

**ANALYSIS OF THE RELATIONSHIP BETWEEN ORGANISATIONAL
CULTURE AND INNOVATION IN NIGERIAN QUANTITY SURVEYING
FIRMS**

BY

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**A DESSERTATION SUBMITTED TO THE SCHOOL OF POST GRADUATE
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DEPARTMENT OF QUANTITY SURVEYING,

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AHMADU BELLO UNIVERSITY,

ZARIA

JANUARY, 2017

DECLARATION

I declare that the work in this dissertation entitled ANALYSIS OF THE RELATIONSHIP BETWEEN ORGANISATIONAL CULTURE AND INNOVATION IN NIGERIAN QUANTITY SURVEYING FIRMS has been carried out by me in the Department of Quantity Surveying. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree at this or any other institution.

Adehi Friday HARUNA

.....

Name of Student

.....

Signature

.....

Date

CERTIFICATION

This dissertation entitled ANALYSIS OF THE RELATIONSHIP BETWEEN ORGANISATIONAL CULTURE AND INNOVATION IN NIGERIAN QUANTITY SURVEYING FIRMS by Adehi Friday HARUNA, meets the regulations governing the award of the degree of Masters of Science (Quantity Surveying) of Ahmadu Bello University Zaria, and is approved for its contribution to knowledge and literary presentation.

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ABSTRACT

Quantity Surveying firms in contemporary times have evolved into structurally standard organisations where there is the understanding of organisational culture as an essential management philosophy that drives innovation. This study sought to analyse specifically, the relationship between organisational culture and innovation in quantity surveying firms. Using a quantitative research approach, this research examined the relationship between organisational culture and innovation in Quantity Surveying firms. Eighty one (81) quantity surveyors from Twenty Seven (27) firms completed the questionnaires used for this research. Mean score was used to identify the organisational culture and innovation types dominant in quantity surveying firms. Spearman's rank correlation was used to evaluate the relationship between organisational culture and innovation types. The study revealed that quantity surveying firms exhibited multiple types of innovation with "service innovation" being most dominant. The study further revealed that quantity surveying firms exhibited multiple types of organisational culture with "supportiveness culture" being most dominant. "Social responsibility culture", "emphasis on rewards culture", "stability culture" and "competitive culture" have the highest number of relationships with innovation types in quantity surveying firms. "Supportiveness culture", "innovation culture" and "performance orientation culture" have the least association with innovation types. The study concluded that organisational culture has a significant relationship with innovation in quantity surveying firms. The findings from this study implied that there were need for the management of quantity surveying firms to embrace organisational culture as a strategy for improving innovation practice and vice versa.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Studies have shown that an innovative and efficient construction industry contributes to a stable global economy. However, the construction industry is notorious, conservative and slow to adapt to change (Olatunji, 2009) and quantity surveying practice as an integral of the construction industry is not free from these shortcomings.

The outputs of construction industry have significant impacts on standard and quality of living (Olatunji, 2007), to achieve these significant impacts, strategic improvements have to be welcomed in the construction industry by means of innovation and improvement in organisational culture.

Yesil and Kaya (2012) opined that organisations today, face a lot of challenges which include the requirement to innovate (Page *et al.*, 2002). This requirement puts pressure on organisations to look for new ways of being creative and innovative. The need for continuous innovation in organisations, has become an important question that every organisation seeks to answer to survive in today's competitive business world. One of the most important factors of improvement that organisations are paying attention to is organisational culture which help to create and support an environment in which innovation can flourish (Yesil and Kaya, 2012).

Innovation is important in maintaining a competitive advantage as it redefines the way that profits can be made (Lee, 2004). Innovation is defined as a new or significantly

improved product (good or service), process (production or delivery method), marketing method (packaging, promotion, or pricing) or managerial method (internal practice) (Manley and McFallan, 2008). Innovation is further defined as the application of knowledge to create additional value and wealth (Page et al., 2002).

Yeşil and Kaya (2012) opined that organisational culture is an important construct that affects both individual and organisational related process and outcomes. There seems to be no agreed upon definition of organisational culture in literature (Abu- Jarad *et al.*, 2005). Page *et al.*, (2004) defined Organisational culture as “the shared basic assumptions that an organisation learns while coping with the environment and solving problems of external adaptation and internal integration that are taught to new members as the correct way to solve those problems”. According to Schein (2004), organisational culture is “a pattern of basic assumptions that a group has invented, discovered or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid, and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems”. Service firms like any other public entity have a culture that may be preventing the status quo from changing, yet change of routine is required if organisations are to innovate and adapt to a dynamic environment.

Organisational and environmental factors are known to have influence on innovation capabilities of an organisation. Researches in the past have dealt with the relationship between organisational culture and certain outcomes such as organisational culture and innovation, organisational culture and firm's performance in service sector, organisational culture and grouped service firms etc (Naranjo-Valencia et al., 2011; Ozigbo, 2012; Yesil

and Kaya, 2012; Okibo and Shikanda, 2013; Olanikpekun, 2013). These researches however, were not specific on the relationship between organisational culture and innovation in specific service firms.

1.2 STATEMENT OF RESEARCH PROBLEM

The increasing demand for value-added services and prompt completion of construction projects at reduced cost by clients, complexity of modern construction infrastructure (Page *et al.*, 2004) and globalization according to Smith (2004) as cited by Musa, (2010) among others, are factors necessitating innovation in the operations and service delivery of quantity surveying practicing firms. Researches in the past revealed that continuous improvement in an organisation is associated with innovation Thus the firms are seeking for strategies and tools to improve the quality of their services. Every profession evolves in response to the ever-increasing changes in the global business environment (Frie *et al.*, 2009). In order to remain relevant, globally competitive and successful, Quantity Surveyors need to constantly scan their business landscape to discern new directions and to adapt to imminent changes in their professional practice (Fort and Jeune 2009). Innovation is seen as the tool for improving the quality of services of the firms in Nigeria (Aderemi *et al.*, 2009). It is generally considered to be one of the key drivers of corporate success (Cardozo *et al.*, 1993) as cited by Frambach and Schillewaert (1999). Martins and Terblanche (2003) assert that Organisational culture is a critical factor in the success of any organisation with particular emphasis on the relationship between organisational culture, innovation and creativity. This indicates that organisational culture could affect the way innovation and creativity solutions are encouraged.

Organisational and environmental factors are known to have influence on innovation capabilities of an organisation. Researches in the past have studied the relationship between organisational culture and certain outcomes such as organisational culture and innovation, organisational culture and firm's performance in service sector, organisational culture and grouped service firms etc (Ozigbo, 2013; Yesil and Kaya 2012; Olanikpekun, 2012). These researches however, were not specific on the relationship between organisational culture and innovation in specific service firms such as quantity surveying firms. This study therefore, seeks to analyse specifically, the relationship between organisational culture and innovation in Nigerian quantity surveying firms.

1.3 RESEARCH QUESTIONS

- i What are the organisational culture and innovation types present in service firms?
- ii What are the types of organisational culture present in quantity surveying firms in Nigeria?
- iii What are the types of innovation practices present in quantity surveying firms in Nigeria?
- iv Is there any relationship between organisational culture and innovation in Nigerian quantity surveying firms

1.4 AIM AND OBJECTIVES

1.4.1 AIM

The aim of this research is to assess the relationship between organisational culture and innovation in Nigerian quantity surveying firms with a view to determine the relationship that exist between them.

1.4.2. OBJECTIVES

- i. To identify the organisational culture and innovation types in service organisations
- ii. To assess the types of organisational culture in quantity surveying firms in Nigeria
- iii. To assess the types of innovation in quantity surveying firms in Nigeria and
- iv. To determine the relationship between organisational culture and innovation in Nigerian quantity surveying firms.

1.5 SIGNIFICANCE OF THE STUDY

In an economic environment that is constantly changing, the need and ability to adapt or innovate becomes increasingly important (Frie and Mbachu, 2009). The skepticism surrounding the sustainability of the quantity surveying profession is fuelled by factors such as the dissatisfaction of clients with the traditional bouquet of services and the demand for more comprehensive and diverse services (Page et al., 2002).

This research will prompt Quantity Surveying practitioners to reflect on their current organisational cultures and desired future states. It will also help in obtaining potential strategies for competitive repositioning and re-engineering of the profession's status to maximize the opportunities and minimize the imminent threats. Therefore, an empirical

research assessing the relationship between organisational culture and innovation would be a great contribution to both organisational culture and innovation literature. The fact that this research is carried out in a developing country context is expected to bring new insights into better understanding of the concept of organisational culture and innovation. Innovation is seen to become even more important in future as the country faces new constraints to growth from population ageing and quest to rely on the application of knowledge to compete in the global economy. It is therefore essential that Quantity Surveyors fully understand the process of innovation in Quantity surveying practice and organisational culture in quantity surveying firms.

1.6 SCOPE

The broad area of this research work is on innovation types and organisational culture types in Nigerian quantity surveying firms. It is further centered on the relationship between organisational culture and innovation in Nigerian quantity surveying firms. Registered quantity surveying firms with the Quantity Surveyors Registration Board of Nigeria (QSRBN) in Abuja as at 2014 were considered for the purpose of this research. This is because, a large number of quantity surveying firms are located within Abuja metropolis and a lot of construction works are being undertaken in Abuja.

1.7 LIMITATIONS

This study is limited by the fact that respondents were the ones assessing themselves and as such the responses could result in overlapping opinions by the respondents, this may result in some level of biasness on the part of the respondents' the researcher therefore,

assessed the respondents based on three managerial levels per firm (Principal, Senior and Junior quantity Surveyor) so as to reduce the level of biasness and overlapping opinions.

CHAPTER TWO

LITERATURE REVIEW

2.1 The Concept of Innovation

Innovation is an important contributor to economic growth and the ability to innovate is considered to be a fundamental requirement for long-term business success in nearly all industries. However, the need for innovation has been undervalued among the construction industry professionals in general. Innovation is now widely found to improve the competitive advantage of nations, industries and firms (Manley and McFallan, 2008).

To determine the essence of innovation in the context of the quantity surveying profession within the construction industry, a combined definition is assembled from a variety of sources with related and diverse view: it is noteworthy that innovation requires the invention of products, processes, systems or services, followed by the implementation of new concepts as well as the renewal and continuous non-trivial improvement of products, processes, systems or services. Innovation occurs for the most part within an organisation. Organisational structure and human resource management play an important role in the innovative process with an organisation's ability to turn invention into innovation being dependent on the organisation's knowledge and market awareness and awareness of external environment forces and factors; skills; processes; service/product; information and communication distribution systems and resources. Innovation in the construction industry also relies on public and private policy makers and research institutions (Fort and Jeune 2009).

Innovation has been found to include the introduction of a new product, service or process through a certain business model into the market place, either by utilization or by commercialization. Hence, it encompasses product innovation, service innovation, process innovation, and business model innovation and all contribute to strengthen the competitive advantage of a given organisation. According to Hardie *et al.*, (2005). Innovation means both technological and organisational improvements within an organisation. Incremental as well as radical or breakthrough changes are both regarded as innovation. Fairclough (2002) on the other hand, defined innovation as the application of knowledge to create additional value and wealth. There are times where this involves the application of new knowledge. Often however, effective innovation is achieved by applying existing knowledge in new and different ways. He further stated that Innovation can also be seen as the introduction of new things, ideas or ways of doing something that has been introduced or discovered. This means that an organisation does not really have to be the initiator of new things, ideas or ways of doing things to be regarded as innovative, an organisation's ability to adopt the new product or process or change etc. could be regarded as innovation.

This assertion is further supported by Barrett and Sexton, (2006) who stated that in the general innovation literature, the focus for innovation is broadly seen as being something new to the firm and beneficial. Innovation consists of the generation of a new idea and its implementation into a new product, process, or service, leading to the dynamic growth of the national economy and the increase of employment as well as the creation of pure profit for the innovative business enterprise' (Urabe, 1988) as cited in (Barrett *et al.*,

2006). Also (McClean, 2005) said that innovation is the generation, acceptance, and implementation of new ideas, processes, products, or services”. Similarly, innovation in construction is ‘the act of introducing and using new ideas, technologies, products and/or processes aimed at solving problems, viewing things differently, improving efficiency and effectiveness, or enhancing standards of living’ (CERF, 2000, p. 2) as cited in (Barrett *et al.*, 2006). Nevertheless, who continued that innovation should not always be viewed in unreflective, positive terms. Innovators need to be sensitive to and should understand the difference between rhetoric and reality of innovation as innovation per se is not always beneficial. Therefore, innovation could be viewed as posing some level of risk to the innovators as well as adopters. The benefits of innovation are, in themselves, insufficient to bring about innovation in firms: firms also need to be motivated to innovate owing to the level of risk associated with it.

