly between the following areas:

- Support vs starting a firm, and all areas below it on the graph.
- Entrepreneurial skills vs entrepreneurial orientation, and all areas below it on the graph.
- Entrepreneurial awareness vs entrepreneurial orientation, and all areas below it on the graph.
- Formalising your plans vs entrepreneurial orientation, and all areas below it on the graph.
- Starting an architectural firm vs firm design and all areas below it on the graph.
- Entrepreneurial orientation vs other topics and all areas below it on the graph.

- Business management vs other topics and all areas below it on the graph.
- Developing business management skills vs other topics and all areas below it on the graph.

The areas with the highest relevance were support, entrepreneurial skills and entrepreneurial awareness, formalising plans. Other topics and entrepreneurial performance were considered the least relevant (but still highly relevant).

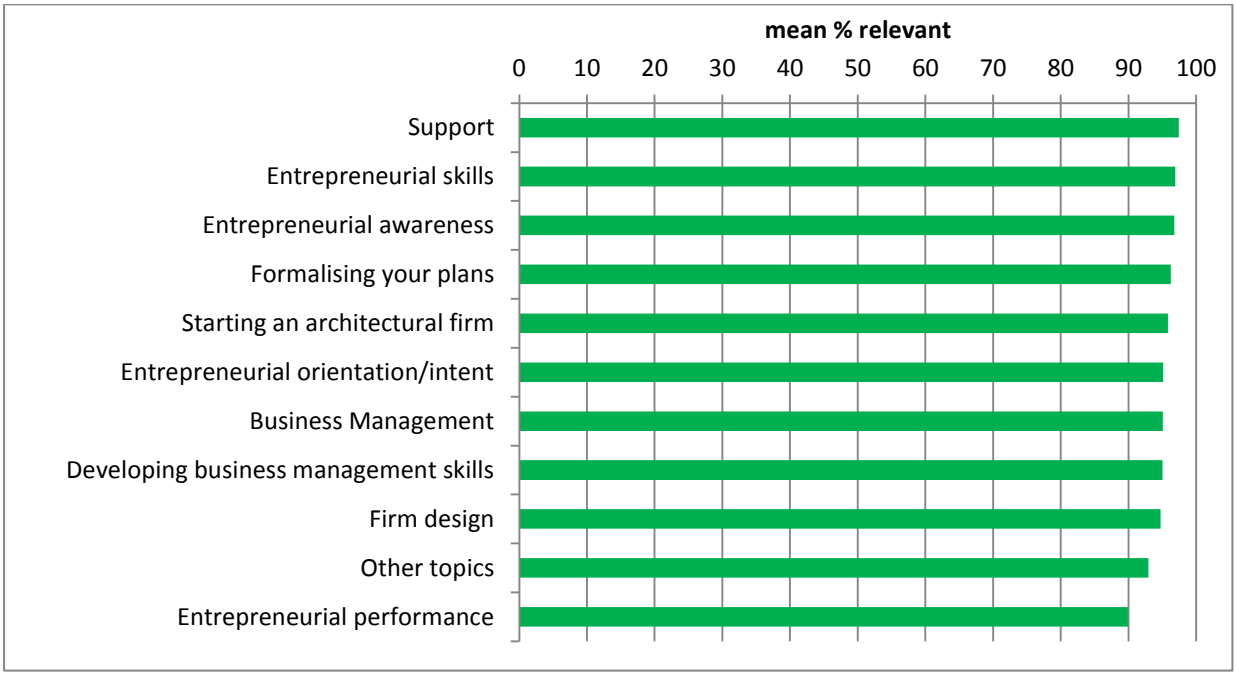


Figure 5.48 Percentage relevant responses received for sections in Questionnaire C (DBSA 2015)

5.4 Conclusion

This chapter presented the findings of the empirical research process employed to gather information that, after synthesis and analysis, will allow the researcher to draw conclusions and make recommendations.

The chapter started by reporting on the results and findings derived from the qualitative research study. The findings were presented per topic as contained in the interview guide that was used in the 26 semi-structured interviews that formed the data-gathering process of the qualitative study.

From the responses received it is apparent that the unique issues that need to be emphasised in relation to architecture practice in South Africa are:

- South African architects' firms present a unique managerial challenge.
- The major challenges identified fall into two broad areas, namely operational and business-related problems as the first group, and people or human relationship-related problems as the second group.
- The situation is caused by the complexity of the role of an architect, the personalities and persons involved, the low skills levels in the South African building industry, the nature of the service required, and economic, financial and environmental reasons, particularly neoliberal financial policies.
- Black Economic Empowerment regulation and the shortage of qualified black African staff is the major unique challenge.
- Firms respond to the above in the way they choose to operate or the way they are structured, while others respond through the way they do staff selection, appointment and development, and many respond by insisting on contract documentation that is of a very high standard.
- Another way of responding is by providing in-house staff training to sensitise staff regarding ethical risks while lobbying for change via SACAP.
- Firms should adapt procedures to local culture and ways of doing things.
- Firms should consider forming joint ventures that will have a favourable BBBEE rating and ensure that all the basic agreements are in place before starting a new project. Thereafter, firms should accept the identified challenges as business challenges and deal with them as such; there are challenges in all countries
- If possible, firms should identify and employ high-potential graduates and develop these (through mentorship) to meet their BBBEE requirements.

This was followed by the results and findings of the quantitative study. Here the demographic profile of the respondents was reported first. This was followed by descriptive statistics illustrating the results of the statistical analysis of the responses received to the questions posed in Questionnaires B and C.

The results highlight the changing nature of South African architectural practice as a result of the government's adoption of neoliberalist economic policies, the need to accommodate a 'new' South African reality in the commissioning of work and within architectural practice, and the devaluing of historic social capital and structures.

In the following chapter the results and findings of the empirical research processes will be compared and merged with the results of the literature study undertaken in Chapters 2 and

3. This will allow for the formulation of answers to the research questions formulated in Chapter 1. This will also allow for final conclusions and recommendations, including a framework for entrepreneurial education and training for South African architects.

CHAPTER 6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This study set out to address the problem of South African architects' firms battling to survive and grow by proposing a profession-specific EET programme for architects as a step towards improving the entrepreneurial performance of firms thereby reversing the current situation. This chapter will revisit the goal and objectives of the study as a first step towards drawing together the findings of the literature reviews conducted in Chapters 2 and 3 and the findings obtained through the empirical studies undertaken and reported in Chapter 5. This will be done in order to answer Research Questions 1 to 8. The answers to Research Questions 1 to 7 will be used to answer Research Question 8 which constitutes the primary objective of the study. Research Question 8 will be answered in Chapter 7. The chapter will also reflect on and confirm the need for a specialised EET framework for South African architects.

6.2 Goal, objectives and research questions

As stated in Section 1.3 (refer to page 8), the goal of the study is to contribute to the current scientific discourse regarding entrepreneurial education and training by proposing an effective integrated education, training and support system or framework that can enhance the entrepreneurial performance of South African architects' firms.

The primary objective of the study was to propose the format, content (in broad strokes) and characteristics of the aforementioned framework.

In order to achieve the goal and primary objective, secondary objectives were set (refer to Section 1.3 on page 8) which resulted in the research questions formulated in Section 1.7 (refer to page 37). The research questions guided the entire process and comprised of the following:

1. What are the pertinent aspects of the current discourse on entrepreneurship in architecture and entrepreneurship enablement?
2. What are the current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms?
3. Which entrepreneurial actions, practices and orientations enable enduring South African architects' firms to achieve this status?
4. What constitutes the current system for education and training of South African architects?
5. What is currently available and/or offered to South African architectural students and architects in terms of entrepreneurial education training and support?

6. What do South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during the respective, preceding phases of their careers and which aspects should be included in the envisaged educational, training and support framework?
7. Which issues are highlighted in the current discourse on entrepreneurship education and training?
8. What will constitute an appropriate education, training and support framework for South African architects and how the results obtained during the foregoing studies should be incorporated into such a framework?

6.2.1 The pertinent aspects of the current discourse on entrepreneurship in architecture and entrepreneurship enablement

The study, in Chapter 2 established that:

- The focus in the discourse on entrepreneurship has shifted from defining entrepreneurship and the characteristics and functions of entrepreneurs to the entrepreneurial process.
- In general, opportunity-based businesses outperform necessity-driven firms, but there are exceptions and cases of necessity entrepreneurs who have performed at a high level exist.
- For an economy to maximise its potential and benefit from entrepreneurial activity, it should encourage opportunity-driven entrepreneurship and thus the development of an entrepreneurial disposition amongst its population.
- Entrepreneurial activity can occur in both formal and informal businesses and ventures.
- Entrepreneurship plays a significant role in the modern economy and that adhering to entrepreneurial guidelines can significantly enhance the performance of any business, architects' firms included.
- There is substantial and growing interest in entrepreneurship and how it can enable the economic and social development objectives of governments.
- Stimulating and enabling entrepreneurship is high on the agenda of many governments.
- Significant consensus exists that many aspects of entrepreneurship can be taught.
- Human beings are unique and while all have certain innate abilities that can be of value in becoming established entrepreneurs; these can often benefit from development, enhancement and refinement.

- EET, which can develop and hone the skills required, and a supportive environment, are essential for the functioning of individuals and ventures, architects' firms included, in the modern economy.
- The benefits of entrepreneurial development go beyond simply producing potential entrepreneurs.
- If entrepreneurial activity is to be encouraged or enabled, interventions might also be required in aspects other than the attitudes or skills that individuals might have or need; these include mindsets.
- Many of the required mindsets reside at the societal level of countries and nations and are formed by factors such as culture, family and role models, education systems, work experience and personality.
- General attitudes towards entrepreneurship are the first aspects that should receive attention and, because of this, education that will create positive attitudes towards entrepreneurship should be included in primary, secondary and tertiary education.
- There is a need for EET and supportive actions at different levels and with a variety of outcomes.
- Architects establishing new firms are entrepreneurs just like all the other persons starting small businesses.
- Well-functioning ventures, architects' firms included, develop from a measure of entrepreneurial disposition and, following that, EET which can develop and hone the skills required, and a supportive environment.
- Young architectural professionals and even architectural students should be encouraged to start new firms as soon as they have built up sufficient experience.
- Firms might be started for either 'push' (forced to do so by circumstances) or 'pull' (attracted by the advantages of not working for someone else) reasons.
- Circumstances, or an opportunity arising, can lead to a situation where young architects find themselves having to take this step before having a well-rounded experience.
- Architects considering starting a new firm must be aware of the advantages held by opportunity-driven entrepreneurial ventures.
- Architects considering starting their own firms will find themselves facing a wide range of decisions and choices which they should consider carefully as part of a coherent planning process that should include strategic planning.
- This should result in a detailed business plan: like buildings, firms must be designed to suit their context and to meet the owner's needs.

- The entrepreneurial process in architecture is an extensive one with a number of unique features, for instance the role that design will play in the new firm, unique launching strategies, business models and operational methods.
- The founder's values are, after technology, the major determining factor shaping the operation, management and the type of work undertaken by a firm.
- Creative thinking will help the entrepreneur architect to plan a firm that can optimise the benefits associated with the identified opportunity.
- Generic entrepreneurship education and training will have limited application in architects' firms.
- There is a need for profession-specific EET for architects.

Hence, the focus of EET should be on encouraging the establishment of more opportunity-based businesses, or in terms of this study, opportunity-based architects' firms. To this end the entrepreneurial disposition of the general population should be stimulated by offerings that form part of the primary and secondary education system (something that falls outside the scope of this study). However, it should continue at the tertiary level.