2.2 Innovation vs. Invention

Not all ideas are recognized as innovations and it is accepted that newness is a key distinguishing feature. The idea only has to be new to a given firm, rather than new to the world. Further, the newness aspect differentiates innovation from change. All innovation implies change, but not all change involves innovation. For a contractor, for example, a change in a materials supplier is not necessarily an innovation, but a change in the relationship between the contractor and the supplier (Barret *et al.*, 2003).

Innovation in itself requires not only the generation of an idea or transfer of a new idea from outside the company or firm, but also its successful implementation. The implementation aspect differentiates innovation from invention (Barret *et al.*, 2003).

Innovation could be competence destroying (i.e. when innovation is sufficiently radical to make existing knowledge and practice obsolete) or competence enhancing (i.e. the innovation builds from, and further develops, existing knowledge and practice).

Innovation must improve organisational performance, either individually or collectively through the supply chain. Innovations that improve some isolated aspect at the expense of overall performance are undesirable (Barret *et al.*, 2003).

A study by the Business Council of Australia (2006) states that innovation does not necessarily mean designing of new products or process per se to be regarded as innovation but involves using knowledge to find new ways to create and bring about change for the better. This view of innovation has implications for the types of activities within businesses that can be considered innovative. First, innovation does not necessarily involve technology and technological knowledge. Successful innovation can involve the use of any type of knowledge, provided its application results in additional value and wealth within a given organisation where it is being used. Secondly, innovation is not invention. Innovation may not even require the creation of new knowledge – be it to the world or to the firm. But what it does require is the inspired application of knowledge (old or new) to create additional value or wealth to the organisation.

Sundbo (1997) empirical analysis demonstrates that the service firms such as quantity surveying and other professional firms rendering various services innovate, though they rarely have Research and development departments and innovation generally, is an unsystematic search-and-learn process. According to Eybpoosh and Fidan, (2010),

invention is a detailed design or model of a process or product that can be distinguished as novel compared to existing ones while innovation is the actual use of a gradual change and improvement in a process, product or system that is novel to the institution developing the change. They see Invention as the conversion of cash into ideas and Innovation as the conversion of ideas into cash. Therefore for invention to become an innovation, the organisation needs to be introduced to the invention and this invention should add value to the organisation in some way.

Innovation can be described as the result of some amount of time and effort spent in making research (R) into an idea, plus some larger amount of time and effort into developing (D) this idea and some very large amount of time and effort into commercializing (C) this idea into a market place with customers.

Innovation vs. Invention

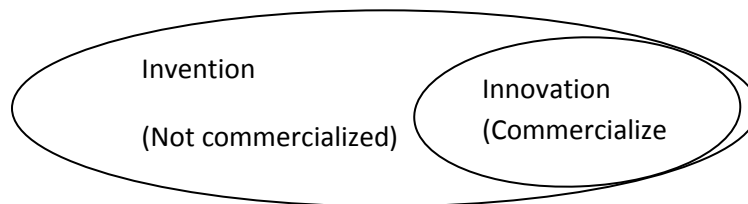


Fig. 1 Innovation vs. Invention

Source: Eybpoosh and Fidan (2010)

Innovation in time past has been seen to become the emblem of the modern society, a panacea for resolving many problems, and a means of achieving significant progress as put forward by past researches. Many people spontaneously understand innovation to be technological innovation alone. More often than not, studies on technological innovation simply use the term innovation, even though most of these studies are really concerned with technological innovation (Goodman, 2008)

His study on innovation was categorized into three separate discourses namely: innovation as a factor for change, innovation as progress, and innovation for its own sake, such as for personal recognition, prestige or professional identity.

2.3 Quantity Surveying Practice

Throughout the development cycle, the quantity surveyor is saddled with the responsibility of advising the client on matters of cost. This cost advice is necessary, regardless of the method used for contractor selection and tendering purposes as well as all aspects of cost management. It is important therefore that the cost advice given is as reliable as possible, so that clients can proceed with the greatest amount of confidence which could be achieved by the continuous improvement of the entire practice. Quantity surveyors are widely recognized within the construction industry as the most appropriate cost advisers (Ashworth, 2002)

They are the professionals traditionally responsible for production and management of project information and documents. However, because adequate cost information is very necessary to achieve on-time delivery of projects, quantity surveyors occupied a strategic core position among the construction consultants and other stakeholders in construction operations.

Right from conception, through the design and construction stages and indeed throughout the life of the project, the consultants and other stakeholders rely strongly on the cost information from quantity surveyors to discharge their contractual and technical obligations in particular and achieve the desired project objectives (Musa *et al.*, 2010)

According to (Frei and Mbachu,2009), quantity surveying profession including every other profession evolves in response to the ever-increasing and periodic changes in the global business environment. In order to remain relevant, globally competitive and successful, Quantity Surveyors need to constantly scan their business landscape to discern new directions, opportunities, more proactive services and be ready to adapt to imminent changes in their professional practice and to constantly investigate the current areas of, and future directions in, quantity surveying practice in the construction industry; imminent opportunities and threats; and ways to proactively maximize the opportunities and minimize the threats. Quantity Surveyors' services are becoming more complex and complicated. To be more competitive; QS firms must enhance their skills/practice and retain them in a manner to speed up the entire process of work (Nor and Egbu, 2010).

Over time, the quantity surveying profession has developed ways and means to move the profession forward and to pave way for the future. This is in response to the various calls which has been made to the quantity surveyor to develop a better niche for its practice to enhance its performance and the entire construction industry performance. According to (Ashworth, 1998), the Quantity Surveyor is the person who has major skills in: (1) Economic knowledge – associated with the assessment of value for money and cost effectiveness in design; relying upon analysis and evaluative techniques necessary for costing, measuring and valuing in order that clients may be advised correctly; (2) Legal knowledge with a general knowledge of law and a specialist knowledge and interpretation of the law of contract. (this is used in producing contract documentation and in the advice and settlement of contractual matters, disputes and claims); (3) Technological knowledge – a knowledge of the construction process and the methods

used in the construction of buildings and other structures, together with an in-depth knowledge of the industry. This provides a basis for developing other skills; (4) Managerial skills – the ability to organize the work associated with the construction project and to influence others in the procurement of buildings and structures, together with skills of an administrative function.

Quantity surveying is very much a client led profession in that the professional quantity surveyors respond to client needs and must continue to develop more on their own initiatives. Concerns in the coming decade in quantity surveying practice will be dominated by the need to anticipate and satisfy changing client requirements (Ogunsemi and Oke, 2009).

The traditional role of a Quantity Surveyor is often divided into two main areas. Firstly, pre contract work, mostly understood to include: design advice, preliminary cost planning, advising on the cost of design options, analysis and scheduling of work, measuring work to defined standards, preparing cost estimates, preparing tender documents, drafting contracts, assembling frameworks, benchmarking and value management, and mergers and acquisitions' due diligence. Secondly, post contract work, mostly understood to include: general contractual advice, contract administration, settling capital allowance calculations, alternative dispute resolution (ADR) services, and risk management services, etc.. Recently however, new emergent areas of non-traditional services have also evolved. These include: facilities management, development management, supply chain management, strategic development, strategic management and portfolio advice, insurance valuations and building surveying, construction law, and construction and project management, (Frei and Mbachu, 2009). Recent practice has

revealed that, the size and capital structure of the of quantity surveying practice came into bear as a result of the level of fluctuation in response to economic conditions like inflation, political conditions like government policies etc.; practices are tending toward offering a more professional and client focused and diversified range of property based services and general project financial advice and management services to meet up with the global trend. Past literature has established that the trend away from the traditional technical aspects of quantity surveying toward the newer more innovative and management type functions will continue overtime so long as the services of the quantity surveyor is always employed in projects. Specific predictions include: the continuous intensification of global competition; the expansion of the independent consultancy role (Smith, 2004); the forming of multi-disciplinary practices with other professions; a strengthening and maximizing of the use of information, and information communication technology (IT and ICT); the presence of fewer but larger organisations; the continued diversification into related sectors and other nations, and the continued movement away from traditional procurement.

Therefore in Nigeria, the move towards becoming the construction industry's professional cost controller is considered likely to continue which could be termed as innovative practice (Frei and Mbachu, 2009). Their study further suggested that Quantity Surveyors are somewhat reluctant to make any major changes to the composition of the services they undertake as they are mostly bent on their traditional practice of preparing bills of quantities. This implies that despite the fact that the overall core practice of the main quantity surveying services is unlikely to change much, certain new specialist area services, in such as alternative dispute resolution and managerial property industry

services etc. are likely to grow., though other literature speaks at length about the continuing trend away from the traditional technical aspects of quantity surveying toward the newer more innovative and management type functions as put forward by (Page *et al.*, 2004; Cartlidge, 2006) .

(Cartlidge, 2006) opined that offering traditional quantity surveying services will not in any way go extinct but these services will continue to be in demand, he emphasized the need to explore other opportunities that are now available for quantity surveyors and to move into a new era of offering a range of services and developing new expertise.

The influence of professional services are largely created and sustained by the continued interest, expectations and demand of the public as services are tailored towards satisfying the needs of the public. Moreover, professionalism is imperative of certain core values; competencies, responsibility and willingness to serve public interest (Chalkley, 1990; Carey and Doherty, 1968) as cited in (Olatunji, 2007). The view of the public determines the continuous recourse to, demand for and continued existence of any profession; through trust, confidence as well as the pride and respect for the quality performance of services rendered. Therefore, The systemic complexity of the construction industry with respect to project performance is not only targeted at meeting clients demands through the dynamism of technical competencies and innovative skills but the behavioral pattern of professionals to protect client's interest there by sustaining this interest and as well, sustain public industry harmony and unity in services they render, (Olatunji, 2007).

(Egan, 1998) opined that over thirty-three percent of clients are dissatisfied with contractors and consultants' performances, also reporting a survey conducted by

Construction Clients Forum in the United Kingdom, (Poon, 2003) opined that fifty-eight percent of the respondent clients experience program over-run with an average of forty-eight days delay in anticipated delivery, while thirty-two percent experience cost over-runs amongst records of other defects recorded by clients resulting in demolition and making good etc (Olatunji, 2007).

Therefore, the significance of addressing lack of innovativeness in professionalism in the construction industry (especially in quantity surveying practices) is to encourage high quality industry performance and positive awareness of the improving image of the profession by the doubting public. Quantity surveying practice enjoys uniqueness and ubiquitous expertise in construction cost management to generate value for client's money all through the construction process and other duties wherever adaptable (Goodman, 2008). Despite Quantity Surveyors' traditional expertise in feasibility and viability appraisal of construction investments; drafting, compilation and documentation of construction contracts; preparation and subsequent analysis of construction contract bids, quotes or tenders; contractor selection advice and financial management of all construction works and allied reporting, including auditing, cost planning, cost indexing etc., they are also very relevant in construction project management, value management, facilities management, management contracting, construction dispute resolution, research consultancy. Interestingly, quantity surveying practice is gaining more relevance in asset management, project management, taxation, law, insurance, banking and manufacturing – especially oil and gas and many other services, yet the profession still needs a lot of publicity through enterprising packaging and marketing of an attractive image of

professionalism, not only in technicalities but in ethical discipline and innovation in general (Olatunji, 2007).

2.3.1 Quantity Surveying the context for innovation as Small, Project-Based firms in the construction industry

Most quantity surveying firms are small project base firms or businesses (Hardie *et al.*, 2005). The notion of sustainable competitive advantage is increasingly interwoven with the ability of nations and firms to successfully create manage and exploit appropriate innovation. Two key strands can be identified. First, the enhanced understanding of the important role small firms such as quantity surveying firms and other small project-based firms within the industry play in industrial markets. Past literature has revealed the list of four key contributions from small firms such as quantity surveying firms to national development as follows: ‘they play an important part in the process of technological change; . . . generate much of the turbulence that not only creates an additional dimension of competition . . . but also provide a mechanism for [market] regeneration; . . . international competitiveness in newly created product niches . . . [and] job generation’. Interest in the contribution of small firms to innovation-led wealth generation and job creation has been revitalized in recent years at national and international levels (Barrett and Sexton, 2006)

It has been revealed by (Barrett *et al.*, 1998) that the basic consideration at all levels of innovation is that the higher the level of innovation, the greater the potential beneficial impact of innovation. The ability / opportunity to innovate at a higher level are seen as a function of firm and market constraints. The ability/opportunity to innovate at a higher

level is diminished by the greater the degree of firm and market constraints. The capacity and ability of construction firms (i.e. small project based firms such as quantity surveying firms within the construction industry to successfully innovate is viewed as central to enhancing the performance of both these individual firms and the construction industry as a whole. Small to medium sized enterprises (SMEs) form a substantial proportion of the construction industry, with a large percentage of companies employing very few members of staff thus regarded as SMEs. Improvement in the innovation performance of SMEs is thus an important priority.

Egan (1998) revealed that over one third of clients were dissatisfied with the performance of professional service firms in relation to innovation in design and production, speed, reliability and the provision of value for money. Criticisms in the past leveled against these professional service firms did not leave the quantity surveying firms out, as they are saddled with the responsibility of cost management in the construction industry. It has been revealed that many regular clients are critical of traditional quantity surveying services and are demanding a different and more comprehensive range of services that are proactive, customer orientated and supported by significantly better management and business skills. Changes in procurement methods, the impact of IT on some traditional functions and growing competition from other professional firms provide further impetus for change and innovation. Egan, (1998) anticipates that the largest firms will become larger, diversify away from traditional quantity surveying, develop services that span the building life cycle and move away from project specific work to "broad business solutions" that are tailored to the needs of particular clients and particular sectors of the market. Therefore, the employment of non-quantity surveying staff is expected to

increase in order to deliver some of these non-traditional services to enhance the entire services of the quantity surveying profession.

Olanikpekun (2013) stated that quantity surveyors at different levels/hierarchies perform different roles and by extension, differences in the perception of issues. The hierarchies he identified are; Principal partners, Senior quantity surveyors and Junior quantity surveyors.

2.4 Types of Innovation

Innovativeness is one of the fundamental instruments of growth strategies to enter new markets, to increase the existing market share and to provide the firm with a competitive edge (Barrett and Sexton, 2006). Motivated by the increasing competition in global markets, companies and firms have started to grasp the importance of innovation, since swiftly changing technologies and severe global competition rapidly erode the value added of existing products and services. Thus, innovations constitute an indispensable component of the corporate strategies for several reasons such as to apply more productive and service delivery processes, to perform better in the industry, to seek positive reputation in customers' perception and as a result to gain sustainable competitive advantage (Gunday *et al.*, 2010). Schumpeter (1934) as cited in Gunday *et al.* (2010) described different types of innovation as new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize business. He further revealed innovation to mean the process of equipping in new, improved capabilities or increased utility. Gunday *et al.* (2010) introduced four

different types of innovation. These are product innovation, process innovation, market innovation and organisational innovation.

Studies in the past revealed that different types of innovations were found to be related to innovative performance. Innovative performance is the combination of overall organisational achievements as a result of renewal and improvement efforts done considering various aspects of firm innovativeness, i.e. processes, products, organisational structure, etc. Therefore innovative performance is a composite construct based on various performance indicators pertaining, for instance, to the new patents, new product announcements, new projects, new processes, and new organisational arrangements. In the light of the above discussions, we are now ready to propose that all the different types of innovations have positive effects on firm innovative performance. Then the indirect effects of these four types of innovations can be expected to lead to improvements in services and general performances through the mediation of innovative performance. In this respect, innovative performance plays the role of an effective hub that carries the positive effects of innovations to the various aspects of firm performance (Gunday *et al.*, 2010).

Therefore, the following five types of innovation were developed and defined by Schumpeter (1934) and adopted by Page *et al.*, (2001); Page *et al.*, (2004); Fort and Jeune (2009) which were applied to the quantity surveying profession. They include service-product innovation, organisational innovation, market innovation, process innovation and resource innovation. Since organisational innovation is highly considered a source of competitive advantage and an agent of improved performance within a firm, he further developed the types of organisational innovation to include process-re-engineering;

information and communication technology (ICT) implementation; organisational structure and knowledge management (Fort and Jeune, 2009); (Eyboosh *et al.*, 2010).

2.4.1 Service Innovation

Service-product innovation according to Page *et al.* (2004); Gunday *et al.* (2010) is defined as the development of a completely new service-product or a significant improvement of an existing service-product. The firms with significant service-product innovations are firms that have moved furthest from the delivery of traditional quantity surveying services.

Page *et al.* (2004) further opined that the most commonly offered non-quantity surveying services which are rendered by quantity surveying firms are; project/construction management, legal services, planning/supervision, taxation/capital allowance advice, building surveying, value management, facilities management, management consultancy, PFI consultancy, services to non-construction sector and design ranked in order of popularity. The move into project and construction management began, for most firms lately and it is the most significant diversification in terms of fee income generation. Development of planning supervision services is also a very common innovation during recent years. A number of firms have developed auditing/project monitoring services. Experience of partnering and Private Finance Initiative (PFI) has led to the development of "enabling" services in relation to these procurement approaches. A number of firms are in the process of developing these and other consultancy services and marketing themselves as management consultants. However for most firms the fees generated from such services are still a very small percentage of total fee income. Some less predictable

service-product innovations included: Production process management, Lottery monitoring, Energy management, Medical planning and equipping.

They revealed that despite this diversification in services rendered by these firms, the specialized skills and traditional services and qualities of quantity surveying practices are retained but these services are now subsumed within a multi-disciplinary offer of service closely tailored to client needs. Cost consultancy is integrated with other activity such as management consultancy; project management, IT consultancy and facilities management, with the view that services are being offered beyond the duration of a particular building project. Some of these new services to large, national and international corporate clients include the co-ordination of partnering and consortium structures for projects, managing the relocation activity of multi-national companies and consultancy services specific to Private Finance Initiative (PFI) projects. Within many firms cost consultancy is increasingly integrated within a range of services such as project management and facilities management in the attempt to provide a "seamless service" that spans the life cycle of the building product. The integration of cost consultancy and project management services reflects diminished client concerns about the appointment of one firm to undertake both functions (Page *et al.*, 2001).

2.4.2 Process innovation

Process innovation involves the introduction of completely new or significantly improved methods of producing or delivering services, including new information and communication technologies (Page *et al.*, 2004; Gunday *et al.*, 2010). They further revealed that two forms of process innovation stand out. Firstly the growth in

collaboration with other professional service firms in service delivery and innovation which is the development of working alliances with firms outside the traditional boundaries of the construction sector; Secondly the development of information and communication technologies (ICT).

Business activity within partnering frameworks and alliances with clients has brought increased contact with other professional service firms in law, accountancy and management consultancy etc. These firms are equally engaged in the process of project service delivery. This has led to serial working arrangements from project to project, closer working relationships and interchange of ideas and working methods. Further research revealed that ICT systems have been developed significantly within some quantity surveying firms, thus, the adoption of the technological innovation has enhanced the quality of the services of quantity surveying firms in the Nigerian Construction Industry (Musa *et al.*, 2010). This process results in improving the speed, accuracy and integration of information flows to clients with greater access for the client to interrogate the information provided.

ICT systems within the firm could be developed using both in-house resources and in combination with external software providers to enhance the consistency and accessibility of information within the firm. Business activity within partnering and framework agreements has put quantity surveying firms in a situation where they are competing with one another to propose innovations in service delivery to a client, and also cooperating with one another to implement new services or service delivery processes for that client. A similar situation results from client organisations "body shopping" surveyors from several quantity surveying firms: i.e. several firms exporting

personnel to a client on a semi-permanent basis. In this situation the firms may be less proactive. The personnel from the quantity surveying firm may simply adopt the practice and procedures of the client organisation and adapt to the prevailing culture in that organisation. Closer cooperation has also resulted from a realization that it may not be desirable to develop the entire range of services in-house in order to offer a "one stop shop" service. A number of firms have developed long term working relationships with other professional service firms, subcontracting to obtain specialist services, acting as the coordinator for a team of professional service firms or working in alliance with other firms (Eybpoosh *et al.*, 2010; Page *et al.*, 2001; Page *et al.*, 2004).

2.4.3 Market innovation

Market innovation can be defined as the process of entering new markets, developing a new niche within an existing market or developing new opportunities for business. Research by Page *et al.*, (2004) revealed that firms are now being involved in PFI work, other firms identified Rail track as an important new client and several firms listed moves into the telecommunication and leisure markets, facilities management, planning supervision etc. Some more firms provided evidence of activities outside the construction sector in the provision of project programming, project management and IT services. Work in the oil and gas industries and ship refits are examples of such activity. These moves involve acquisition of local knowledge and adaptation of services to meet local needs. It was equally recorded that some firms have developed niche services in law and dispute resolution to obtain powerful positions in this particular segment of the construction professional services market (Page *et al.*, 2004).

Among some of the firms there is evidence of an explicit strategy for positioning of the firm in the market for professional services. This involves researching trends in the market, anticipating demands of clients and, in some cases, moulding the demands of clients in the ways in which services are provided (Eybpoosh *et al.*, 2010; Page *et al.*, 2001; Page *et al.*, 2004).

2.4.4 Organisational innovation

Organisational innovation is defined as the introduction of a new or significantly improved organisational structure, management system or work practice, within the firm. It involves the ability of firms to undergo significant changes in organisation and management of its entire structure, which in most cases involve radical change (Page *et al.*, 2004). Contributing, (Gunday *et al.*, 2010) suggested that organisational innovation is the implementation of a new organisational method in the firm's business practices, workplace organisation or external relations. Organisational innovations have a tendency to increase firm performance by reducing administrative and transaction costs, improving workplace satisfaction (and thus labor productivity), gaining access to non-tradable assets (such as non-codified external knowledge) or reducing costs of supplies.

Examples of such are; the introduction of practices for codifying knowledge by establishing databases of best practices, lessons learnt and other knowledge, so that they are more easily accessible to others; the introduction of training programs for employee development and improved employee retention; or the initiation of a supplier development program which could be client consultant relationship in the service firms. Thus, organisational innovations are strongly related with all the administrative efforts of

renewing the organisational routines, procedures, mechanisms, systems etc. to promote teamwork, information sharing, coordination, collaboration, learning, and innovativeness (Gunday *et al.*, 2010).

Organisational innovation may be considered a major source of competitive advantage (Fort and Jeune, 2009), classified organisational innovation as; process-re-engineering; information and communication technology (ICT) implementation; organisational structure and knowledge management considered in the context of quantity surveying firms.

Organisational innovation results in organisations of very different shape with flatter structures permitting more devolved responsibility and the potential for better communication throughout the organisation, it also includes a move away from tall hierarchy towards flatter structures, empowerment of staff, restructuring of organisation to reflect changes in the composition of services and shifts in market activity. This could be made manifest in firm's concern for organisational culture, a desire to change and an attempt to develop knowledge management processes for capturing knowledge from both outside of the firm and from within the firm, digesting and reviewing this knowledge, disseminating it throughout the organisation and making it available to clients (Page *et al.*, 2004).

2.4.4.1 Types of organisational innovation

Since organisational innovation may be considered a source of competitive advantage, the types of organisational innovation, namely process-re-engineering; information and

communication technology (ICT) implementation; organisational structure and knowledge management (Fort and Jeune, 2009) may be considered thus;

2.4.4.2 Process Re-engineering

Hammer and Champy (1997) cited in (Fort and Jeune, 2009) defined process re-engineering as “the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed”. Process re-engineering views the business from the process perspective rather than the functional or organisational perspective and is intended to align the business processes with the strategic objectives of the business and customers’ needs. Process re-engineering is a top-down approach, led by top management, and aimed at rapid and dramatic performance improvement within the organisation. The benefits of process re-engineering include improvement in productivity and competitiveness, which lead to more secure and rewarding employment opportunities. (Latham, 1994) attributes that there’s a slow uptake of process re-engineering as a result of the fragmented nature of the construction industry.