In addition, a general supportive environment - one that can encourage and facilitate entrepreneurship - is required. This is the responsibility of Government. As reported in Chapter 3 (Section 3.6 page 107), wide-ranging support is available - support that architects can benefit from. This includes EET to develop the inherent traits that individuals may or may not have. Unfortunately, the unique nature of architectural business requires customised support, particularly EET and ongoing support.

6.2.2 The current entrepreneurial performance levels of firms, the entrepreneurial orientation of firms and the level of business management in firms

In order to answer the second research question, the empirical studies established the following (as reported in Chapter 5):

6.2.2.1 The current entrepreneurial performance levels of firms.

The quantitative study investigated the current entrepreneurial performance level of all South African architects' firms. Chapter 5 in Figure 5.10 (refer to page 250) illustrates that in terms of firm objectives:

- About 50% of respondents believe that firms met their initial objectives over the last three years.

- Approximately 55% of respondents are of the opinion that firms have been able to meet their founding objectives over the longer term.
- Slightly less than 50% of firms met their founding objectives during the last financial year.

Hence, only 50-55% of firms have been able to meet their founding objectives over the longer term.

Furthermore, Figure 5.11 (refer to page 251) illustrates that as far as profitability is concerned:

- Almost 60% of respondents believe that their firm's profit margin is too low under present circumstances.
- More than 60% of respondents believe that their firm's profit margin is acceptable under current economic circumstances.
- Only approximately 30% of respondents are of the opinion that their firm's profit margin compares well with that of comparable architects' firms.
- Only 40% of respondents are of the opinion that the firm can compensate its owners at an acceptable level.
- Slightly more than 50% of respondents indicate that their firm is not struggling to meet its financial obligations.
- Slightly more than 52% of respondents reported that their firm has not managed to build up substantial financial reserves.
- More than 25% of respondents considered that their firm's financial liquidity is not better than that of its competitors while only 22.97% believe it is.

The foregoing shows that respondents believe their firm's profit margin is too low, but is acceptable under the reigning economic conditions. While the majority of firms are not struggling to meet their financial obligations, they have not managed to build up substantial financial reserves[17] which could endanger their long-term survival.

As far as firm growth is concerned Figure 5.12 illustrates (refer to page 252) that:

- Firms are divided on growth experienced: slightly more than 30% of respondents believe that the firm has managed to grow as planned with slightly more than 28% indicating that the firm has not.

[17] As a rule of thumb it is recommended that small businesses should hold cash reserves that will cover their expenditure for between three and six months (White & White 2015:[sp]).

- More firms (29,46%) believe that they did not manage to gain market share relative to their competitors than firms who believe they did (23,67%).
- A total of 34,8% of respondents believe that their income has grown satisfactorily compared to the 32,02% who believe that it did not. There is low disagreement about the firm growing faster than their competitors.
- A total of 36,89% of respondents believe that their firms have grown slower that their competitors while only 14,62% believe the opposite.
- Almost 52% of respondents believe that growth is constrained by economic conditions in the profession.

This indicates that there is moderate agreement that growth is unsatisfactory and constrained by economic conditions in the profession.

When stakeholder satisfaction is considered, Figure 5.13 (refer to page 253) illustrates that:

- According to respondents, less than half (43,83%) of stakeholders are satisfied with firm performance.
- Respondents indicate that stakeholders are divided about their return on investment with 28,07% being satisfied compared to 25,29% who are not.
- Respondents are divided about their firm's growth with 28,53% who are satisfied and 23,49% who are not.
- Most respondents (55,69%) believe stakeholders are satisfied with their firm's public image.
- Respondents believe that stakeholders are divided about the firm's market share with 24,59% being satisfied and 26,68% dissatisfied.
- Respondents indicate that 49,19% of stakeholders are confident about their firm's future prospects.

Thus, respondents report that stakeholders are mostly divided between those who are satisfied and those who are not satisfied with the current situation. As far as the firm's future prospects are concerned the same division is noted with slightly less than 50% having a positive outlook.

The foregoing indicates that respondents are split on many aspects relating to entrepreneurial performance with subdued responses to most aspects. Hence it can be concluded that entrepreneurial performance levels are below expectations and largely unsatisfactory.

6.2.2.2 The entrepreneurial orientation of firms

The entrepreneurial orientation of firms was probed by both the qualitative and quantitative studies undertaken. The qualitative study included as its first topic ‘entrepreneurial orientation’ refer to 5.2.1 (page 174) and 5.2.1.1 (page 182). Here it was found that:

- A total of 25% of founders drifted into starting their own firms by circumstances (hence weak entrepreneurial postures/orientation) and 33% were drawn to it for a variety of reasons (medium entrepreneurial postures/orientation), while only the remaining 42% displayed relatively strong entrepreneurial postures/orientation. Thus, the entrepreneurial orientation of most of the founders of these enduring architects' firms seems to have been at low levels.
- Almost 75% of the respondents are not risk takers but a shade of risk averse.
- Architectural entrepreneurs can be risk averse because the majority of the founders of enduring firms are not ‘risk takers’.
- Regardless of entrepreneurial disposition, well-managed architects’ firms can survive for 15 years or longer. However, having such an entrepreneurial orientation or posture could be beneficial if the firm is to survive for 15 years or more (refer to 5.2.1. and A2 in Addendum C).
- The traits often associated with entrepreneurs are present (or have been developed) in many of the founders of enduring architects’ firms, regardless of firm size.
- Most of the enduring firms in the sample were started by proactive individuals. This indicates that having this trait could be advantageous for the founders of architects’ firms.
- Because 25% of the founders of enduring architects’ firms do not regard themselves as competitive, it is advantageous and recommended, but not essential, for the founders of an architects' firm to be competitive.
- Enduring architects’ firms can be started for ‘push’ or ‘pull’ reasons but that most enduring architects' firms were started for ’pull’-type reasons.
- Opportunities for architects can be found by developing networks, being vigilant and entrepreneurial, by following one’s passions or by using past experience (specialisation).
- Architects should also consider intrapreneurship.
- Opportunities exist if architects can develop entrepreneurship skills.

Competitive positioning of firms can reflect on a firm’s entrepreneurial orientation. When probing this aspect, the qualitative study established that (refer to 5.2.7.1 on page 202):

- Only about 50% of responding enduring architects' firms did some form of strategic or business planning before starting out.
- Very few of the surveyed enduring architects' firms have articulated mission and vision statements.
- Many surveyed enduring architects' firms regard themselves as firms that are strong on ideas, delivery, and experience while some enduring architects' firms regard themselves as strong on experience, and two smaller groupings see themselves as strong ideas and strong delivery-type firms.
- Of enduring architects' firms surveyed, 20% compete on the basis of cost while 40% compete on the basis of a differentiated offering, and 40% do not compete on the basis of either.
- At least 60% of the firms who responded developed some form of competitive strategy.
- In total, 80% of responding enduring architects' firms have developed some form of speciality. This could indicate that it is advantageous for a firm to develop either a single building type or multi-building type speciality.
- It would seem that there might be a link between the founders' connections and the firm's endurance.
- Responding enduring firms have built up a competitive advantage based on specific skills and knowledge/experience, use of technology, marketing delivery and connections.
- Ways in which firms can develop a competitive advantage include learning to provide superior service, deliver buildings more speedily, efficiently and more cost effectively and/or by specialising in certain building types.
- Most of the responding enduring architects' firms surveyed do regular strategic planning, either formally or informally. However, a number of the responding enduring architects' firms don't do any strategic planning.

From the foregoing, it appears that entrepreneurial orientation and competitive positioning amongst some (but not all) enduring architects' firms are at low levels. Firms were started, and some continue, without any strategy or articulated vision or business plan in place. Some firms continue without any specific competitive advantage or without having developed specialities. This contradicts some of the answers obtained under Topic A where the majority indicated that they considered themselves to be competitive. However, it does confirm earlier findings that the entrepreneurial orientation of enduring architects' firms is an aspect that is lacking. This could possibly be because so few of the respondents attended some form of business/entrepreneurial education and training. It could also be as a result of the lingering remains of the paradigm that regarded statutory professionals as a unique form

of enterprise as it existed during the earlier Keynesian period. While the result cannot be generalised, a profession-specific EET programme that includes strategic management could ensure that this situation is not repeated in future firms.

The quantitative study also probed the topic of entrepreneurial orientation. Section 5.3.2.2 (ii) (refer to page 249) and Figure 5.14 (page 254) indicate that:

- The vast majority (82,36%) of respondents indicated that their firm continuously strives to improve its processes.
- There is very high level of agreement (89,79%) amongst respondents that their firm continuously strives to improve its product quality.
- There is very high agreement (92,51%) amongst respondents that their firm continuously strives to improve its service to clientele.
- The majority (70.07%) of respondents have indicated that their firms continuously strive to use the latest technology.
- A total of 77,72% of respondents indicated that their firms continuously strive to improve their profitability.

Thus it is clear that architects' firms are innovative. Considering the creative nature of the profession this is to be expected. In terms of 'risk taking' the study found (refer to Figure 5.15 on page 255) that:

- There is moderate agreement (34,8%) that the firm is highly risk averse.
- There is low to moderate disagreement (42,85%) that the firm operations can generally be characterised as high-risk.
- A total of 51,5% of respondents indicate that their firm has a tendency to support projects where expected returns are certain.
- Slightly more than half (52,44%) of respondents indicate that the firm's operations have generally followed a 'tried and tested' route.
- The clear majority (66,82%) of respondents believe that the firm doesn't mind spending money on aspects that might improve its services or profitability.
- Respondents are divided on the issue of 'working at risk': 38,74% of respondents agreed that they do work at risk while 41,3% disagreed.
- Few respondents (21,81%) agree that their firm has a risk management policy in place.

Therefore, it is apparent that there was moderate agreement that firms will spend money on aspects that might improve services or profitability, but that firms had a tendency towards

seeking certain returns and following 'tried and tested' routes. While the results do not reflect on the levels of risk tolerance in firms, the absence of a risk policy in firms would indicate that firms are not treating risk in a proactive and calculated manner as could be expected from organisations that are entrepreneurially oriented.

The entrepreneurial orientation as reflected by the proactiveness of the firm was also probed. The results (refer to Figure 5,16 on page 256) indicate that:

- Responses received indicate that 41,99% of the respondent's firms were established after identifying a viable opportunity.
- Respondents indicate that 71,23% of their firms continuously look for new opportunities.
- Respondents indicate that 45,24% of their firms hold regular project planning meetings.
- Less than half (47,1%) of respondents indicate that competitors generally preempt the firm by expanding capacity ahead of time.
- The majority of respondents (60,09%) believe that their firms place great importance on staff development.
- Only 35,73% of respondents indicate that their firms hold regular strategic planning meetings.

As pointed out in Chapter 5, some of the responses received for the quantitative study are at variance with the findings of the qualitative study. However, it can be assumed that the quantitative study found that there is moderate agreement that firms continuously look for new opportunities, and place great importance on staff development. Project or strategic planning is not done on a regular basis and the majority of firms were not established following the identification of a viable opportunity.

The quantitative study also considered entrepreneurial orientation from the point of view of 'competitive aggressiveness'. From the results as displayed in Figure 5.17 (refer to page 258) it can be regarded that:

- There is low agreement (34,33%) that the firm has developed a distinct competitive advantage.
- There is low agreement (31,32%) that the firm has sacrificed profitability to gain market share.
- There is low agreement (40,83%) that the firm has cut fees to gain market share.
- Few respondents (only 11,6%) believe that the firm markets itself aggressively.

- Only 31,32% of respondents believe that their firm is acutely aware of who its strongest competitors are and what their strengths and weaknesses are.
- As few as 16,48% of respondents indicate that their firm markets itself to clients who currently use other architects.