2.4.4.3 Information and Communication Technology (ICT)

Recent technological advancement has contributed significantly to quantity surveying profession by automating a large portion of the profession’s technical functions Smith, (2006) as cited in Fort and Jeune (2009). However, even though technological advancement has vastly improved the speed and extent of information and communication flow between project participants, is still considered an inherent problem plaguing the construction industry. The basis of the problem has largely been attributed to

the industry's fragmented nature (Babalola *et al.*, 2010). Fort and Jeune (2009) suggested that if the construction industry is to improve its communication and information flows between project participants and simultaneously reap the potential benefits of IT, then existing processes should first be reengineered.

Thus, the adoption of the technological innovation has enhanced the quality of the services of the firms in the Nigerian Construction Industry. The study concluded that ICT is a suitable tool for improving the quality of quantity surveying services in the country (Babalola *et al.*, 2010).

2.4.4.4 Organizational Structure

Professional service organisations such as quantity surveying firms are knowledge based and projects form the general business activity and environment (Page *et al.*, 2004). Therefore, the organisational culture and structure implemented within the firm should ensure that the knowledge within the firm is harnessed, as knowledge forms the central focus of innovation within professional organisations (Fort and Jeune, 2009). Some of the identified features of organisations or firm that are conducive or supportive to innovation as suggested by Barlow, (2000) cited in (Fort and Jeune, 2009) are; organisations or firms that do not penalize employees for introducing new ways of working and not succeeding; organisations or firms that endorse employees to consistently question organisational systems and processes; and that create a shared perception that all participants and employees are striving towards achieving sustainable goals. (Fort and Jeune, 2009) therefore suggested that quantity surveying organisations should move away from

centralized bureaucratic structures and in turn implement horizontally integrated structures.

2.4.4.5 Knowledge Management

The concept of 'knowledge management' is relatively new to construction organisations. Informed companies realize it is an important non-monetary asset to the organisation and can assist in maintaining competitive advantage (Nor and Egbu, 2010; Fort and Jeune, 2009).

Knowledge management has been defined as a process to foster knowledge for developing innovation. Knowledge management focuses on the creation of knowledge through codified business practices, the importing of knowledge through uncoded business practices, the importing of knowledge through codified business practices and the translation of knowledge into innovation. The capacity of firms to use knowledge for developing innovation does not lie only in their possession of knowledge, but also in the way the firms are structured to manage knowledge.

2.4.5 Resource Innovation

Resource innovation involves the acquisition, organisation and management of new resources; i.e. people, knowledge and information (Page *et al.*, 2004).

These new resources are combined with traditional quantity surveying expertise to produce a more multi-disciplinary service. New people with knowledge, skills and training from outside the traditional construction sector also provide catalysts for change in organisational culture. Some aspects of activity that were previously seen as add-ons to

quantity surveying skills will now become the responsibility of personnel from different professional backgrounds; for example ICT management and market research (Page *et al.*, 2004).

2.5 Sources of Innovation

The sources of innovation are seen to be the (Fort and Jeune, 2009) contributing factors that shape innovation at an organisational level. Page *et al.*, (2001) opined that the most important sources of innovation are to be found within the firms themselves or the firms' enterprise groups. Professional service firms in the construction industry such as quantity surveying firms and others within the construction industry are project based therefore, much knowledge is acquired by individuals or teams involved in particular projects, for particular clients, but this knowledge is not necessarily assimilated by the firm as a whole because, project teams are traditionally competitive and may deliberately withhold information from one another. This informal or tacit knowledge that is acquired by a firm's personnel or team of personnel contribute to innovation activity and the firm's internal business process needs to be organized to capture the knowledge, capitalize upon it, use it and disseminate it throughout the organisation (Page *et al.*, 2004). Two broad categories of innovation sources have been recognized, namely external and internal innovation sources. It was also noted that some of the factors that triggers growth and survival in quantity surveying organisations is their ability to respond promptly to social, technological, economic, regulatory and environmental changes (Fort and Jeune, 2009).

External Sources of Innovation

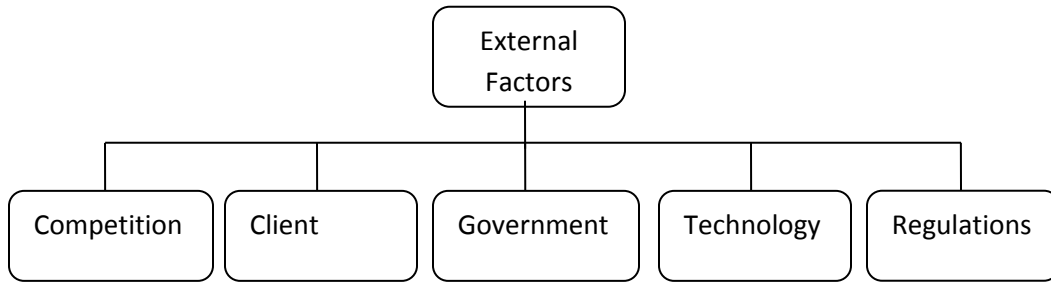


Fig. 2; External Sources of innovation

Source: (Fort and Jeune, 2009)

2.5.1 Competition

One of the basic keys that help in understanding economic change is the ability to understand competition within the market environment. Competition gives rise to entrepreneurial ability, which constantly seeks to improve organisational processes and products to maintain a sustainable competitive advantage higher. It was revealed that higher levels of competition stimulate innovation adoption (Fort and Jeune, 2009; and Frambach and Schillewaert, 1999). Motivated by the increasing competition in global markets, companies have started to grasp the importance of innovation, since swiftly changing technologies and severe global competition rapidly erode the value added of existing products and services. To satisfy clients, firms must deliver products and services that meet their tangible and intangible needs better than their competitors, and provide superior value (Gunday *et al.*, 2010; Gera and Gu, 2004).

2.5.2 Client

Clients are meant to be the driving force for any successful firm. Best firms are firms that clients drive virtually everything as in the case of manufacturing companies where the

customer is at the center of attraction. These firms provide exactly what the clients need as at when the client needs it and at the price that reflects the value to the client.

It was discovered by Page *et al.*, (2004) that the most innovative firm displays the characteristics of close interaction with clients. Some key clients have promoted interactive learning between competitor firms within partnering and framework arrangements in order to drive innovation. Most considerable pressure for improvement in the construction project delivery has been from the clients as well and as such, clients are known to be a major source or driver of innovation.

2.5.3 Government

Government, to a very large extent, has significant influence in generating innovation. Some of the ways identified by Fort and Jeune, (2009) includes; when the government stands as a client, regulator, educator and custodian. If the government is able to implement workable macro-economic policies which are flexible enough, then greater innovation will take place within the organisation. Page *et al.*, (2004) also identified government as an important source in relation to market and product innovation.

2.5.4 Technology

Response to various developments of information technology and other technology is seen to be one of the primary reasons for the changes that have occurred in the quantity surveying profession. It has been established by Fort and Jeune, (2009) that it will be inevitable that documentation and data will increasingly become automated (Smith, 2006) cited in (Fort and Jeune, 2009) suggests that technological advancement would only strengthen the quantity surveyors' position by removing the technological responsibilities and re-defining its core business functions which results in innovation as

against the view of other researchers who envisaged the demise of traditional quantity surveyor's services as a result of technological developments. (Sexton *et al.*, 2003) views 'technology' as the machines, tools and work routines used to transform material and information inputs (for example, labor, raw materials, components and capital) into outputs (for example, products and services). For small, project-based firms like quantity surveying firms, it is apparent that IT is an important focus for innovation in itself as it is an enabler of other innovations.

2.5.5 Regulations

Regulation and policies most time has negative influence, this is because, most regulations and industry standards most time hamper innovative capabilities. The impact of any regulation or industry standard depends on the capabilities of the regulators. Regulators need sector specific knowledge relating to market conditions, advanced practices and technologies, organisational competencies, industry structure, competition and technical infrastructure. Thorough investigation must be conducted within the sector before implementing any regulations with the objective of achieving positive innovation outcomes (Fort and Jeune, 2009).

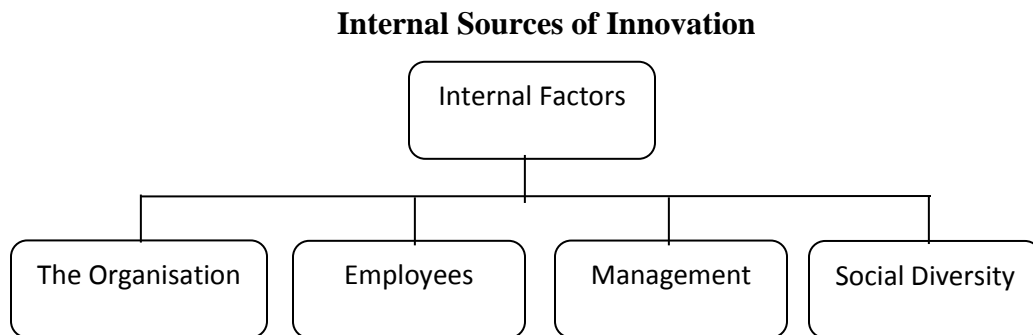


Fig. 3; Internal Sources of Innovation

Source: (Fort and Jeune, 2009)

2.5.6 Organisation

For an organisation or firm to achieve a favorable outcome of innovation, it has to put in place processes, structures and attitudes that are conducive to innovation. Page *et al.*, (2004) opined that the role of an organisation as a source of innovation relies on two key aspects: the competitive role and creating an organisational synergy. This is achieved by taking advantage of the project based nature of the construction industry, where each project is confronted with different demands, working conditions and different projects specifications with emphasizes on the importance of managing knowledge effectively and adopting a sharing culture between individuals to bring about innovative ideas.

2.5.7 Employees

The construction industry in general, lacks the ability to value employees' contributions to the organisation as these could bring about innovative ideas to the organisation. Such individuals or group of people that contribute significantly to the organisation's innovative capabilities could be termed as 'champions' that stands as important ingredients for innovation. Ideas are carried by people and ideas are the rallying points around which collective action mobilizes. The entire systems integrator should be able to establish the merits of the new idea and should equally have the skills to incorporate them into the system as a whole (Fort and Jeune, 2009).

2.5.8 Social Diversity

Increasing diversity of society poses a lot of opportunities and organisations today. This culminates in a more diverse knowledge base, diverse cultural and ethnic background among the employees of an organisation. Increasing diversity in the knowledge base

increases the need for interaction and communication within the organisations. Therefore, employee diversity might create a broader search space and make the organisation more open towards new and creative ideas (Fort and Jeune, 2009). Ideally, diversity should increase an organisation's knowledge base and increase the interaction between different types of competences and knowledge thereby creating the possibility for new combinations of knowledge and innovation (Ostergaard *et al.*, 2007) as cited in (Fort and Jeune, 2009).

2.5.9 Knowledge Management

The primary goal or motivation for KM varies from seeking best practices in all business activities to providing a better service to clients. However, the overall objective is to improve project or business performance and indirectly to increase profitability.

Knowledge management as an internal source of innovation can be defined as the systematic management approach to identify and capture the 'knowledge assets' of an organisation so that they can be fully exploited and protected as a source of competitive advantage (Scarborough & Swan, 1999) as cited in (Fort and Jeune, 2009). Egbu (2001) further defines knowledge management as the identification, optimization, and active management of intellectual assets to create value, increase productivity and gain and sustain a competitive advantage. Knowledge management is also the vehicle through which innovation and improved performance within organisations is possible, achieving innovation within the construction industry is dependent upon how knowledge is managed within organisations (Davis *et al.*, 2007). In knowledge management, experiences and lessons learnt from past projects are captured, documented and

transferred to influence the outcome of future projects to ensure no repetition of past mistakes, to compare the most effective problem solving mechanisms and to reduce project risks and to make room for better ideas which lead to innovation (Maimun *et al.*, 2009).

2.6 Impact of Innovation

In an industry where client requirements are paramount, where efficiency and effectiveness of service delivery are important, and where new and existing competitors are targeting customers in a new and innovative ways, it is essential to develop a culture which allows and encourages changes and innovation (Scullion *et al.*, 2008)

Innovation has commonly been tied to the very basis of any significant productivity growth, with the intangible investments made by businesses to achieve innovation performance linked with increased productivity. It has been reported that the impact of innovative practices on business performance, with organisations that innovate may twice as likely to report increased productivity; 41% more likely to report increased profitability; twice as likely to render more and better services; up to four times more likely to increase employment and social contributions etc. These are substantive proves that innovation is “a key driver in accelerating the economic recovery in the short term and in the long term, thereby increasing the wealth and value of an organisation or firm (Innovation in Australia, 2012).