Thus, it appears that firms are not very competitive, have not developed a competitive advantage and don't actively or aggressively seek new clients or appointments.

The foregoing can be summarised as follows: the qualitative study found that the entrepreneurial orientation of the founders of the majority of these enduring architects' firms seems to be at low levels. The quantitative study confirmed that firms are not very competitive (Figure 5.11), but unlike the qualitative study it found that most firms have not developed a competitive advantage and don't actively or aggressively seek new clients or appointments. The reason or reasons for the differences between the two studies are not apparent but could lie in the fact that the qualitative study only investigated enduring firms (firms older than 15 years with a current ratio of at least 2:1) while the quantitative study included all firms regardless of their age, with 56,4% being younger than 15 years (in fact 30,9% are even younger than 7 years), while 38,7% of these firms have current ratio is less than 2:1 (DMSA 2015:7-8). Another difference could be the relatively more even distribution of firm sizes in the qualitative sample when compared to the uneven distribution in the quantitative study where 68,9% of responding firms were single-partner firms and 25,8% were two- or three-partner/director firms. Also, in the quantitative study, 55% of respondents employed three or fewer full-time architectural staff. Another reason could be that the qualitative study (with the exception of the two firms located in the countryside) focused on firms located in the major metropolitan areas whereas the quantitative study included all South African firms regardless of where they were located.

Despite the differences, it can be concluded that the entrepreneurial orientation of enduring (and other) architects' firms is an aspect that is lacking. This could possibly be because so few of the respondents received some form of business/entrepreneurial education and training, but this has not been determined.

6.2.2.3 The level of business management in firms

When considering business management style and policies, the qualitative study (refer to 5.2.8.1 on page 209) found that:

- The respondents believe that South African architects' firms present a unique managerial challenge.
- The major challenges identified fall into two broad areas, namely operational and business-related problems as the first group, and people or human relationship-related problems as the second group.
- The respondents believe the situation is caused by the complexity of the role of an architect, the personalities and persons involved, the low skills levels in the building industry, the nature of the service demanded and by economic and financial environmental reasons.
- Black Economic Empowerment regulation is regarded as the major unique challenge due to the shortage of qualified persons from previously disadvantaged backgrounds (refer to 1.5 on page 22).
- The firms surveyed have responded in various different ways to the perceived unique challenges facing South African architects' firms: some responses relate to the way they operate or the way they are structured while others relate to staff selection, appointment and development.
- Managing a small firm has definite advantages over managing a bigger firm and that managing a big firm can be more demanding than managing a smaller one.
- Managing a small firm is regarded as simpler from a procedural point of view.
- Large firms have certain advantages such as increased capacity to absorb fluctuating workloads and other demands made on the firm, the chance to develop specialist managerial skills and a wider range of input when problems are encountered.
- The stature of bigger firms could be an advantage when seeking commissions.
- The respondents practice a wide range of management styles and the 'participative' style is used by most of the respondents.
- The 'consultative' and 'autocratic' styles are practiced by two smaller but significant portions of the sample while an even smaller group use the 'laissez-faire' style.
- The fact that a significant number of respondents use the 'autocratic' style indicates that an EET programme for architects must include leadership development.

Considering indications that staff relations often are problematic in firms, the absence of policies (as will be reported further on) regarding a number of managerial aspects, including human resources, could be a contributing factor. Policies ensure consistent and predictable reactions to crises, requests, proposals and even-handed treatment of all staff. In addition,

considering the uniquely South African challenges indicated, particularly BBBEE, the absence of clear policies to guide operations needs attention.

As far as financial management in firms is concerned, the responses received to the questions posed have shown that (refer to 5.2.9.1 on page 215):

- A total of 88% of responding enduring architects' firms employ financial administrators comprising either internal non-specialists, internal specialists, external specialists or a combination of internal and external persons.
- Only 56% of responding firms do some form of budgeting or forecasting and thus as many as 44% of responding firms do not practice budgeting - the most basic form of financial management.
- Firms that do budget use a variety of budgeting models.
- Budget monitoring takes place at intervals that vary between weekly and yearly.
- Yearly and even half-yearly budget monitoring reflects low levels of appreciation for the importance of financial management.
- The majority (69%) of responding enduring architects' firms have monthly financial statements prepared.
- The majority (88%) of the respondents indicated that they do perform ratio analysis to gauge the firm's profitability, liquidity, and general financial wellbeing.
- At least 54%, but possibly as many as 100%, of the surveyed enduring architects' firms use external auditors (based on the statutory requirements of the type of firm chosen, for instance a Private Company).
- The majority of responding architects' firms (71%) indicated that they actively managed their cash-flow situation.
- When considering the importance of invoicing on cash flow it is concerning that only 54% of firms invoice on a monthly basis.
- Equally concerning is the fact that half of the respondents don't seem to have a set follow-up policy.
- More than half the firms (56%) have experienced or are concerned about non-payment but 44% of responding firms do not regard it as a major problem.

The above indicates that financial management in the enduring architects' firms studied leaves substantial room for improvement. As far as operations management is concerned the qualitative study found that (refer to 5.2.10.1 on page 219):

- The majority of respondents (88%) organise their operations on a project basis.
- All respondents indicated that they operate on the basis of work-teams.

- A total of 75% of respondents use target dates as a mechanism to manage progress and meeting of deadlines.
- Two thirds of respondents indicated that they firmly enforce target dates while the remainder indicated that they do not enforce them very rigidly.
- Responding enduring architects' firms have found ways to complete designs without waiting for inspiration.
- Achieving deadlines are important or very important to most (83%) responding enduring architects' firms.
- Punctuality coupled with good time management could be a requirement for firms to reach 'enduring' status.
- As far as quality management is concerned it was confirmed that ultimately the firm's principals must accept the risks associated with quality and liability.
- The principals of responding enduring architects' firms often delegate this responsibility to others in the firm.
- Outsourcing is a common practice amongst respondent enduring architects' firms.

The foregoing indicates that enduring architects' firms, with a few exceptions, have developed and implemented sound operational procedures and practices. When considering risk management it was found that (5.2.11.1 refer to page 222):

- Only two thirds of responding architects' firms prefer to use, directly or indirectly, the standard service provider agreements negotiated between all stakeholders.
- The remaining third could be exposed to a variety of risks implying inadequate risk management.
- Respondents from enduring architects' firms that do use the standard multi-party negotiated agreements negotiate changes to limit the Professional Indemnity Insurance required, the quantum of liability claims allowed and the period of liability.

The above indicate that many enduring architects' firms leave themselves exposed to substantial professional liability risk. When it came to marketing management, section 5.2.12.1 (refer to page 225) established that:

- Responding enduring architects' firms use a variety of strategies and marketing methods to procure work: networking was mentioned by 40% of firms, followed by using websites and social media (mentioned by 30% of firms), getting published (mentioned by 25% of firms) and winning competitions and awards (mentioned by 15% of firms).

- Placing advertisements, getting involved in social organisations and socialising with the specific aim of marketing the firm were each mentioned by 10% of the responding firms while only 5% mentioned using 'cold calls'.
- Apart from active marketing, firms also rely on other means and strategies to procure work.
- Providing extra service and value to their clients (leads to recommendation/return clients), building relationships with the view of getting return clients, creating general (public) awareness and very importantly, recommendation(s) (or word of mouth) from past clients or others within their professional networks, are strategies employed to secure future appointments.
- Nearly all the respondents (94%) agreed that actions that will result in repeat clients or 'word of mouth' referrals are the best way to secure future appointments. This indicates that firms still have a deep-rooted value attached to social networks.
- These goals can be achieved by offering superior levels of service that respond to or exceed expectations, by forming relationships and by providing exceptional service that should in most cases result in strong relationships.
- Getting published was recommended by 13% of respondents.
- Showcasing the firm to potential clients either by cold canvassing or participation in social or professional organisations appears to have a relatively reduced chance of securing future appointments.

The foregoing indicates that the enduring architects' firms studied use a variety of ways to market themselves.

The quantitative study concerning business management in all architects' firms, when focusing on planning as a managerial function, found the following, as illustrated in Figure 5.18 (refer to page 260):

- That 39,91% of respondent's firms have weekly planning meetings.
- That 47,56% of respondent's firms hold yearly strategic planning/review meetings.
- Less than half (47,33%) of respondents' firms hold at least one budget planning meeting a year.
- Even fewer respondents (37,59%) report that their firm's budget responds to decisions taken during strategic and other planning meetings.
- Many respondents (63,57%), indicate that project planning is done at the start of a project.
- That 53,36% of respondents indicate that, in their firm, project planning includes a project budget.

Thus, there is moderate agreement that project planning is done at the start of a project, and includes a project budget. However, it does show low levels of planning done as part of the management function. It also confirms some of the earlier findings regarding inadequate financial planning (and management) but contradicts earlier findings about acceptable levels of operations management. Once again this could be because the quantitative study included all architects' firms and not only enduring firms and the other differences between the two studies as highlighted earlier. However, because some of the findings are contradictory it is not clear what the causes of the differences could be but this falls outside the scope of this study. What is striking is that one would expect members of a 'planning' profession to understand the benefits of planning and hence that it should play a prominent role in their management routine.

Figure 5.19 (refer to page 261) illustrates the results of the questions used by the quantitative study to probe firm management from the organisational perspective. It indicates that:

- There is moderate agreement (57,77%) that resources are allocated on a project basis.
- There is low agreement (46,17%) that resource allocation is based on decisions taken during planning meetings.
- Many respondents (57,31%) report that projects are performed by project teams under the direction of a project architect (much lower than the situation with enduring firms).
- There is moderate agreement (59,63%) that the partners/directors of the firm each have specific responsibilities.
- There is low agreement (44,55%) that the firm employs support staff who deal with a variety of administrative and support functions.

The responses received indicate low to moderate levels of firm management when viewed from the organisational perspective. Most noticeable are the differences between these responses and the findings of the qualitative study which found that enduring architects' firms distinguish themselves by making much greater use of support staff that perform a variety of administrative and support functions and project teams. Some of the responses are in line with earlier findings regarding the low levels of financial management in firms.

The probe into firm management from the perspective of 'leading' found, as illustrated in Figure 5.20 (refer to page 262) that:

- Only 39,68% of respondents indicate that in their firms, partners or directors have to account for their performance on a regular basis.
- Only 45,74% of respondents indicate that in their firms, project architects have to account for the project team's performance.
- There is low agreement (43,15%) that organisational learning and development receives its due responsibility.
- There is moderate agreement (64,5%) that the firm's culture includes aspects like experimentation, open exchange of ideas and accepting responsibility.
- There is low agreement (46,4%) that actions aimed at developing team spirit and loyalty are organised from time to time.

The responses indicate that amongst all architects' firms, leadership levels, and the management thereof, leave ample room for improvement. Respondents seem largely unaware of current management practice and theory. A notable difference with the study that probed only enduring firms is that such firms attach much greater importance to organisational learning (refer to 5.2.4.1 on page 191) hence not learning about current leadership theory could be the cause for this shortcoming.

When probing firm management from the 'control' perspective, the study found, as illustrated by Figure 5.21 (refer to page 263) that:

- Only 55,22% of respondents indicate that in their firms planning meetings include project progress review.
- Fewer respondents (34,34%) indicate that progress reviews include a comparison between project budget and project expenses.
- Fewer respondents (34,11%) indicate that staff completes time sheets - the basis of cost management and prediction.
- Fewer respondents (15,54%) indicate that that specialist software is used to record and track project expenses.
- In the light of the foregoing, it is not surprising that respondents indicate that in only 26,68% of their firms project costs are analysed and reviewed with the view of cost planning and future fee estimates.

The foregoing indicates that there is moderate agreement that planning meetings include project progress reviews. There was moderate disagreement that specialist software is used

to record and track project expenses and low disagreement or low agreement that project costs are controlled, monitored and analysed for future use. On the whole, the results are not very different to the situation uncovered in enduring firms (refer to 5.2.14.1 on page 235). The results indicate low levels of control and firm management. Noteworthy at this point is that the statistical analysis of the responses received found that the strongest correlations occurred within two sections:

Entrepreneurial performance:

- Firm objectives were positively correlated with Profitability (r=0.65)
- Growth was positively correlated with Profitability (r=0.68)
- Stakeholder satisfaction was positively correlated with Profitability (r=0.67) and Growth (r=0.69)

Firm management:

- Planning was positively correlated with Organising (r=0.72), Leading (r=0.61) and Control (r=0.64).
- Leading and Organising were positively correlated (r=0.68).

This indicates that, in architects' firms, there is a link between firm management and entrepreneurial performance. Hence, in the light of the disappointingly low levels of firm management uncovered by both the qualitative and quantitative studies, it seems that this could be the cause, at least partly, for the lacklustre entrepreneurial performance found in 6.2.2.1 (refer to page 288).

Thus, based on the foregoing it can be concluded that both studies indicate that levels of business management are lower than they should be. If the direct relationship between firm management and entrepreneurial performance uncovered during the statistical analysis is considered, it would appear that inadequate business management is contributing to low entrepreneurial performance.

6.2.3 The entrepreneurial actions, practices and orientations that enabled enduring South African architects' firms to achieve this status

The qualitative study that probed 26 enduring architects' firms identified the following actions, practices and orientations that enabled such firms to achieve this status (refer to 5.2 on pages 173-241):

- Almost 75% of the respondents are not risk takers but tend to be risk averse.

- Regardless of entrepreneurial disposition, well-managed architects' firms can survive for 15 years or longer. However, having such an entrepreneurial disposition could be beneficial if the firm is to survive for 15 years or more.
- The traits often associated with entrepreneurs are present (or have been developed) in many of the founders of enduring architects' firms regardless of firm size.
- Architectural entrepreneurs can be risk averse as the majority of the founders of enduring firms are not 'risk takers'.
- The majority (54%) indicated that their founders were competitive persons while a further 21% indicated that their founders were competitive but in a subtler way. This brings the total of competitive respondents to 75%.
- Most of the enduring firms in the sample were started by proactive individuals. This indicates that having this trait could be advantageous for the founders of architects' firms.
- That creativity is indeed core to the operation of architectural firms.
- Creativity can play a role in various aspects of an architectural firm's operations and for the benefit of many of a firm's stakeholders, hence transferring this ability to all spheres of the firm's activities should be encouraged.
- Innovation is part and parcel of starting and managing an enduring architects' firm: many enduring architects' firms are innovative in the way they conduct their business.
- The vast majority of respondents recognised the need for and importance of dedicated organisational learning.
- The majority of enduring architects' firms think it is somewhat important, important or very important to employ the latest software.
- The reading of professional journals is advisable as it is a practice often associated with firms that have grown beyond the small firm category.
- All the formats or styles of practice available to South African architects' firms are used by enduring architects' firms.
- Firms choose the style or format of their firm based on a variety of considerations.
- Firm structure or style, by itself, is not a critical factor affecting the endurance of a firm, provided that measures are put in place to protect assets as far as possible against claims from outside the firm.
- The majority of respondents consider themselves to be 'practice-centred businesses' or a variation thereof which suggests that 'practice-centred businesses' might have an increased likelihood of achieving enduring firm status.
- Values played a very important role in the survival of enduring architects' firms.
- Being competitive is important.

- Specialising is important: the majority of responding enduring architects' firms (80%) have developed some form of speciality.
- It would seem that there might be a link between the founders' connections and the firm's endurance. This points to the continuing importance of social capital which is often seen as the opposite to neoliberal market patterns often aligned with EO.
- Responding enduring firms have built up a competitive advantage based on specific skills and knowledge/experience, use of technology, marketing delivery and connections.
- Ways in which firms can develop a competitive advantage include learning to provide superior service, deliver buildings more speedily, efficiently and more cost effectively, and/or by specialising in certain building types.
- Regular strategic planning is important: most of the responding enduring architects' firms surveyed do regular strategic planning, either formally or informally. Only 26.6% of the responding enduring architects' firms don't do any strategic planning.
- Planning ahead allowed firms to endure.
- Staying out of debt allowed firms to endure.
- Building-up resources (reserves) helped firms to endure.
- Seeking and following advice from financial professionals allowed firms to endure.
- Thorough financial planning and management are of critical importance for the survival of architects' firms.
- Achieving deadlines are important or very important to most respondent from enduring architects' firms.
- Punctuality coupled with good time management could be a requirement for firms to reach 'enduring' status.
- Some enduring firms ensconce themselves against liability claims by using the standard multi-party negotiated agreements, and then negotiating changes to limit the Professional Indemnity Insurance required, the quantum of liability claims allowed and the period of liability.
- While different approaches or strategies can be followed when marketing the firm, some stand out as being the more likely to result in sustained commissions. Most notable amongst these is the recommendation regarding exceptional service levels and long-term relationships.
- The service firms provide means recurring appointments because it has allowed them to build relationships with past clients.
- The recommended fee scale published by SACAP still forms the basis of the fee determined by 77% of responding enduring architects' firms.

- More than half (54%) of responding enduring architects' firms indicated that they do tender for projects; again, the SACAP-recommended fee scale forms the basis for the preparation of competitive fee offers for most firms.
- The study also established that slightly more than half of the responding enduring architects' firms that responded do 'work on risk' but only under specific conditions.

In summary, many enduring architects' firms have adopted the actions, practices and orientations outlined in this section. Most noteworthy is the fact that many firms still value, and actively build, social networks as an entrepreneurial strategy. The firms have indicated that these are the factors that allowed them to survive and prosper for more than 15 years. While not all firms adopted all of the above, the factors outlined above have been identified as commonalities that characterise the way in which most firms reached this status. Hence these actions, practices and orientations should be shared with entrepreneurial architects through a profession-specific EET framework.

6.2.4 The current system for education and training of South African architects

The fourth research question was covered by the literature study and the findings are reported in Chapter 3 (refer to 3.2 on page 97). The investigation found that the education and training system for South African architects consists of three phases namely university education, followed by in-service training and finally a CPD system that aims to ensure life-long learning (refer to Figure 6.1).

The format of the first phase comprising architectural programmes at universities or universities of technology is prescribed by the latest iteration of the National Qualifications Framework (NQF) known as 'The Higher Education Qualifications Sub-Framework' (HEQSF). This framework was introduced in January 2013 and is in the process of implementation (CHE 2016). The framework provides for two streams that can be followed to a Professional Master's degree, the qualification required by SACAP for registration as a Candidate Architect. The content of the programmes are developed by the individual universities or universities of technology according to requirements set out in SACAP's prescribed 'Competencies for validation' and to a lesser extent the CAA's 'validation criteria. Proposed programmes are approved by the particular university's Senate before submission to the Department of Higher Education and Training and the Council for Higher Education for approval. Once approved by the aforementioned bodies, the program can be introduced where after SACAP and the CAA validates the programme to ensure compliance with their minimum criteria. Programmes can be either five- or six-year programmes comprising either three or four successive qualifications.

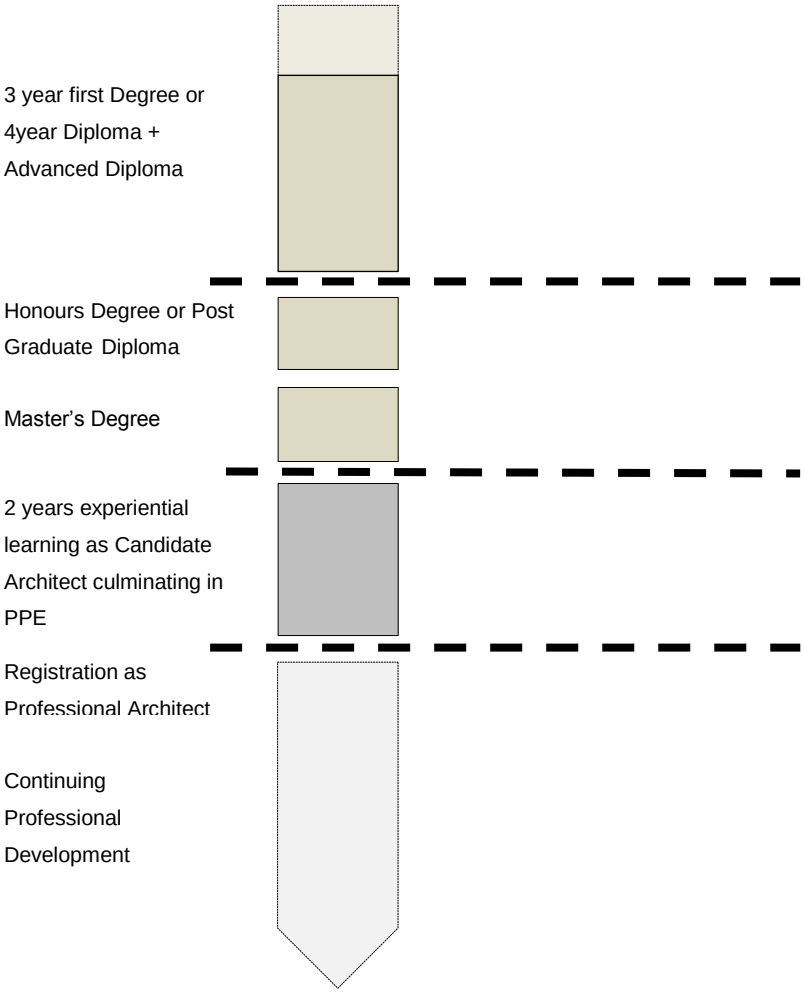


Figure 6.1 Current education and training framework for South African Architects (Figure by author)

After their final graduation, architectural graduates are expected to register as Candidate Architects and complete two years of experiential learning culminating in the writing of the Professional Practice Examination (PPE). The training must take place under the supervision of a Professional Architect and should be structured to place progressively more responsibility on the candidate. The experiential learning process and the contents of the final examination are determined and controlled by SACAP who uses 'categories of experience' as guidelines to control the experience received. Candidate Architects receive some formal education during this period but this is restricted to preparation for the PPE.

Once candidates have successfully completed the PPE examination, they can register as Professional Architects. Once registered, professional architects have to achieve a prescribed number of Continuing Professional Development (CPD) credits every year as part of an ongoing learning process controlled by SACAP.

6.2.5 Current entrepreneurial education training and support available to South African architectural students and architects

The fifth research question asked 'What is currently available and/or offered to South African architectural students and architects in terms of entrepreneurial education training and support?

The findings of the literature study into this matter was reported in Chapter 3, more particularly in sections 3.3 'Entrepreneurial education as part of current University architectural programmes in South Africa' (refer to page 102), 3.4 'Entrepreneurial training as part of current architectural Continuing Professional Development programmes in South Africa' (refer to page 104), 3.5 'Literature on EET for architects' and 3.6. **'**Entrepreneurial development and support available in South Africa' (refer to page 107).

The above investigation found that there is a very limited range of EET content included in the formal education of South African architects. Similarly, a review of the topics or 'categories of experience' covered during the two year 'candidacy' period or in the preparations for the PPE did not find anything specifically EET related. Neither were any EET-related topics found in past CPD offerings available to South African architects. These findings were confirmed by the responses received to Questionnaire C as part of the quantitative study (refer to 5.3.2.3 on page 267) and 6.2.6 hereunder.