Page *et al.*, (2001) reported innovation as having improved the quality and range of professional services being produced and has expanded fee income with consequent contributions to profitability. Innovation also result in the reduction of the firm’s cost

base. It was also reported that innovations has a significant impact on staff morale and recruitment of staff within an organisation or firm (Page *et al.*, 2004).

2.7 Organisational Culture

Yeşil and Kaya (2012) argued that organisational culture is an important construct that affects both individual and organisational related process and outcomes. The present day organisation is faced with a major challenge of the requirement to innovate, not just occasionally but often, quickly and with a solid success rate". This requirement puts pressure on organisations to look for new ways for being creative and innovative. Thus, the factors that motivate and enable innovation in organisations have become an important question that every organisation is seeking to answer to survive in today's business world. One of the most important sources those organisations pay attention, is organisational culture that can create and support environment in which innovation can flourish

Okibo and Shikanda (2012) opined that change of routine is required if organisations are to innovate and adapt to a dynamic environment. The Many management problems have their roots in the culture of an organisation and those that impede progress toward achieving high performance bedevil organisational practitioners. Largely, innovation has become the gateway to growth, economic transformation and decrease in poverty. An organisation's capacity to influence the creativity of its employees and promote new commercially relevant ideas and products has become critical to upgrade their innovative capabilities and market activities that are essential for improving performance. From an organisational perspective, culture has many elements, which can serve to supplement an

organisation's ability towards innovation. The capability to inculcate a culture of innovation is a vital requirement that provides an organisation with the necessary ingredients for increased performance. The ability to build and sustain competitive advantage strategically depends mostly on how firms handle changes in their environment and demonstrate innovative behavior. In a dynamic environment, innovation is a means to adapt to change, surmount organisational weaknesses, and add value to the organisation's products and services.

Most organisational scholars recognize that culture has a powerful effect on the performance and long-term effectiveness of service organisations (Ozigbo, 2012). Schein (2004) emphasizes that understanding of organisational culture is fundamental to what goes on in the organisation

In today's rapidly changing environment, organisational culture has become an important component to organisational effectiveness. Organisational culture's evolution begins when individual in organisations start to question their effectiveness and wants to obtain and develop clearly defined goals and objectives. Organisational culture is recognized increasingly as an important determinant of firm's performance, serves as one of the most effective managerial control mechanism (Ozigbo, 2012).

No organisation in the twenty-first century would boast about its constancy, sameness, or status quo compared to ten years ago. Stability is interpreted more often as stagnation than steadiness, organisations that are not in the business of change and transition are generally viewed as recalcitrant, The major distinguishing feature in organisations that have recorded some level of success and a great deal of competitive advantage see

organisational culture as the most powerful factor and a key ingredient to their success (Cameron and Quinn, 2006).

The sustained success of these firms has had less to do with market forces than with organisational values, less to do with competitive positioning than with personal beliefs, and less to do with resource advantages than with vision. In fact, it is difficult to name even a single highly successful organisation, one that is a recognized leader in its industry that does not have a distinctive, readily identifiable organisational culture. Virtually every leading firm you can name, small or large, has developed a distinctive culture that is clearly identifiable by its employee (Cameron and Quinn, 2006)

They further reported that most frequently cited reasons given for failure was a neglect of the organisation's culture. In other words, failure to change the organisation's culture to reflect global change and global demand doomed the other kinds of organisational changes that were initiated which resulted in most negative outcomes in quality and performance.

Satisfaction, improved performance and positive attitude can be achieved through maintaining a positive organisational environment, such as by providing good communication capabilities, autonomy, participation, and mutual trust amongst others. Creativity and innovation is also said to trigger the performance of employees and facilitated by organisational culture it therefore means that organisational culture lies at the heart of organisational norms that reflects the influence of organisational culture on creativity and innovation. Organisational Culture can play an important role in creating

such an environment that enable learning and innovative response to challenges, competitive threats, or new opportunities (Uddin *et al.*, 2012).

2.8 Definition of Organisational Culture

There seems to be no agreed upon definition of culture in the literature (Yesil and Kaya, 2012). OC has been defined from different perspectives. Organisational culture is defined as “the shared, basic assumptions that an organisation learns while coping with the environment and solving problems of external adaptation and internal integration that are taught to new members as the correct way to solve those problems” (Page *et al.*, 2004). (Schein, 2004) defined organisational culture as “a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems”.

The definitions by Schein (2004) and Page *et al.*, (2004) offer both deeper basic assumption and believe that is shared among organisational members in explaining the basic purpose and the activities of the organisation itself. Also, the assertions focus on internal integration and external adaptation of organisations which are the OC attributes that define the performance of organisations (Olanipekun, 2013). It is thus supportive that organisational culture is essential for organisational innovation and creativity.

2.9 Dimensions of Organisational Culture

Organisational phenomena exhibit dimensions in their parent organisations. The dimension of an organisational phenomenon refers to its focus and orientation

(Olanipekun, 2012). Many researchers have identified various dimensions of organisational culture from different perspectives; socialization, culture, strategy, value, climate etc (Olanipekun, 2012). Aguilar (2011) presents the culture dimensions, practices and values that are considered as part of organisational culture which includes; uncertainty avoidance (the extent to which a society relies on social norms and procedures to alleviate the unpredictability of future events), gender differentiation (the extent to which a society minimizes gender role differences), future orientation (the extent to which a society encourages and rewards future-oriented behaviors such as planning, investigating in the future and delaying gratification), power distance (the extent to which members of a society expects power to be shared equally), individualism and collectivism (the degree to which individuals are integrated into groups within the society), humane (degree to which a society encourages and reward group members for being fair, altruistic, generous, caring and kind to others) orientation and performance orientation (a degree to which a society encourages and reward group members for performance improvement and excellence). These six dimensions were said to possess the following characteristics; performance orientation, autocratic leadership style, equanimity, charismatic self-sacrifice, collectiveness, decisiveness, diplomatic, face saving, visionary, humane, integrity, risk avoidance isolationistic, administrative attributes, individualistic, status conscious and inspirational.

Organisational culture as a social construct, reflect the peculiarities of the environment where the construct of the culture is assessed (Olanipekun, 2012). These environments could be seen from different perspectives such as; leadership or individual perspective, organisational and national perspective respectively. These dimensions, give a general

overview of culture and its understanding of cultures in other countries, it therefore means that this dimensions were based on national or societal perspective (Sarros *et al.*, 2005) also established that Differences in organisational culture have been identified across various industries, organisations within an industry share distinct cultural values and consequently, industry groups would be expected to differ significantly. The dimensions of organisational culture identified in (Sarros *et al.*, 2005) based on organisational culture profile includes; rewards, supportiveness, innovation, competitiveness, performance, stability and social responsibility.

2.10 Models for Measuring Organisational Culture

The model that consist the two basic approaches as put forward by Liu *et al.*, (2006) cited in (Olanipekun, 2012) (Typological- cultural types and Trait- cultural dimensions) to studying organisational culture is adopted for this research which ensures intensive, robust and comprehensive study. In making a choice for a model used in measuring organisational culture, various models that have been applied by other researchers were considered before choosing the model used for this study. The models were further considered based on their intensity, robustness and comprehensiveness in both typological and trait approach.

2.10.1 Organisational Culture Profile (OCP)

The earlier version of organisational culture profile was based on the use of Q-methodology. This version of the OCP consisted of 54 values statements developed using exploratory factor analysis to establish the eight dimensions of organisational culture, namely innovation, attention to detail, outcome orientation, aggressiveness, supportiveness, emphasis on rewards, team orientation and decisiveness (Sarros *et al.*,

2005). The revised version is centered on overcoming the limitations of the Q-methodology. The reversed version of the organisational culture profile (OCP) has 28 items divided into seven culture dimensions which include the following factors, supportiveness, innovation, competitiveness, performance orientation, stability, emphasis on reward and social responsibility. They were further categorized into the following dimensions, people oriented dimension, goal accomplishment orientation and environment oriented dimension respectively (Sarros *et al.*, 2005). This model contains the various types of organisation culture as identified by literature and as such, adopted for this research work. The model was also adopted based on its validity and reliability (Sarros *et al.*, 2005; Olanikpekun, 2012).

2.10.2 Organisational Culture Inventory (OCI)

The Organisational Culture Inventory (OCI) is a measure of organisational culture developed by human synergistic organisation (Whittington and Dewar, 2009) looks at expected behaviors as a way to measure culture. These expected behaviors are divided into 12 areas allowing an organisation or an individual's view of an organisation which is plotted on a profile and compared to benchmark data from other organisations. These areas include; Achievement, self-actualization, affiliate, self-approval conventional, dependence, avoidance, oppositional, power, competitive and perfectionist. What is interesting is how different views of the same culture highlight different aspects of the culture (Whittington and Dewar, 2009).

2.10.3 Barrett's Seven Level Values Model

The values assessment provides two views of organisational culture. This maps your personal values, how you see the current culture and your desired culture. The Individual Values Assessment (IVA) from the Barrett Values Centre looks at the values held by an organisation (current and desired) and the values held by individuals within the organisation. Each of these is mapped onto a seven-level model, with each level contributing to organisational culture (Whittington and Dewar, 2009).



Figure 4; Barrett's Seven Level Values Model

Source: (Whittington and Dewar, 2009)

This model is not all encompassing in considering dimensions of organisational culture in relation to the organisational culture types and so could not be adopted for this research work .

2.10.4 The Denison Organisational Culture Model

This model focuses on the link between organisational culture and bottom line performance measures such as profitability, growth, quality, innovation, and customer and employee satisfaction. This is a four dimensional model which is directed towards external verses internal focus, flexibility verses stable focus. These core dimensions as identified by this model (Denison and Neale, 2009) include, adaptability (creating change, customer focus and organisational learning), mission (strategic direction and intent, goals and objectives and vision), consistency (core values, agreement and coordination and integration), and involvement (empowerment, team orientation and capability development). The use of this model is somewhat not popular in literature and as such could not be used for this research.

2.10.5 Competing Value Framework

The competing value framework was developed by (Quinn and Cameron, 1998) to measure organisational culture. The competing value framework combines two dimensions, creating a 2 X 2 matrix with four clusters. The first dimension places the value of flexibility, discretion and dynamism at one end of the scale with stability, order and control at the other end. The second value dimension is marked by internal orientation, integration, and unity at one end of the scale with external orientation, differentiation, and rivalry on the other.

The competing framework is based on an Organisational Culture Assessment Instrument which is used for measuring organisational culture with view to knowing the types of

organisational culture in an organisation such as; the Clan, Adhocracy, Market and Hierarchical culture respectively.

CHAPTER THREE

RESEARCH METHOD

3.1 INTRODUCTION

Research methodology is defined as “the general approach the researcher takes in carrying out the research project”. Quantitative research involves the collection of data so that information can be quantified and subjected to statistical treatment in order to support or refute “alternate knowledge claims”.

This section discusses in detail the methods adopted in achieving the objectives for this study. It includes research design, population of the study, types of respondents to focus on, techniques of sampling, data collection instrument as well as methods of data analysis. This section of the study establishes that appropriate procedures were considered in the course of the research work.

3.2 RESEARCH DESIGN

Research design is simply the plan in getting a research problem down to the conclusion and it explains procedures to be followed before arriving at the understanding of a phenomenon. This research therefore employs survey design approach. survey provide a good measure of aspects of employee workplace such as quantity surveying firms. This type of survey allows the researcher to focus on the main issues of interest since it exercises a full control on the research problem. Surveys are known to be quantifiable and therefore are not only indicators in themselves, but also allow the application of analytical techniques which are appropriate for organisations.

Quantitative research is the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a form and rigid fashion (Kothari, 2004; Mustapha, 2010)

The research approach adopted for this work was the quantitative research approach, this is because quantitative research is based on the measurement of quantities and this research involves the measurement of quantities.

Innovation variables such as product innovation, process innovation, market innovation and organisational innovation adopted for this research were gotten from relevant literature as validated by Page et al, (2004).