A number of books on 'starting your own firm' are available but none of these are from South African authors. By contrast the review found that substantial generic entrepreneurship support (funding and training) is available to all South African entrepreneurs, architects included. Unfortunately, as has been pointed out in Chapter 2 and again on a number of occasions in Chapter 3, generic EET offerings and books, while having value, will have limited benefit to architects due to the uniqueness of architectural business (refer to 1.6.5 on page 31 and 5.2.8.1 on page 209). However, official initiatives to promote entrepreneurial activity, particularly to provide funding, can benefit architectural entrepreneurs and the final proposals arising from this study should take this into consideration.

6.2.6 The shortcomings of the EET and support offered during the respective phases of architect's careers and which aspects should be included in the envisaged educational, training and support framework

The sixth research question asked 'What do South African architects and candidate architects, in retrospect, regard as the shortcomings of the EET and support offered during

the respective, preceding phases of their careers, and which aspects should be included in the envisaged educational, training and support framework?

In order to answer this question, the empirical investigation included a questionnaire (Questionnaire C) as part of the quantitative study and also included related questions in the qualitative study (refer to all topic themes but particularly to P Topic: Entrepreneurial support in Addendum C).

6.2.6.1 Findings of the quantitative study

The responses received to the questions in Questionnaire C were reported in 5.3.2.3 (refer to page 267). The questionnaire asked respondents to firstly reflect on the coverage received on a number of EET-related aspects or topics, during the education and training received since the start of their university studies, and secondly on the relevance of these topics as part of a future EET framework. Table 6.1 lists the percentages of 'not at all/very limited/limited but inadequate' coverage and relevant responses received per aspect/topic.

The table illustrates that the vast majority of topics are not covered adequately while being considered as relevant as part of a profession-specific EET framework. These findings - regarding the way in which training/education is viewed by those who received it - should be considered from the perspective of their desire to acquire entrepreneurial skills, based on their experience in practice. This is very important as it indicates that they are experiencing a paradigm shift caused by the dynamics of a system that is in the process of changing as it adapts to external pressures brought about by changes in the macroeconomic environment in South Africa and elsewhere. The fact that the collective network-based (social capital) approach is no longer a solely reliable source of work must be acknowledged. There is a tangible shift in the balance of power and in the ways of acquiring work. At the same time, as was shown in Chapters 1 and 2, there is a need for the profession to move into new territories and to serve sections of the population who have not benefited from the skills and knowledge architects can offer. This should alert the architectural profession to the need for adaptation. EET may therefore be seen as a necessary tool to navigate new economic territory as a response to the needs indicated by the respondents. Thus, in line with the responses, a framework for EET for architects must include those topics that are deemed relevant.

Table 6.1 Responses received to coverage and relevance questions

Topic or aspect of entrepreneurship	Percentage coverage: not at all/very limited/limited but inadequate	Percentage relevant
ENTREPRENEURIAL AWARENESS		
Value of entrepreneurship	90,4	91,7
The need for an entrepreneurial awareness	86,5	92
Advantages of an enhanced entrepreneurial posture	87,3	90
ENTREPRENEURIAL ORIENTATION/INTENT		
Entrepreneurial postures/traits	92,8	88
The need for creativity	21,9	93,8
The importance of innovation	34,2	93,8
The advantage of being proactive	57.2	93,1
The need for risk taking	79	86
Competitive behaviour	67,4	83,5
Venture creation	86,7	89,2
Reasons for starting a new firm	89,3	87,4
Advantages of owning a firm	87,7	89,6
ENTREPRENEURIAL SKILLS		
Opportunity recognition	88,4	91,9
Innovation and creativity	41,6	93,7
Finding resources (capital, HR, equipment)	92,7	90,8
Creating and growing a venture	91,4	92,2
Risk	93	89,7
Rewards	89,5	85,2
Business Management	86,9	93,3
ENTREPRENEURIAL PERFORMANCE		
Aims and objectives of entrepreneurs	93,5	87,1
Moderators for entrepreneurial performance	95,6	85,7
Measuring entrepreneurial performance	96,1	82,0
Performance criteria	95,5	82,6
STARTING AN ARCHITECTURAL FIRM		
The entrepreneurial process	94,2	90,7

Formulating firm vision, mission and goals	86,4	92,3
The competitive context	88,5	88,9
Market research and feasibility	89,0	90,7
FIRM DESIGN		
Styles of practice	52,6	92,3
Firm archetypes	85,6	90,9
Formulating firm, vision, mission and goals	82,2	88,8
Competitive approaches	90,9	86,0
Positioning the firm	92,4	87,9
Firm size and values	89,6	87,1
FORMALISING YOUR PLANS		
Business Modelling	94,3	90,4
Strategic planning	93,1	90,7
Entry strategies	95,3	88,1
Preparing a business plan	91,8	91,6
Gathering resources	90,3	90,3
DEVELOPING BUSINESS MANAGEMENT SKILLS		
General Managerial activities (planning, organising, control, leading)	83,4	91,2
Opportunity recognition	91,6	88,5
Leadership and management styles	88,7	88,0
Managing a knowledge based practice	92,7	88,3
Strategic Management	93,5	88,2
Risk Management	92,8	86,6
Financial Management	84,8	88,2
SUPPORT		
Mentorship	56,9	90,3
Experiential learning	55,6	88,8
Ongoing training courses	63	89,0
OTHER TOPICS		
Available programmes to stimulate entrepreneurship and SMMEs in South Africa	95,7	82,7
Available financial support for South African entrepreneurs	97,0	85,0
Legislation and initiatives aimed at supporting South African SMMEs	95,2	85,2
Economic transformation and BBBEE	91,7	80,1
Governmental entrepreneurial support agencies	95,5	81,5
Statutes that affect managing a South African Architects' firms	83,3	88,2

Business opportunities for South African Architects' firms.	93,8	89,1
The completive context of South African Architects' firms	92,5	85,9
Financial parameters for endurance	95,0	86,4
Surviving economic recessions	94,8	87,7
BUSINESS MANAGEMENT		
Competitive positioning	93,0	80,5
Business Management style and policies	91,8	83,7
Financial Management	92,8	87,0
Operations Management	91,2	84,8
Risk Management	92,3	84,9
Marketing management	91,8	84,7
Client bases and relationships	82,6	86,7
Fee determination and policy	66,2	87,2

If, for the sake of selection, it is accepted that the topics that can be regarded as being covered extensively or adequately are those that received less than 50% 'not at all/very limited/limited but inadequate coverage' responses; and similarly, those with a less than 50% 'relevance' response can be considered to be irrelevant; these topics can be omitted from the list of topics that must be included in a profession-specific EET programme. If that is done, those that remain and the suggested sequence in which they should be included are:

Entrepreneurial Awareness:

Awakening an awareness of entrepreneurship and its benefits for society and the individual in learners. Ideally this aspect should also be covered in primary and secondary education in order to stimulate an entrepreneurial disposition in the general public. To this end, it should cover the following:

- What is entrepreneurship: emphasise that entrepreneurship includes aspects such as social entrepreneurship and corporate entrepreneurship.
- Value of entrepreneurship and the benefits to society and for the general economy.
- Entrepreneurial awareness; attitudes that enhances entrepreneurial activity.
- Advantages of an enhanced entrepreneurial deposition, traits, behaviour and intent.

Entrepreneurial Orientation/Intent:

Education about entrepreneurship: the aim should be to create knowledge about entrepreneurship in order that learners have a general understanding and appreciation of entrepreneurship and how it might benefit them as individuals. To this end, the *curriculum* should cover the following:

- The entrepreneurial process: how sustainable ventures or initiatives are created.
- Reasons for starting a new initiative or business.
- Advantages of working for oneself.
- Entrepreneurial traits: the traits associated with entrepreneurs and how these can be acquired, emphasising that they can be learnt.
- The advantage of being proactive.
- The need for risk taking and risk mitigation.
- Creativity as part of opportunity recognition and business design.
- The need for innovation in all aspects of firm business.
- Competitive behaviour.

Entrepreneurial Skills:

The focus should now move to education for entrepreneurship: how do you become an entrepreneur? To this end, the *curriculum* should cover the following:

- Opportunity identification and exploitation.
- Business or venture planning as an introduction to Strategic Planning.
- Creating and growing a venture.
- Finding resources (financial and human capital, technological, information and communication infrastructure).
- Risk identification and mitigation.
- Rewards: financial and other (lifestyle) related advantages to owning your own business.
- The role of management and management structures.

Entrepreneurial Performance:

While still focussing on being an entrepreneur, the focus should be on assessing and improving general entrepreneurial performance. To this end, the *curriculum* should cover the following:

- Aims and objectives of entrepreneurs: is entrepreneurship only about making money for oneself?
- Moderators for entrepreneurial performance.
- Introduction to business strategy and strategic management.
- Measuring entrepreneurial performance.
- Performance criteria linked to entrepreneurial intentions.

Starting an Architectural Firm:

Moving from the general to the specific and more conventional, the general entrepreneurship education covered in the foregoing should now be used as the basis for profession-specific education and training. General theory and practice should now become more specific. To this end, the *curriculum* should cover the following:

- The entrepreneurial process in architecture how to prepare yourself and when to start your new venture.
- The architectural competitive context.
- Opportunity recognition.
- Market research and feasibility.

Firm Design:

Continuing the move from the general to the specific, the focus should now turn to the design of the individual firm:

- Formulating firm vision, mission and goals as the basis for future choices.
- Firm size and values emphasising the advantages of small and large firms.
- Legal formats of practice including the advantages and disadvantages of each.
- Firm archetypes.
- Firm strategy and competitive approaches.
- Positioning the firm.

Formalising Your Plans:

Developing and concretising the initial plans. To this end, the *curriculum* should cover the following:

- Architectural business modelling: what are the options, including the advantages and requirements of each option?
- The need for continuous formal and informal strategic planning, including the need for differentiation and how this can be achieved.
- Competitive positioning and the formulation and implementation of strategic decisions.
- Entry strategies: how to enter the market and survive until the firm generates income.
- Preparing a business plan.
- Deciding on a fee strategy
- Gathering resources to give effect to your plans.
- Marketing the new firm.

Developing Business Management Skills:

Acquiring the skills and acumen that will be needed to give effect to your original plans and to meet the original goals and intentions.

- General managerial activities (planning, organising, control, leading).
- Business management style and policies.
- Marketing the firm including negotiation and fee determination.
- Ongoing opportunity recognition.
- Leadership and management styles.
- Managing a knowledge-based practice.
- Client bases and relationships.
- People management and skills.
- Risk management (both financial and professional liability).
- Financial management in an architectural context.

Support:

The benefit that can be derived from various support initiatives and how to access such benefits.

- Mentorship; its value and benefits; how to choose a mentor; how to operate and learn from a mentorship process; what to expect from your mentor.
- Support groups and the value of peer support during the process of developing your enterprise.
- Experiential learning, including how to turn your experiences to deep learning.
- Continuous education.

Other topics:

These topics could be covered as part of the education programme or could be offered as part of an ongoing training programme.

- Available programmes to stimulate entrepreneurship and SMMEs in South Africa
- Financial support for South African entrepreneurs and sources of finance in the enabling environment.
- Legislation and initiatives aimed at supporting South African SMMEs.
- Economic transformation and Broad-Based Black Economic Empowerment (BBBEE) legislation.
- Governmental entrepreneurial support agencies as part of an entrepreneurship-enabling environment.
- Statutes that affect managing a South African Architects' firms.