Questions were asked on a 5-point Likert scale with 5 being the highest and 1 the lowest where; (5 = strongly agree; 4 = agree; 3 = somewhat agree; 2 = disagree and 1 = strongly disagree). The likert scale is chosen for ease and uniformity of response. Likert scale also provides a broader and user-friendly means to investigate individual perceptions of organisational culture and innovation. The SPSS statistical package was used for the analysis of this research data.

3.3 RESEARCH POPULATION

The population for this research included registered quantity surveying firms in Abuja as at July, 2014. The data sourced from the Quantity Surveyors' Registration Board of Nigeria (QSRBN) revealed that there were 141 registered quantity surveying firms in Abuja as at July 2014.

3.4 SAMPLING FRAME

The adequacy of a sample is assessed by how well such sample represent the whole population of participants from which the sample is drawn. The population for this study is the number of registered firms with QSRBN in Abuja. It is therefore believed that the opinion of quantity surveyors in quantity surveying firms will help in providing the detail assessment of organisational culture and innovation within the firms under investigation.

The targeted number of respondents per firm is a total of 3 respondents which include the Junior staff, the senior staff and the partner. This is to help prevent the overlapping of responses for each hierarchy and to get a opinions across the three management levels.

3.5 SAMPLE SIZE

The sample size was determined using Kotari (2004) formulae

$$n = N/1+N(e)^2 \dots\dots\dots 1$$

Where n = sample size, N = Population size and e is the level of precision which is taken as $\pm 10\%$.

The sample size value for firms gotten from equation 1 above is 54.

3.6 SAMPLING TECHNIQUE

This study employed purposive sampling technique. Purposive sampling involves drawing samples that are both easily accessible and willing to participate in the study (Teddlie and Yu 2007). The distortion in the data on the number and the location of

quantity surveying firms in Abuja made case for the adoption of purposive sampling. In this case, firms that were accessible and willing to participate in the study were sampled.

The sampling technique ensures that responses were gotten from each of the three categories of respondents in a firm by specifically directing questions to each of the three groups of respondents. This was also done on purpose so as to satisfy the findings on organisational culture in quantity surveying firms. Purposive sampling is also well justified for this study because firms with less than 5 years of establishment were not considered for the study. This is because culture within an organisation may not take lesser time to mature since it is a gradual process. In the light of this, research instrument was administered purposively to firms within the required category. Teddlie and Yu (2007) stated that if the way sample is to be taken is tied to the objectives, then purposive sampling will be most suitable.

3.7 DATA COLLECTION INSTRUMENT

The instrument for the collection of data was a well-structured questionnaire which enabled the quantitative analysis of the variables considered for this study. Several instruments for measuring organisational culture have been developed over time and one of such instruments is the Organisational Culture Profile (OCP) validated by Sarros *et al.*, (2005) and adopted for this research work. The questionnaire designed for this study was in two sections. The demographic section of the questionnaire dwelt on the background information such as years of experience, designation, professional status etc. The information for this section provided quality check to the data gotten from other sections of the research instrument. The questionnaire designed for this research was based on

Organisational Culture Profile as established and validated by Sarros et al., (2005). The Organisational Culture Profile (OCP) was used as a measure of organisational culture in quantity surveying firms. OCP was adopted because of its validity and reliability as asserted by Sarros et al., (2005). Organisational Culture Profile was also chosen because it has Innovation culture as one of its dimensioning, this serves as an advantage for this research which aims to assess the relationship between organisational culture and innovation variables in quantity surveying firms. This research therefore assesses the various organisational culture types as revealed by OCP. They include supportiveness, innovation, competitiveness, performance orientation, stability, emphasis on reward and social responsibility cultures. search instrument.

The second section dealt with questions on organisational culture. The validated section of the Organisational Culture Profile (OCP) by Sarros *et al.*, (2005) with seven measures of organisational culture was adopted in this study to measure organisational culture. The variables in this profile were; supportiveness, competitiveness, innovation, stability, performance orientation social responsibility and emphasis on reward culture. Each of these variables has four questions each.

This section also had questions on innovation in quantity surveying firms as validated by Page *et al.*, (2011). These questions were gotten from the reviewed literature. Service innovation, Process Innovation, Market Innovation and resource innovation were the types of innovation identified from the literature.

3.8 METHODS OF PRESENTATION AND ANALYSIS

Tables were employed in this research for data presentation. The questionnaire was a combination of both nominal and ordinal data. For the nominal data, frequency and percentage were employed in carrying out the analysis. The premise of the decision was based on the variables with the highest percentage. The analysis of the ordinal data was done using Analysis of Variance (ANOVA) which was used for the analysis comprising mean scores and Spearman rank correlation coefficient.

3.9 TYPES OF ORGANISATIONAL CULTURE

Mean Item Score (MIS) was employed in determining the types of organisational culture or cultures in quantity surveying firms. The dominant organisational culture was also determined with the level of significance from the Analyses of Variance (ANOVA) from the mean item score. For the types of organisational culture in quantity surveying firms, the organisational culture variables with a mean score of ≥ 2.5 was based on the submission of John (2010). The formula for the mean item score is:

$$MIS = \frac{5F_5+4F_4+3F_3+2F_2+F_1}{F_5+F_4+F_3+F_2+F_1} \dots \dots \dots 2$$

Where MIS is Mean Item Score,

F is the frequency of each of the rankings.

3.10 TYPES OF INNOVATION

Mean Item Score (MIS) was also employed in determining the types of innovation in quantity surveying firms. The dominant innovation type was determined by the level of significance from the analyses of variance (ANOVA) from the mean item score.

3.11 RELATIONSHIP BETWEEN ORGANISATIONAL CULTURE AND INNOVATION

In investigating the relationship between organisational culture and innovation in quantity surveying firms, Spearman's Rank Correlation was used because the data is ordinal. Spearman's Rank Correlation is a technique used to show whether anyone set of numbers has any relationship with another set of numbers. The variables of organisational culture were correlated with innovation types in quantity surveying firms to show the strength and level of relationship. The equation of Spearman Rank Correlation adopted for this objective and basis of decision is;

$$r_s = 1 - \frac{6\sum d_i^2}{n(n^2-1)} \dots\dots\dots 3$$

Where r_s is the correlation coefficient, d_i is the difference between the two ranks of each observation and n is the number of observations

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

This section presents the analyses of the data obtained for the purpose of the study in accordance with the objectives of the study. It also discussed and detailed the results obtained with previous studies. The results of other findings were also reported.

4.2 RESPONSE TO QUESTIONNAIRE

Table 4.1: Response rate of respondents and firms

S/NO	Response	Fx (Frequency)	Percentage
1	Returned	81	50
2	Not Returned	81	50
	Total	162	100

Source; Field Survey (2015)

Out of the hundred and sixty two (162) questionnaires that were sent out to fifty four (54) quantity surveying firms, eighty one (81) from twenty seven (27) firms were returned (Table 4.2). The eighty one (81) questionnaire returned represent 50% of the total questionnaires sent out.

The entire percentage response rate of 50% is similar to Olanikpekun (2012) which was described as encouraging judging by the antecedents of respondents in the construction industry

Table 4.2: Profile of respondents

Description	No of respondents	Percentage %
<i>Years of respondents' experience in consultancy business (N=81)</i>		
1-5 years	25	30.0
6-10 years	30	37.0
11-15 years	11	13.0
16-20 years	1	1.0
>20 years	16	19.0
<i>Respondents' experience in the firm (N=79)</i>		
1-5 years	38	48.1
6-10 years	24	30.3
11-15 years	6	7.5
16-20 years	5	6.3
>20 years	6	7.5
<i>Educational qualification of respondents (N=81)</i>		
Higher National Diploma	11	13.6
Bsc/B.Tech	48	59.3
Msc	21	25.9
PHD	1	1.2
<i>Membership of the NIQS (N=80)</i>		
Graduate membership	12	15
Probationer membership	30	37.5
Corporate membership	30	37.5
Fellow	8	10.0
<i>Organisational hierarchy of respondents (N=80)</i>		
Principal Partner	22	27.5
Senior quantity surveyor	28	35.0
Junior quantity surveyor	30	37.5

Source: Field Survey (2015)

4.3 THE PROFILE OF RESPONDENTS INVOLVED IN THE STUDY

The profile of the respondents involved in this study is as displayed in Table 4.2. It can be seen that, 70% have consultancy experience of six years and above which makes it very suitable for the study. It also conforms with previous studies by Opeyemi, (2015) and Olanipekun, (2012) while 30% have less than six years' experience in consultancy business. 51.9% of the respondents have above six years' experience in their respective firms. 48.1% of the respondents have five or less years of experience in their respective firms. Table 4.2 also indicates that 100% of the respondents have Bachelor degree/Higher National Diploma and above making the study very reliable as it equally conforms to the study of Olanipekun, (2012). Another 37.5% of the respondents have attained the corporate membership of the Nigerian Institute of Quantity Surveyors (NIQS) while 37.5% are probationer members of NIQS. For the organisational hierarchy, the junior quantity surveyors dominated with 37.5% of the responses. The senior quantity surveyors followed with 35% and lastly, the principal partners and associate partner with 27.5% response rate. These findings are in agreement with Olanipekun (2012); and Opeyemi (2015), thus the responses on organisational culture and innovation from the respondents can be relied upon.

4.4 THE PROFILE OF FIRMS INVOLVED IN THE STUDY

The profile of the firm involved in this study is as displayed on Table 4.3. The Table indicates that 60% of the firms have over 10 years' experience. This is considered good for this research because firms with such years of experience would have had a very matured organisational culture with more innovative capabilities. Of the four categories

of business structure, sole proprietorship and partnership structure dominates with a joint percentage of 100% leaving firms of corporate and multidisciplinary structure with no scores at all. This indicates that firms of these business structures seem to be uncommon.

Table 4.3: Profile of firms

Description	Number of respondents	Percentage %
<i>Years of establishment of the firms (N = 81)</i>		
6-10 years	32	39.5
11-15 years	6	7.4
16-20 years	14	17.3
>20 years	29	35.8
<i>The business structure of the firms (N=81)</i>		
Sole Proprietorship	3	3.7
Partnership	78	96.3
Corporate status	0	0.0

Source: Field Survey (2015)

4.5 TYPES OF ORGANISATIONAL CULTURE IN QUANTITY SURVEYING FIRMS

Table 4.4: Types of organisational culture

ORGANISATIONAL CULTURE TYPES	MEAN	MEAN RANK
Supportiveness culture	4.51	1
Performance orientation culture	4.34	2
Competitive culture	4.30	3
Stability culture	4.22	4
Social responsibility culture	4.17	5
Emphasis on rewards culture	4.15	6
Innovation culture	3.99	7

Source; Field Survey (2015)

This relates to the second objective which seeks to identify the types of organisational culture that are dominant in quantity surveying firms. From Table 4.4, the mean scores of organisational culture types in quantity surveying firms are more than the midpoint 2.5 used for this study. This indicates that all organisational culture types identified with mean scores of 2.50 and above, are present in quantity surveying firms. This is in agreement with Olanikpekun (2012) that every organisation has a culture whether it is known and identified or not. The evidence of these

organisational culture types in quantity surveying firms is also in line with multiple culture theory of Web book (2012) which states that in reality, there might be multiple cultures within an organisation(s).

The implication from the findings of this study is that quantity surveying firms are organisational culture oriented which contradicts the popular belief that organisational culture is strange to the firms (Olatunji, 2007). Also, quantity surveying firms exhibit multiple dimensions of organisational culture because all the factors that constitute the dimension of organisational culture are evident in quantity surveying firms. These dimensions as stated by Sarros *et al.*, (2005) are; people oriented, goal accomplishment and environment which form part of the various factors that constitute organisational culture types. Although, all organisational culture types are evident in quantity surveying firms with average score more than 2.5 midpoint which is the threshold, some organisational culture types are more dominant than the other comparing the average scores of the various types of organisational culture as shown on table 4.4. Supportive culture ranked first (1st) with an average score of 4.51 indicating that it is the most dominant organisational culture type. This also indicates that employees of quantity surveying firms work as a team and have good working relationship among themselves. This could lead to a better service rendition and a better organisational structure. Performance orientation culture ranked second (2nd) among other types of organisational culture with a mean score of 4.34 showing it is the second most dominant culture in quantity surveying firms. This means that employees in quantity surveying firms are highly result oriented and are given more to an organized system of work, they also have high expectation for performance as they work with much enthusiasm. Competitive culture ranked third (3rd) making it the third most dominant culture among the types of organisational culture with an average score of 4.30. This means that quantity surveying firms

are given to achieving the objective of quality service rendition with distinctive features and are influenced by the needs of their clients so as to continuously sustain their clients. Stability culture ranked fourth (4th) among organisational culture types with an average score of 4.22. This indicates that, though this organisational culture type is quite evident in quantity surveying firms, it is less dominant compared to other types of organisational culture. With mean score shown above, it means that quantity surveying firms demonstrate a high level of calmness in achieving goals and less conflicts within the firm as security of employment is somewhat guaranteed. Social responsibility culture ranked fifth (5th) with an average score of 4.17. This shows that, social responsibility culture is also evident in quantity surveying firms considering the mean score shown above, but its level of dominance compared to other types of organisational culture is less.

Quantity surveying firms are known to be careful in keeping good reputation and reflect well on their plans before actual execution. Emphasis on reward culture and innovation culture ranked sixth (6th) and seventh (7th) respectively with average scores of 4.15 and 3.99 respectively. This also means that, though the mean scores of emphasis on reward and innovation culture are more than the midpoint of 2.50 benchmark, these organisational culture types are dominant in quantity surveying firms but less dominant compared to other types of organisational culture. This is an indication that quantity surveying firms pay less attention to giving incentives to employees with outstanding performance compared to other attributes of organisational culture. Considering innovation culture with an average score of 3.99, it means that quantity surveying firms do not encourage innovation practice as much as other organisational culture practices within the firm. It also means that the level of risk taking in quantity surveying firms is less compared to other

cultural practices in the firm though they appear to be evident and quite dominant in the firms examined.

Table 4.5: The Competitive Culture

The Competitive Culture	Mean Score			F – ratio	p - value
	Junior staff	Senior staff	Principal partner		
Quality of service	4.82	4.64	4.93	2.636	0.081*
Drive for achievement	4.86	4.57	4.68	1.459	0.241
Distinctive attitude of firm	4.39	4.36	4.29	0.077	0.926
Influence of other market forces	3.29	3.43	3.32	0.058	0.944

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field survey (2015)

Considering Table 4.5, the mean scores for the various elements of the competitive culture by their separate hierarchies reveal that the competitive culture is quite evident in quantity surveying firms as their mean scores are all above the mid-point of 2.5 bench mark as established by Olanipekun, (2012). However, only quality of service with a p-value of 0.081 is shown to be significant at 10%. This indicates that quantity surveying firms are more concerned with quality of service compared to other aspects of competitive culture even though other aspects of the competitive culture are quite evident. This could also be seen from the table above, as the mean score for quality of service is quite higher than other aspects of competitive culture.

Table 4.6: The Social Responsibility Culture

The Social Responsibility Culture	Mean Score			F – ratio	p - value
	Junior staff	Senior staff	Principal partner		
Reflective planning prior to actual execution	4.46	4.46	4.14	0.941	0.396
Good reputation in service delivery	4.75	4.79	4.32	2.902	0.063*
Corporate social responsibility	3.54	3.79	3.75	0.354	0.703
Clear guiding philosophy	3.86	4.07	4.11	0.463	0.632

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field survey (2015)

In Table 4.6, the mean scores for the various elements of the social responsibility culture by their separate hierarchies reveal that the social responsibility culture is quite evident in these firms as the mean scores of the elements of competitive culture are all above the mid-point of 2.5 bench mark used for this study. This is also in conformity with the study of Olanipekun (2012). Only

good reputation in service delivery with a p-value of 0.063 is seen to be significant at 10%. This could also be seen from the table which shows that social responsibility culture has the highest means score compared to other elements across the three hierarchies within the firm. This indicates that quantity surveying firms in relation to social responsibility culture pay more attention to having good reputation in service delivery compared to the others.

Table 4.7: Supportiveness Culture

Supportiveness Culture	Mean Score			F - ratio	p - value
	Junior staff	Senior staff	Principal partner		
Teamwork among employees	4.71	4.79	4.71	0.102	0.903
Free sharing of information	4.21	4.46	4.64	1.648	0.202
Working relationship among employees	4.32	4.29	4.43	0.186	0.831
Collaboration in task performance	4.32	4.54	4.64	1.647	0.202

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field survey (2015)

In Table 4.7, the mean scores for the various elements of the supportive culture by their separate hierarchies reveal that the supportive culture is evident in these firms as their mean scores are also above the mid-point of 2.5 used as bench mark for this study. This conforms to the study of Yesil and Kaya (2012) that firms view organizational culture is an important construct that affects both individual and organizational related process and outcomes. None of the elements of supportive culture proved to be significant in any way. This shows that, though supportive culture is current in quantity surveying firms, workers within the firms pay almost equal level of attention to all the elements that culminate in organisational culture.

Table 4.8: Innovation Culture

Innovation Culture	Mean Score			F - ratio	p - value
	Junior staff	Senior staff	Principal partner		
Drive for innovation	4.21	4.39	4.32	0.206	0.814
Drive for business opportunities	4.36	4.25	4.14	0.327	0.723
Culture of risk taking	3.32	3.46	3.54	0.373	0.690
Individual responsibilities	3.71	3.93	4.18	1.638	0.203

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field Survey (2015)

In Table 4.8, the mean scores for the various elements of the innovation culture by their separate hierarchies reveals that innovation culture is evident in these firms as their mean scores are all

above the mid-point of 2.5. This conforms to the study of Olatunji *et al.* (2009) which states that firms are conservative and slow in adapting to change in most organisations. None of the elements of innovation culture proved to be significant. This shows that, though innovation culture is current in quantity surveying firms, firms level of enhancement of their innovative capabilities is quite low compared to other organisational culture types.

Table 4.9: Emphasis on Rewards Culture

Emphasis on Rewards Culture	Mean Score			F – ratio	p - value
	Junior staff	Senior staff	Principal partner		
Fairness in business dealings	4.14	4.54	4.46	1.584	0.214
Incentives for employees	3.57	3.75	4.29	6.049	0.004***
Professional growth opportunities	4.21	4.57	4.54	1.757	0.182
Reward for excellent staff performance	3.93	3.86	4.00	0.119	0.888

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field survey (2015)

Considering Table 4.9, the mean scores for the various elements of emphasis on reward culture by their separate hierarchies reveal that emphasis on reward culture is quite evident in these firms as the mean scores are all above the mid-point of 2.5 bench mark used for the study. However, incentives for employees with a p-value of 0.004, is shown to be significant at 5%. This indicates that quantity surveying firms laid more emphasis on giving incentives to employees compared to other elements of emphasis on rewards culture. This conforms to the study of Olanipekun, (2012) which states that organisational culture as social construct, reflect the peculiarities of the environment where the culture of the construct is assessed.

Table 4.10: Performance orientation culture

Performance orientation culture	Mean Score			F - ratio	p - value
	Junior staff	Senior staff	Principal partner		
High expectations for performance	4.50	4.71	4.61	0.841	0.436
Employee enthusiasm on the job	4.04	4.14	4.46	1.271	0.288
High result drive of employees	4.39	4.39	4.32	0.068	0.935
Highly organized employees	4.14	4.04	4.32	0.578	0.564

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field survey (2015)

In Table 4.10, the mean scores for the various elements of performance orientation culture by their separate hierarchies reveals that performance orientation culture is highly evident in quantity surveying firms as their mean scores are all above the mid-point of 2.5 bench mark. None of the elements of performance orientation culture proved to be significant. This shows that, though performance orientation culture is current in quantity surveying firms, equal level of emphasis is laid on all the various elements that culminate in performance orientation culture. This confirms the study of Aguilera (2011) that firms have the culture of rewarding and encouraging group members for performance improvement and excellence.

Table 4.11: Stability culture

Stability culture	Mean Score			F - ratio	p - value
	Junior staff	Senior staff	Principal partner		
General stability of firm	4.46	4.46	4.39	0.066	0.937
Calm approach to goals achievement	4.14	4.21	4.25	0.094	0.910
Relatively low conflicts	4.46	4.54	4.86	1.942	0.153
Job security	3.39	3.57	3.86	0.967	0.387

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field survey (2015)

In Table 4.11, the mean scores for the various elements of stability culture by their separate hierarchies also reveals that stability culture is evident in quantity surveying firms as their mean scores are also above the mid-point of 2.5 bench mark used for this study. None of the elements of stability culture proved to be significant from table 4.11 above. This indicates that, though stability culture is current in quantity surveying firms by their elements as shown by the mean scores above, almost equal level of emphasis is laid on all the aspects of stability culture within the firms. This is in agreement with the study of Olanipekun (2012) quantity surveying firms are generally stable, have low conflicts and have a calm approach to goal achievements.

Table 4.12: Types of Innovation in Quantity Surveying Firms

Innovation Types	Mean	Mean Rank
Service Innovation	3.77	1
Organisational Innovation	3.75	2
Market Innovation	3.70	3
Process Innovation	3.62	4
Resource Innovation	3.47	5

Source; Field Survey (2015)

4.6 Types of Innovation in Quantity Surveying Firms

This relates to the third objective which seeks to identify the types of innovation that are dominant in quantity surveying firms. From Table 4.12, the mean scores of innovation types in quantity surveying firms are all more than the midpoint of 2.5 used for this study. This indicates that all innovation types identified with mean scores of 2.50 and above are evident in quantity surveying firms. This is in agreement with Page *et al.*, (2012) that every organisation has innovative capabilities if properly enhanced. The implication from the findings of this study is that quantity surveying firms are innovation oriented which contradicts the popular belief that quantity surveying firms do not really engage in innovation practice (Olatunji, 2009). Also, quantity surveying firms exhibit multiple dimensions of innovation because all the factors that constitute innovation types as put forward by Page *et al.*, (2002) are identified in quantity surveying firms.

However, certain innovation types are more dominant than others as shown in Table 4.12. The table shows that service innovation ranked first (1st) with an average score of 3.77 among other innovation types. This indicates that firms under study have moved furthest from the traditional quantity surveying roles to engage in rendering newer services and the development of existing knowledge to increase their wealth and value as put forward by Page *et al.*, (2004) and Gunday *et al.*, (2010). This might be occasioned by the response to the call by regular clients who are critical of traditional quantity surveying services and demanding a different and more comprehensive range of services that are proactive, customer oriented and supported by significantly better management and business skills. Organisational innovation ranked second (2nd) with an average score of 3.75. This indicates that firms under study have overtime, been able to improve on their organisational structure, management system, work practice and involvement of employees in decision making within the firm so as to reflect newer and better services. Market innovation ranked third (3rd) among other types of innovation with an average score of 3.70. This indicates that firms under study, exhibit the ability to identify newer opportunities and ability to enter into newer markets. It also indicates that firms develop a niche to render services outside the construction industry such as law, dispute resolution etc. However, process innovation and resource innovation ranked fourth (4th) and fifth (5th) with average scores of 3.62 and 3.47 respectively showing that, though these innovation types are dominant in quantity surveying firms, they are less dominant compared to service, organisation and market innovation.

Table 4.13: Service Innovation

Service Innovation	Mean Score			F - ratio	p - value
	Junior staff	Senior staff	Principal partner		
Diversity of services	4.25	3.93	4.36	2.473	0.093*
Improved existing service	4.46	4.32	4.61	0.895	0.414
Anticipating client's need	4.25	3.86	4.18	1.408	0.253
Collaborative development of new services	3.89	3.04	3.71	2.987	0.059*
Multi-disciplinary services	3.61	3.21	3.64	1.434	0.247
Client response-report system	3.61	3.18	3.29	0.808	0.451
Flexibility of organisational structure	3.57	3.14	2.96	1.834	0.169

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field Survey (2015)

Considering Table 4.13, the mean scores for the constituents of service innovation by their separate hierarchies reveal that service innovation is quite evident in these firms as the mean scores are all above the mid-point of 2.5 bench mark. However, diversity of services and collaborative development of new services with p-values of 0.093 and 0.059 proved to be significant at 10% respectively. This indicates that quantity surveying firms laid more emphasis on providing and developing newer services compared to other aspects of service innovation. This conforms to the study of Page et al (2004) that quantity surveying firms are eager to improve on their existing services and entrenching multi-disciplinary services.