- Business opportunities for South African Architects' firms.
- The competitive context of South African Architects' firms.
- Financial parameters for endurance.
- Surviving economic recessions.

Topics that currently receive reasonable coverage in existing offerings could then, if time allows, receive extended attention in order to include the suggestions from enduring architects' firms listed in the following section.

6.2.6.2 Findings of the qualitative study

The various analyses of the responses received from the respondents (the founder or most senior partner/director of 26 enduring architects' firms) have indicated that the following should, amongst other aspects, be covered or included under the relevant topics listed above as part of a profession-specific EET framework.

A. Entrepreneurial Orientation (refer to A Topic: Entrepreneurial Orientation in Addendum C and 5.2.1.1 on page 182):
    - Architectural entrepreneurs can be risk averse as the majority of the founders of enduring firms are not 'risk takers'.
    - An EET framework for architects should set out to create and grow an entrepreneurial disposition in participants.
    - It should develop the traits often associated with entrepreneurs, including proactiveness.
    - Stimulation of competitive behaviour should form part of a profession-specific EET framework.
    - Provide some form of group support.
    - That enduring architects' firms can be started for 'push' or 'pull' reasons but that most enduring architects' firms were started for 'pull'-type reasons.
    - Opportunities for architects can be found by developing networks, being vigilant and entrepreneurial, by following one's passions or by using past experience (specialisation).
    - Architects should also consider intrapreneurship or corporate entrepreneurship because opportunities might exist inside established firms.
    - Opportunities exist if architects can develop entrepreneurship skills.

B. Creativity (refer to B Topic: Creativity in Addendum C and 5.2.2.1 on page 184):

A profession-specific EET framework for architects should include components that encourage creative behaviour in all aspects of firm establishment and management.

C. Innovation (refer to C Topic: Innovation in Addendum C and 5.2.3.1 on page 187):

Innovation should be encouraged by a profession-specific EET framework. Participants must be made aware that innovations can result in:

- New and unique human resource management systems and operational processes.
- New and unique managerial structures and practices.
- New construction methods and operational processes.
- New ways of dealing with clients.
- New ways of communicating with contractors.

D. Organisational Learning (refer to D Topic: Organisational Learning and 5.2.4.1. on page 191): An EET programme for architects should accept and encourage the principle of life-long learning and the 'learning organisation', point out the advantage of keeping abreast of business/financial affairs and theory while encouraging participants to regularly read all types of business/managerial or financial literature. It should also include ongoing training programmes.

E. Firm Structure (refer to E Topic: Firm Structure in Addendum C and 5.2.5.1. on page 192):

The various options available and the advantages or disadvantages of each should be included in a dedicated EET framework for architects.

F. Firm Values (refer to F Topic: Firm Values in Addendum C and 5.2.6.1 on page 197):

A profession-specific EET programme must:

- Emphasise the importance of clearly articulated value statements and the role that they can play in communicating with all stakeholders.
- Highlight the advantage of 'practice-centred businesses' over 'business-centred practices'
- Include outcomes related to enhancing the entrepreneurial orientation of architects.

G. Competitive Positioning (refer to G Topic: Competitive Positioning in Addendum C and 5.2.7.1 on page 202):

A profession-specific EET programme should include strategic management, business management style and policies (refer to H Topic Theme: Business Management Style and Policies in Addendum C and 5.2.8.1 on page 209):

- An EET offering for architects should emphasise the advantages associated with big and small firms.
- Considering indications that staff relations are often problematic in firms, the absence of policies regarding a number of managerial aspects, including human resources, could be a contributing factor: policies ensure consistent and predictable reactions to crises, requests, proposals and even-handed treatment of all staff. In addition, considering the uniquely South African challenges indicated, particularly BBBEE, the absence of clear policies to guide operations needs attention and this aspect should feature in an architecture-specific EET framework.
- An EET programme for architects must include leadership development.

H. Financial Management (refer to J Topic: Financial Management in Addendum C and 5.2.9.1 on page 215):

A profession-specific EET framework must emphasise the importance of strict financial management and provide participants with the knowledge and skills to ensure that it is done in order to ensure the firm's survival.

I. Operations Management (refer to K: Topic: Operations Management in Addendum C and 5.2.10.1 on page 219):

Since respondents have indicated that punctuality and adherence to deadlines are important, an EET framework for architects should cover time and project management principles.

J. Risk Management (refer to L Topic: Risk Management in Addendum C and 5.2.11.1 on page 222)

A profession-specific EET framework should include risk management and strategies to manage the risks architects' firms face including comprehensive measures to limit exposure to professional liability claims against the firm.

K. Marketing Management (refer to M: Topic: Marketing management in Addendum C and 5.2.12.1 on page 225):

The following should be included as part of marketing management in a profession-specific EET framework:

- Providing service and quality is key: three respondents indicated that they do not do any marketing. Thus, while different approaches or strategies can be followed, some stand out as being the more likely to result in sustained commissions. Most notable amongst these are the recommendation regarding exceptional service levels and long-term relationships.
- One should not be too dismissive of any marketing strategy.

L. Client Bases and Relationships (refer to N Topic: Client Bases and Relationships in Addendum C and 5.2.13.1 on page 229):

- Sources of work should be included in a profession-specific EET framework, particularly the fact that enduring firms secure most of their appointments from the private sector. A glance into those industries that provide the most work to architects' firms should also be included.

M. Fee Determination and Policy **(**refer to O Topic: Fee Determination and Policy in Addendum C and 5.2.14.1 on page 235):

- A profession-specific EET framework for architects should point out the importance of following an appropriate fee policy and include teaching on determining operating costs and doing cost estimates. Furthermore, it should cover negotiation strategy and tactics. Despite all the associated problems, tendering is a competitive process meant to reward the efficient, thereby requiring operational and cost-estimating skills. If all tenderers base their tenders on comprehensive information and a proper understanding of what is required to perform according to professional standards, it should not be a problem. This could enable architects to work at adequate levels of profit. It is worth noting that SAIA is in the process of developing a “fee-calculator” (Peerutin 2016:14) that will simplify the process of cost-estimation and management.

N. Entrepreneurial Support (refer P Topic: Entrepreneurial Support in Addendum C and 5.2.15.1 on page 240):

Responding enduring architects' firms believe that young architects thinking about starting a new firm should attend entrepreneurship and business management training. Furthermore, they should learn from another firm (experiential learning) and/or enlist the services of a mentor. The following aspects should, *inter alia,* be included in the content of such a profession-specific EET programme:

- Marketing management
- Strategic management
- Operations management (including time management)
- Financial management
- Risk management
- Human relations management (including negotiation and assertiveness training)
- Commercial law
- Building economics

The respondents believe that young architects' firms will benefit from:

- An EET framework - possibly in the format of a post-graduate degree and follow-up training courses - that will include the basics of running a firm, basic accounting knowledge, people skills, marketing skills, contractual knowledge, how to set up and structure a firm, negotiation skills, building economics, assertiveness training and time management skills, amongst other things.
- A support system that can offer mentorship, financing, opportunities to gain experience, advice, legal support and a sounding board.

Most of the respondents from enduring architects' firms are willing to act as mentors for newly established firms. Thus, a profession-specific support framework could make use of the knowledge and experience of this group.

The foregoing findings have been combined to form the basis around which the outcomes and some of the programme characteristics can be developed (refer to Table 7.1 on page 327).

6.2.7 The issues highlighted in the current discourse on entrepreneurship education and training

The seventh research question asked 'Which issues are highlighted in the current discourse on entrepreneurship education and training?

The literature review engaged with this topic in Chapter 3. The review found that, (as reported in 3.8 on page 112) EET is situated at the interface of two academic fields, namely entrepreneurship and education (Béchard & Grégoire 2005:40). Valerio et al (2014:41) believe that EET consists of educational offerings and training courses. These interventions have the overarching aim of imbuing persons with the entrepreneurial mindsets and skills, to

encourage and assist with participation and performance in a variety of entrepreneurial and related managerial activities (refer to 1.4.5.9). However, Baptista and Naia (2015:2), citing the work of Sexton & Bowman (1984), Hills (1988) and Fiet (2000), believe that a single and widely accepted theory or definition of entrepreneurship education has still not been formulated. Pardo (2012:2), citing Carayannis, Evans and Hanson (2003), believe that EET is still in its infancy and that authors have shown little progress in agreeing on what should be taught and how.

EET has been linked to three different theoretical bases. The first is Lent, Brown and Hackett's 'Social Cognitive Career Theory' (SCCT) (cited in Vaneffenhoven & Liquori 2013:317). The second theory, according to Sánchez (2013:449) and Fretschner and Weber (2013:410), is Ajzen's 'Theory of Planned Behaviour'. The third theoretical base is 'Human Capital Theory' which suggests that investment in human capital will imbue the labour force with the skills base required for economic growth (Sánchez 2013:449).

The academic discourse on EET is active and dynamic: Béchard and Grégoire (2005:22) content-analysed 103 peer-reviewed articles using Bertrand's (1995) 'Contemporary Theories' as reference. They established that the themes covered can be divided into the following major areas:

- The social and economic implications of EET for individuals and society and for institutions of higher education.
- The systemisation of EET programmes, content matter and modes of delivery (within which most articles occur).
- The importance of taking the needs of students into account when structuring interventions.

Baptista and Naia (2015:337) developed two frameworks of analysis in order to examine recent literature on entrepreneurial education. They found published articles on EET in the following categories:

- Entrepreneurship education, encompassing methodologies, theories, contents and frameworks.
- Evaluation of programs or subjects.

Rauch and Hulsink (2015:187), following research into the effectiveness of entrepreneurial education, believe that entrepreneurship education is effective. They believe that students who attended entrepreneurship education have developed enhanced entrepreneurial

intentions. Furthermore, they believe that entrepreneurial intentions influence the effect of entrepreneurship education on subsequent behaviour, specifically behaviour related to the creation of new businesses. Thus, accordingly 'that entrepreneurship education amplifies antecedents of intentions and behaviour'.

Various authors proposed models or frameworks for EET. Amongst them are Kozlinska (2012), Vanevenhoven (2013), Fretschner and Weber (2013), Pretorius et al (2005), Cope (2005), Neck and Green (2011), Bapttista and Naia (2015) and Valerio et al (2014).

Considerable agreement exists that a phased approach is advantageous. Authors who support this view include Valerio et al (2014), Fretschner & Weber (2013), Gstraunthaler & Hendry (2011) and Kozlinska (2012). Sánchez (2013:459) suggests that the various phases should be combined into a framework and believes that there is a need to include both entrepreneurship and intrapreneurship because opportunities often exist within existing firms.

The effectiveness of enacted learning or experiential learning featured in the work of a number of authors Antonites and Van Vuuren (2004); Vanevenhoven (2013); Mandel and Noyes (2016); Kozlinska (2012) and Cope (2005). Thus, learning by doing should form part of such a phased approach.

The intended outcomes of EET interventions envelop a broad spectrum and must be determined by what the perceived requirements of the participants, combined with the context surrounding the intervention, indicate as appropriate.

From the review undertaken, it is clear that generic EET programmes will have limited benefits and that the need is for contextualised programmes and frameworks that emphasise the common challenges and intricacies facing entrepreneurs in their particular field and country, and their legal, social, environmental, economic and technical contexts. The most important difference is that the programme must from the outset recognise and be framed to highlight the differences between a statutory professional firm and other, more conventional and less restricted, businesses. Furthermore, it must emphasise the need for ethical practice and the necessity to balance the requirements of the client with that of the broader community. Another unique aspect is the situation where the community takes on the role of the client and the architect must take on the role of facilitator. Furthermore, the programme should be forward looking in order to avoid a situation where those who attended it are confronted by the realisation that the education and training they received are outdated.

Taken together with other points made earlier and in Chapters 2 and 3, it is clear that, while there will be commonalities with other programmes, an appropriate EET framework for South African architects will firstly have to be profession specific and secondly country specific.

Valerio et al (2014:49) point out that ongoing support for new and young entrepreneurs can play a critical role in the success of their ventures. Ongoing support can assist these entrepreneurs in overcoming the challenges they are bound to face. The authors also refer to Blattman, Green, Annan and Jamison (2013) who found that grants to new entrepreneurs can be particularly beneficial. Other forms of 'wrap-around services' include technical assistance, administrative support, support groups, mentoring and incubators.

6.3 Conclusion

This chapter returned to the goals, objectives and research questions developed to guide the investigation and to ensure the achievement of the main objective. It answered seven of the eight research questions adopted for the study by relaying the results of the literature review and empirical studies and the combination thereof.

This was done in order to be able to answer Research Question 8 which will follow in Chapter 7.

CHAPTER 7 A FRAMEWORK FOR ENTREPRENEURSHIP EDUCATION, TRAINING AND SUPPORT FOR SOUTH AFRICAN ARCHITECTS

7.1 Introduction

This chapter will answer Research Question 8 by formulating and finally proposing an appropriate EET framework for South African architects and how it can be integrated into the existing education and training framework for architects. This will be followed by a reflection on the extent to which the research hypothesis can be accepted or rejected by the results of the study, the implications, value and limitations of the study, followed by recommendations including topics for further study.

7.2 An appropriate education, training and support framework for South African architects

The eighth research question asked what will constitute an appropriate education, training and support framework for South African architects and how should the results obtained during the foregoing studies be incorporated into such a framework? From the overview in 6.2.7 (refer to page 319) it was established that there is considerable agreement that a phased approach is recommended and that the phases should be combined into a framework or basic conceptual structure that includes aspects of experiential learning. Also, as pointed out in 6.2.6, that the framework should include certain 'wrap-around' or supportive components. Thus, the framework should comprise of various phases combined into an approach aimed at incorporating the existing education and training system in South Africa.

Based on the findings of the literature study in Chapters 2 and 3 (refer to 3.9 on page 145) and the empirical studies reported in Chapter 5, it is proposed that Phase 1 (Developing Entrepreneurial Awareness) should form part of a process that should ideally start at primary and secondary school level (outside the scope of this study) aimed at creating awareness and the entrepreneurial disposition of learners and society by gradually changing perceptions and attitudes about entrepreneurship. Phase 2 (Becoming Entrepreneurially Orientated) should then develop in participants the required mindsets and socio-emotional abilities for instance self-assurance, leadership, creativity, risk propensity, toughness, self-efficacy and personal relations. It should also include an introduction to the entrepreneurial process. Phase 3 (Developing Entrepreneurial Orientation [EO]) should focus on becoming an entrepreneur and should develop the EO of the participant and cover the knowledge base, skills and attitudes needed to start, develop and grow businesses. To this should be coupled Phase 4 (Entrepreneurial Support), a variety of 'wrap-around' services such as mentoring, administrative support and technical assistance. All of the foregoing should be framed by the specific needs of South African architects. The review also indicated that an

appropriate EET framework for South African architects must include elements of experiential learning or learning by doing as described by Cope (2005:380) over an extended period and that it should be coupled with a facilitated mentoring process.

The question that remains is how these initial pointers can best be combined with the South African architectural education and training system as illustrated in section 3.2, 3.3 and 3.4 (refer to pages 97-104) and Figure 6.1 and section 6.2.4 (refer to pages 306-6), existing entrepreneurial support mechanisms as reviewed in Section 3.6 (refer to page 107), and the findings related to content as listed under 6.2.6. in Chapter 6.

Figure 7.1 and Table 7.1 indicate that Phase 1 - Developing Entrepreneurial Awareness - should start no later than the final year of the first degree and continue till the Master's degree level. It is suggested that the phase should slot in at these levels because students would by then have acquired a broad understanding of the architect's role in society and many would have had, or soon will have, their first practical experience in an architects' firm. If aspects of this phase could be introduced at first and second year level it would be commendable.

It can comprise learning units within appropriate modules or a specialised one week module(s) or workshop(s) taking place anywhere within the final three years of study as the university in question might prefer. In principle, because of the danger of overloading, it should impact minimally on the current programme which is already congested due to time restraints set by the HEQSF and the outcomes prescribed by SACAP. As stated earlier it should aim at creating awareness and gradually changing perceptions and attitudes about entrepreneurship.

Phase 2 - Becoming entrepreneurially orientated - should coincide with the two-year Candidacy period. As stated earlier, this phase should develop in participants an understanding of the reasons for starting a firm and the advantages of owning a firm They should also develop the required socio-emotional skills such as self-confidence, leadership, creativity, risk propensity, resilience, self-efficacy and interpersonal relations as indicated by, among others, Pretorius and Wlodarczyk (2007:516), Kozlinska (2012:12), Valerio et al (2014:11) and Sánchez (2013:459). The experiential process that comprise this period does, by its nature, continue to develop[18] many of these traits in Candidate Architects. However, it

[18] Based on the writers' 32 years experience in architectural education, the nature of architectural education is such that many of these attitudes are already cultivated and developed by the challenges inherent in undergraduate and post-graduate architectural education.

will require that they engage with the founder of the firm and that the outcomes prescribed for this period, SACAP's 'Categories of experience', be extended to include entrepreneurship and firm management. It will also require that supervisors and firm founders ensure that Candidate Architects are given insight into the process that resulted in the establishment, growth and management of the firm that employs them and the advantages of owning a firm.

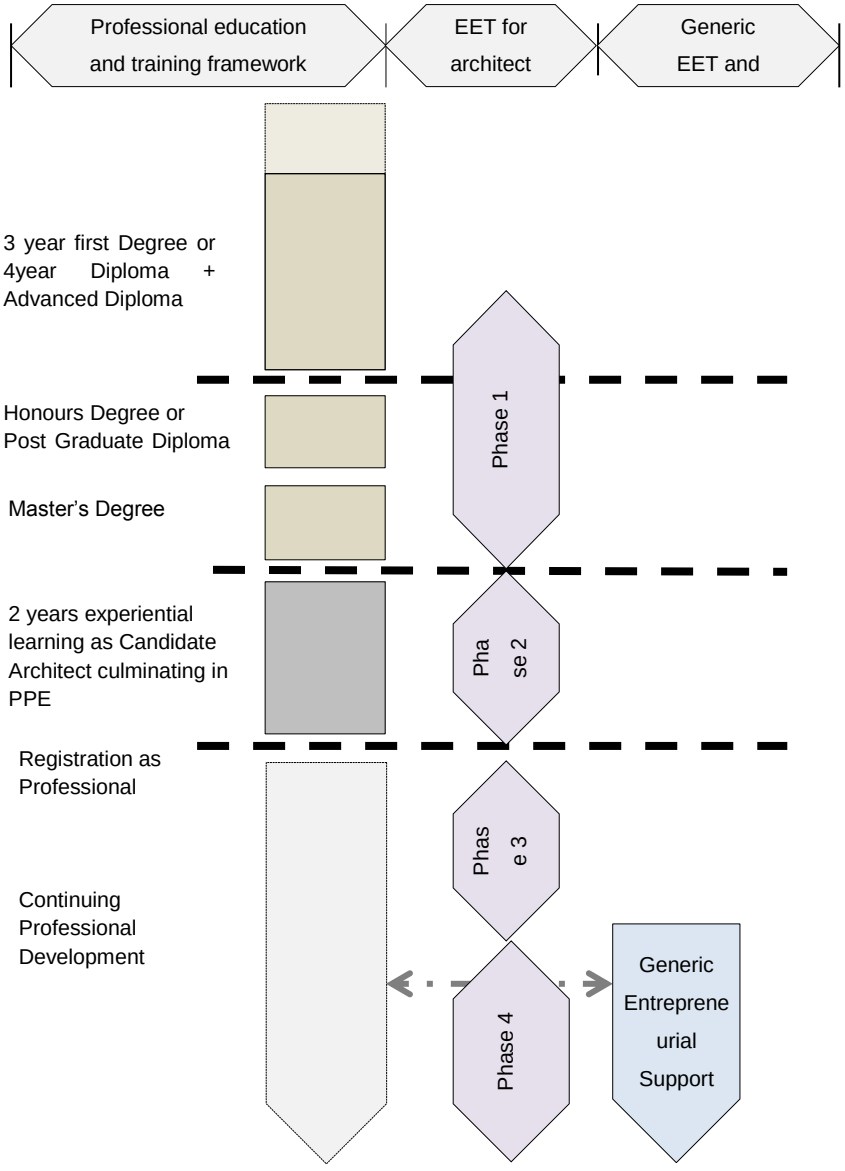


Figure 7.1 Entrepreneurship education and training framework for South African Architects (Figure by author)

Tasks given to Candidate Architects must be selected to ensure that the outcomes hereunder are pursued. Assessment of the entrepreneurship related aspects should be by a 1500-word (minimum) report on entrepreneurship and business management in the firm where the candidacy period was served. It is proposed that the Professional Practice

Examination that is written at the end of the period could also include a question or questions related to the aspects listed.

Phase 3 - Developing Entrepreneurial Orientation - should comprise a formal educational offering available to Professional Architects who are planning to start a new firm. It should be offered by one or more university Departments of Architecture (in conjunction with their Faculty of Management) and should take the form of a post-professional programme in Architectural Entrepreneurship. It should comprise theory with a strong emphasis on skills development by way of workshops and role-play. It should involve active participation by established and renowned architectural and general entrepreneurs. The programme should comprise a Postgraduate Diploma and could be combined with a Professional Master's degree as defined by the HEQSF. It could be advantageous if it is offered as blended learning[19] (Morkel 2013:20) in order to be accessible to architects working outside the main centres. The programme should cover the topics identified in Chapter 6 (refer to 6.2.6 on page 307).

Phase 4 - Entrepreneurial Support and Enablement - should comprise a support system that could be managed by a voluntary organisation such as SAIA. It should provide a system where experienced architects firstly receive training in mentorship (refer to 3.8.2 on page 125) and on the support available from generic entrepreneurship support organisations such as commercial banks and university departments. It could also organise mechanisms such as support groups, meeting facilities, etc.

More detailed information is provided in Table 7.1 based on the conceptual framework for EET programmes as developed by Valerio et al (2014:35).

[19] Morkel describes blended learning as a combination of e-learning and other forms of flexible learning with more traditional forms of learning such as workshops.

Table 7.1 A framework for entrepreneurship education training and support for South African architects (Table by author)

A FRAMEWORK FOR ENTREPRENEURSHIP EDUCATION TRAINING AND SUPPORT FOR SOUTH AFRICAN ARCHITECTS
PHASE 1: DEVELOPING ENTREPRENEURIAL AWARENESS.
Programme characteristics: **Programme design**: Commence no later than the final year of the first degree and continue until the Master's degree level. It is suggested that the phase should slot in at these levels because students would by then have acquired a broad understanding of the architects' role in society and many would have had, or soon will have, their first practical experience in an architects' firm. If aspects of this phase could be introduced at first- and second-year level it would be commendable. It can comprise learning units within appropriate modules or a specialised short module(s) or workshop(s) taking place anywhere within the final three years of study as the university in question might prefer. The aim should be to create awareness of entrepreneurship and the value of entrepreneurship to society and the individual and gradually move towards changing perceptions and attitudes about entrepreneurship.
Facilitators and modes of delivery: Facilitated by a combination of entrepreneurship specialists and architectural entrepreneurs (role models).
Content and curriculum: The role of and advantages of entrepreneurship in society and for the entrepreneur. The format, content and curriculum should be designed to imbue participants with an awareness of entrepreneurship and of the advantages it has for society and individuals.
Outcomes: • The students should recognise and describe entrepreneurship. • The students should gain an awareness of the importance and benefits of entrepreneurial actions to individuals' businesses and society as a whole. • Students should be able to describe the entrepreneurial process. • Students should develop a positive disposition to entrepreneurship and to the idea of becoming entrepreneurs.
Participants: • Learners: senior architectural students. • Facilitators: entrepreneurship specialists and architectural entrepreneurs.
Context: This phase should be offered as credit bearing part(s) of the architectural programme and should be designed to stretch over the final three years of the architectural programme. The design should be such that the offerings will have minimal impact on the current curriculum.

PHASE 2: BECOMING ENTREPRENEURIALLY ORIENTATED

Programme characteristics:
Programme design:
Experiential learning during two years as Candidate Architect.

Facilitators and modes of delivery:
Interaction with architectural entrepreneur while working in an architects' firm under the guidance of supervisor or mentor.

Content and curriculum:
SACAP's 'Categories of experience' should be extended to include entrepreneurship and require that supervisors ensure that candidate architects are given insight into the reasons for starting the firm, the advantages of owning a firm and the process that resulted in its establishment and growth of the firm that employs them. Tasks given to candidate architects must be selected to ensure that the outcomes hereunder are pursued. Assessment by a 1500-word report on entrepreneurship and business management in the firm where the Candidacy period was served.

Outcomes:

- Candidate Architects must be able to discuss the reasons for starting a firm, the advantages of owning a firm and be aware of the processes involved.
- Candidate architects should develop and hone the required socio-emotional skills such as self-confidence, leadership, creativity, risk propensity, resilience, self-efficacy and interpersonal relations.
- Candidates must be able to understand and discuss entrepreneurship and the business managerial component of the firm.

Participants:

- Learners: Candidate architects
- Facilitators: architectural entrepreneurs, practising architects

Context:
Architects' firms.

PHASE 3: DEVELOPING AN ENTREPRENEURIAL ORIENTATION

Programme characteristics:
Programme design:
This phase should comprise a formal educational offering available to Professional Architects who are planning to start a new firm. It should be offered by one or more university Departments of Architecture (in conjunction with their Faculty of Management) and should take the form of a post-professional programme in Architectural Entrepreneurship. It should comprise theory but include a strong emphasis on skills development by way of workshops and role-play. It should also involve case studies and the active participation by established and renowned architectural and general entrepreneurs. The programme should comprise a Postgraduate Diploma and could be combined with a Professional Master's degree as defined by the HEQSF. It could be advantageous if it is offered as blended learning (Morkel 2013:20) in order to be accessible to architects working outside the main centres. The programme should cover the topics identified in Chapter 6 (refer to 6.2.6 on page 307).

Facilitators and modes of delivery:

Facilitated by a combination of entrepreneurship, strategic management and business management specialists and architectural and general entrepreneurs (role models).

Delivery by blended learning comprising online or e-learning combined with workshops and role play. Students to work in peer-groups.

Content and curriculum:

To be developed according to the nature and level of the programme by the presenters but should include all the aspects identified by the empirical research process and reported in section 6.2.6, the entrepreneurial process including the writing of business plans and managing human relationships. Skills development, case studies and practical exercises and simulations should feature prominently.

Outcomes:

Students must be able to:

- Describe the interrelated elements in the entrepreneurial process.
- Recognise business opportunities for architects' firms.
- Prepare the long-term and short-term strategic and business plans that can facilitate the establishment and positive performance of an architects' firm.
- Develop the values and principles that will apply to a positively performing architects' firm.
- Strategically manage the business of an architects' firm.
- Relate the entrepreneurial processes and results of strategies followed by the most prominent entrepreneurial architects' firms around the world to their own context.
- Propose solutions to personal relation-type problem scenarios.
- Display entrepreneurial skills and traits in simulations, role-play and practical exercises.

Participants:

Learners: professional architects who are planning to start their own firms or architects who are in the process of starting their own firms or have recently started their own firms.

Facilitators: a combination of entrepreneurship, strategic management and business management specialists and architectural and general entrepreneurs.

Context:

University programme offered to qualified architects working in architectural firms. Programme will include extensive use of role models and visits to/by prominent entrepreneurial architects' firms, locally and abroad. Group work and skills development must form a critical part of the programme.

PHASE 4: ENTREPRENEURIAL SUPPORT AND ENABLEMENT

Programme characteristics:

Programme design:

This phase should comprise experiential learning, support and enablement system to architects who have recently started their own firms. The programme could be introduced and managed by a voluntary organisation such as SAIA. It should provide a system where experienced architects firstly receive training in entrepreneurial theory, mentorship (particularly mentoring style – refer to 3.8.2) and on the support available from generic entrepreneurship support organisations such as commercial banks and university departments. It could also provide mechanisms such as support groups, meeting facilities, funding, technical support and administrative support.

Trainers and delivery: Experienced architectural entrepreneurs who have been trained to act as mentors. This should specifically include the use of the maieutic and involved styles of mentoring. *Protégés* should choose their own mentor from a panel of trained mentors (St-Jean & Audet 2013:110).
Content and curriculum: Experiential learning as proposed by Cope (2005). Experiential learning consists of doing something and then reflecting about what took place. Cope holds that entrepreneurs learn from 'learning events' and holds that learning is triggered by 'significant, discontinuous events that occur during the entrepreneurial process' (Cope 2003:429). The learning process should be supported by a trained and experienced mentor practicing the so-called maieutic or non-directive mentoring approach. This approach, which focuses towards enabling individuals to discover answers through reflection turns an experience into a learning event (St-Jean & Audet 2013:110).
Participants: Learners: architects who have acquired some experience and/or have completed a Phase 3 education programme and have started their own firms. Participants should form part of support groups established to provide support, share experiences and resources. Facilitators: trained mentors who must be experienced architectural entrepreneurs and administrators who can set up and manage not only the mentoring process but also support facilities such as support groups, meeting facilities, funding, technical support and administrative support.
Context: Newly established South African architects' firms.

7.3 Comparison with research hypothesis

Chapter 1 in 1.4.1 (refer to page 9) states the research hypothesis the study accepted at the outset. The research hypothesis was that 'the entrepreneurial performance of South African architects' firms can be enhanced by an effective integrated entrepreneurship education, training and support system for architects.

The literature review (refer to 3.8 on page 112) found that while there are many who are sceptical about the results of EET, most authors support the position that EET can increase entrepreneurial behaviour and improve entrepreneurial performance.

The quantitative study, in comparing the relationship between each pair of the overall ratings of the three constructs (entrepreneurial performance, entrepreneurial orientation and firm management) (refer to 5.3.2.2 D on page 264), found that that in architects' firms, there is a link between firm management and entrepreneurial performance. However, without the benefit of inferential statistics and/or a longitudinal study it is not possible to accept or reject

this hypothesis. This could only be decided, firstly, once the entrepreneurial performance of a sample of architects' firms has been measured, and secondly, once the managers of the firms underwent EET where after the entrepreneurial performance of the firms are re-measured and compared with the initial entrepreneurial performance (and it would only be valid if all the other variables remained constant).

What can be said is that the qualitative study found that responding enduring architects' firms believe that young architects thinking about starting a new firm should attend entrepreneurship and business management training (refer to 5.2.15 on page 237).

Both studies found that the entrepreneurial orientation of South African architects are low (refer to 5.2.1 on page 174 and figures 5.15, 5.16 and 5.17). While none of the foregoing is conclusive in indicating that the hypothesis could be accepted or rejected, it does provide evidence that it is possible that 'the entrepreneurial performance of South African architects' firms could possibly be enhanced by an effective integrated entrepreneurship education, training and support system for architects.

7.4 Implications, value and limitations of the study

The seven research questions were directly linked to the objectives of the study. Research Question 7 constituted the primary objective of the study as set out in Section 1.3. Hence, with the research questions answered, the goal and objectives of the study have been achieved.

The value of the study is that it proposes a workable framework that can be introduced without major disruptions to the existing education and training system. However, developing and introducing the post-professional Postgraduate programme will have implications for the ALSs that will develop, introduce and offer the course or courses. Furthermore, it will require someone or an organisation to initiate the introduction of the framework and to organise and facilitate Phase 4 of the framework.

While the study, for practical reasons, accepted the current curricula taught at ALSs as they are, the findings of the study have indicated that various changes and shifts are taking place that necessitate that the current curriculum should be reviewed to ensure its relevance.

7.5 General recommendation

7.5.1 It is recommended that all SACAP-validated ALSs introduce Phase 1 of the proposed framework in their current programmes.

7.5.2 It is recommended that SACAP incorporate Phase 2 of the framework into their requirements for the two-year candidacy period.

7.5.3 It is furthermore recommended that at least one ALS also introduce Phase 3 of the framework and that an organisation such as the South African Institute of Architects introduces Phase 4 of the framework.

7.6 Recommendations for further study

The discourse on entrepreneurship and training for architects can be enhanced by research undertaken to establish the following:

- As indicated above, the current curricula of South African ALSs must be reviewed by the individual ALSs. Both SACAP and the CAA value and encourage diversity in the programmes on offer. This process should start with a study that sets out to capture all the socio-economic changes at the micro-, meso- and macro-levels. Aspects such as the decolonisation of architectural education, and broadening the scope of operations of architects and community-based practice, amongst others, need urgent attention. This study can then form the basis for an inclusive review of curricula. The findings of this study highlighted the fact that current curricula do not adequately prepare students for what they will find in practice. Hence the need to include all stakeholders in such review processes.
- Once the framework has been implemented, a long-term study should be conducted to compare the entrepreneurial performance of firms started by architects who attended the entire framework of EET with that of firms started by architects who did not.
- An analysis of how the world's biggest and most prominent architects' firms were established and grew to achieve their current size.
- An analysis of how the most visible 'starchitects' started and grew to their current position and the marketing methods used as part of the process.
- The differences between practicing architecture in South Africa and in a range of other developing countries, particularly other African countries. The South African context must be understood as part of the broader African context, and future studies should explore the interrelationship of South African and African contexts and how architects' firms across the continent were established, how they were grown and how they compete in the current changing macroeconomic contexts.

- The differences and similarities between architectural entrepreneurship in the 'developing' world (as above) and in 'developed' contexts. This could take the form of action research conducted in a range of architects' firms.
- How the framework can be adopted for use in other countries.
- Whether the fact that the majority of enduring South African architects' firms see themselves as a mixture of the three theoretical types of business models is a result of a lack of strategy, or because of the nature of the South African contextual situation.
- What actions characterise firms of noted entrepreneurial architects, in order to identify a range of common practices, attitudes, skills and challenges experienced by entrepreneurial architects.
- A comparative analysis of efforts towards the demographic diversification and inclusivity of the architectural profession in selected developed and developing countries.

7.7 Conclusion

The study has achieved the goals and objectives it had set. The research questions were answered following a research process and research methodology as described in Chapters 1, 4 and 5. The framework for entrepreneurship education, training and support was compiled using the information uncovered by the different research studies (literature review and empirical processes). The distinct empirical studies, even though some conflicting findings occurred, to a substantial degree confirmed each other particularly the need for entrepreneurship education and training.

As far as could be established, no similar framework exists anywhere else in the world. Hence, the proposed framework could be used as a model that could be adopted in other countries.

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