Table 4.14: Process Innovation

Process Innovation	Mean Score			F - ratio	p - value
	Junior staff	Senior staff	Principal partner		
Long-term inter-firm relationships	3.75	4.04	4.39	3.623	0.033*
In-house software development	3.04	3.21	3.68	2.888	0.064**
Use of internet network	3.43	3.75	4.00	1.190	0.312
In-house staff training	3.57	3.50	3.75	0.329	0.721
Alliance for client service delivery	3.75	3.75	3.86	0.094	0.911
Presence of RD department	3.29	3.04	3.64	1.944	0.153
Specialist service subcontracting	3.25	3.54	3.71	0.936	0.398

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field Survey (2015)

In Table 4.14, the mean scores for the various elements of process innovation by their separate hierarchies reveal that process innovation is evident in these firms as their mean scores are all above the mid-point of 2.5. Other constituents of process innovation are not significant except long-term inter-firm relationships and in-house software development with p-values of 0.033 and

0.064 proved to be significant at 5% and 10% respectively. This indicates that quantity surveying firms are given more to long-term inter-firm relationships and in-house software development compared to other aspects of process innovation. This conforms to the study of Page et al (2004) that quantity surveying firms now lay more emphasis on long-term inter-firm relationship, use of computer services etc. to enhance their services rendition .

Table 4.15: Organisational Innovation

Organisational Innovation	Mean Score			F - ratio	p – value
	Junior staff	Senior staff	Principal partner		
Major decisions are taken at management level	4.36	4.68	4.89	2.638	0.080*
Involving staff in major decisions	3.39	3.43	3.39	0.014	0.986
Staff empowerment	3.71	3.86	4.21	3.072	0.054*
Dynamics of organisation culture for new services	3.11	3.32	3.57	1.855	0.166
Reward and Recognition system	3.46	3.46	3.68	0.375	0.689
Interactive decision making	3.75	3.61	3.89	0.632	0.535
Knowledge management process	3.54	3.64	3.86	0.610	0.547

***Significant at $p < 0.01$; **Significant at $p < 0.05$; *Significant at $p < 0.10$ Source: Field survey (2015)

In Table 4.15, the mean scores for the various elements of organisational innovation by their separate hierarchies reveal that organisational innovation is evident in these firms as their mean scores are all above the mid-point of 2.5 used for this study. However, major decisions taken at management level and staff empowerment with p-values of 0.080 and 0.054 proved to be significant at 10% respectively. This indicates that in quantity surveying firms the practice of major decisions taken at management level and staff empowerment are given more consideration compared to other aspects of organisational innovation, this confirms the study of Fort and Jeune (2009) that organizational innovation results in organisations of very different shape with flatter structures permitting more devolved responsibility and the potential for better communication throughout the organization.

Table 4.16: Market Innovation

Market Innovation	Mean Score			F - ratio	p – value
	Junior staff	Senior staff	Principal partner		
Newer market opportunities	3.71	4.11	4.32	3.498	0.037**
Flexibility of client demands to service provision trends	3.68	3.82	4.04	1.527	0.226
Active research trends in the market	3.64	3.43	3.82	1.398	0.256
Anticipating demands of clients	3.75	3.68	3.68	0.059	0.943
Review of client's satisfaction over time	3.68	3.50	3.54	0.159	0.853
Service provision beyond the construction industry	3.75	2.89	3.50	4.420	0.017**
Review of completed projects over time	3.79	3.68	3.64	0.129	0.879

*** Significant at $p < 0.01$; ** Significant at $p < 0.05$; * Significant at $p < 0.10$ Source: Field survey (2015)

In Table 4.16, the mean scores for the various elements of market innovation by their separate hierarchies reveal that market innovation is evident in these firms as their mean scores are all above the mid-point of 2.5. However, newer market opportunities and service provision beyond the construction industry with p-values of 0.037 and 0.017 proved to be significant at 5%. This indicates that quantity surveying firms launch into newer market opportunities and are beginning to render services beyond the construction industry compared to other aspects of market innovation. This conforms to the study of Page et al (2004) that quantity surveying firms tend to engage in active research trends in the market, engage in service provisions beyond the construction industry and anticipates demands of their clients.

Table 4.17: Resource Innovation

Resource Innovation	Mean Score			F - ratio	p – value
	Junior staff	Senior staff	Principal partner		
Collaboration with external research units	3.39	3.50	3.50	0.068	0.935
Expenditure on in-house staff training	3.32	3.36	3.46	0.112	0.894
Collaborative consultancy	3.39	3.18	3.11	0.306	0.738
In-house research unit	2.75	3.00	3.18	0.641	0.531
External forms of staff training	3.04	3.46	3.79	2.623	0.082*
Knowledge sharing among firms	4.21	4.11	4.61	2.712	0.075*
Shared experiential learning with other firms	3.39	3.57	3.64	0.317	0.729

*** Significant at $p < 0.01$; ** Significant at $p < 0.05$; * Significant at $p < 0.10$ Source: Field survey (2015)

In Table 4.17, the mean scores for the various elements of resource innovation by their separate hierarchies reveal that resource innovation is evident in these firms as their mean scores are all

above the mid-point of 2.5 bench mark used for this study. However, external forms of staff training and knowledge sharing among firms with p-values of 0.082 and 0.075 proved to be significant at 10%. This indicates that quantity surveying firms laid more emphasis on periodic staff training and knowledge sharing within the firm compared to other aspects of resource innovation. This was also established by the study of Page et al (2004) quantity surveying firms practice knowledge sharing with the firm, engages in external forms of staff training periodically etc.

Table 4.18: Relationship between Organisational Culture and Innovation

P-Values of Correlation Result		Organisational Culture						
		Competitive Culture	Social Responsibility Culture	Supportiveness Culture	Innovation Culture	Emphasis on Rewards Culture	Performance Orientation Culture	Stability Culture
INNOVATIVE PRACTICE	Service Innovation	0.000	0.000	0.671	0.005	0.000	0.039	0.000
	Process Innovation	0.244	0.000	0.073	0.625	0.011	0.190	0.008
	Organisational Innovation	0.006	0.000	0.040	0.072	0.000	0.040	0.003
	Market Innovation	0.000	0.000	0.572	0.204	0.000	0.217	0.001
	Resource Innovation	0.000	0.000	0.716	0.112	0.000	0.138	0.000

Significance of correlation

Source: Field Survey (2015)

***Significant at p < 0.01 (2-tailed); *Significant at p < 0.05(2-tailed)*

4.7 Relationship between Organisational Culture Types and Innovation Practices in Quantity Surveying Firms

Table 4.18 and 4.19 presents the results of correlation analyses between the types of organisational culture and innovation types in quantity surveying firms. The tables reveal that one or more of the types of organisational culture has significant relationship with one or more innovation types. This is in agreement with Goodman (2008) indicating that there is a correlation between organisational culture and outcomes. The tables also reveal positive correlation between

the types of organisational culture and innovation variables. Social responsibility culture, emphasis on reward culture and stability culture provide most positive correlation with innovation practice as they correlate positively with all innovation types in quantity surveying firms, followed by competitiveness culture which correlates with all innovation types except process innovation. Competitiveness culture correlates significantly with service innovation ($r = 0.856$, $p = 0.000$), This shows that there's at least, 99% level of confidence that 86% relationship exist between competitive culture and service innovation in the organisations studied. Organisational innovation also correlates significantly with competitive culture ($r = 0.505$, $p = 0.006$) shows that there's at 99% level of confidence that 51% relationship exist between organisational innovation and competitive culture. Market innovation and competitive culture with significant correlation ($r = 0.711$, $p = 0.000$) reveals that there's 99% chance that 71% relationship exist between market innovation and competitive culture. The significant correlation between resource innovation and competitive culture ($r = 0.617$, $p = 0.000$) shows that there's also at least 99% level of confidence that 62% level of relationship exist between competitive culture and resource innovation. Social responsibility culture also correlates positively with service innovation ($r = 0.642$, $p = 0.000$), process innovation ($r = 0.619$, $p = 0.000$), organisational innovation ($r = 0.661$, $p = 0.000$) market innovation ($r = 0.711$, $p = 0.000$) and resource innovation ($r = 0.677$, $p = 0.000$) signifying that there is at least 99% probability that 64% relationship exist between service innovation and social responsibility culture, 62% relationship exist between process innovation and social responsibility culture, 66% relationship exist between organisational innovation and social responsibility culture, 71% relationship exist between market innovation and social responsibility culture and 68% relationship exist between resource innovation and social responsibility culture in the firms studied.

Emphasis on reward culture also correlates significantly with all innovation types, service innovation ($r = 0.866$, $p = 0.000$), process innovation ($r = 0.471$, $p = 0.011$), organisational innovation ($r = 0.709$, $p = 0.000$), market innovation ($r = 0.808$, $p = 0.000$) and resource innovation ($r = 0.739$, $p = 0.000$), this means that there is at least, 99% probability that 87%, 47%, 71%, 81% and 74% relationship exist between them and emphasis on rewards culture in the firms studied. Stability culture correlates significantly with service innovation ($r = 0.618$, $p = 0.000$), process innovation ($r = 0.488$, $p = 0.008$), organisational innovation ($r = 0.540$, $p = 0.003$), market innovation ($r = 0.573$,

Table 4.19: Relationship between Organisational Culture and Innovation

Correlation coefficients		Organisational Culture						
		Competitive Culture	Social Responsibility Culture	Supportiveness Culture	Innovation Culture	Emphasis on Rewards Culture	Performance Orientation Culture	Stability Culture
INNOVATIVE PRACTICE	Service Innovation	0.856**	0.642**	0.084	0.517**	0.866**	0.391*	0.618**
	Process Innovation	0.228	0.619**	0.344	0.096	0.471*	0.255	0.488**
	Organisational Innovation	0.505**	0.678**	0.391*	0.345	0.709**	0.390*	0.540*
	Market Innovation	0.711**	0.661**	0.111	0.248	0.808**	0.241	0.573**
	Resource Innovation	0.617**	0.677**	0.072	0.307	0.739**	0.287	0.620**

Significance of correlation

Source: Field Survey (2015)

**Significant at $p < 0.01$ (2-tailed); *Significant at $p < 0.05$ (2-tailed)

$p = 0.001$) and resource innovation ($r = 0.620$, $p = 0.000$), this signifies that there is at least 99% probability that 62%, 49%, 54%, 57% and 62% relationship exist between them and stability culture in the firms studied. However, supportiveness culture only correlates significantly with organisational innovation ($r = 0.391$, $p = 0.04$) showing that there is 95% probability that 39% relationship exist between organisational innovation and supportiveness culture. Likewise,

innovation culture only correlates significantly with service innovation ($r = 0.517$, $p = 0.005$) indicating that there is at least 99% probability that 52% relationship exist between service innovation and innovation culture. Performance orientation culture, correlates significantly with service innovation ($r = 0.391$, $p = 0.039$) and organisational innovation ($r = 0.390$, $p = 0.04$) which means that there is 95% probability that 39% relationship exist between service innovation and performance orientation culture and organisational innovation with performance orientation culture as well.

4.8 DISCUSSION OF FINDINGS

Regarding the positive significant correlation between the types of organisational culture and innovation practices, all the types of organisational culture except supportiveness culture correlates significantly with service innovation, this means that as firms entrenches their competitive culture, social responsibility culture, innovation culture, emphasis on rewards culture, performance orientation culture and stability culture, service innovation automatically increases. This could account for the reason why service innovation ranked first (1st) among the other dominant innovation types. Meanwhile, only social responsibility culture, emphasis on rewards culture and stability culture correlates significantly with process innovation. This indicates that as these cultural practices are enhanced within the firms, process innovation tends to increase as well. But an increase in competitive culture, supportiveness culture, innovation culture and performance orientation culture does not make any difference in process innovation in the firms studied. This accounts for process innovation low level of dominance compared to other innovation types as it ranked fourth (4th) among others. All organisational culture types also correlates positively with organisational innovation except innovation culture. This means that as quantity surveying firms entrenches all organisational culture types, (competitive culture,

social responsibility culture, supportiveness culture, emphasis on reward culture performance orientation culture and stability culture), organisational innovation is improved within the firms. But an increase in innovation culture does not have any effect on organisational innovation. This accounts for its high level of dominance among other innovation types as it ranked second (2nd). Competitive culture, social responsibility culture, emphasis on reward culture and stability culture correlates positively with market innovation showing that any increase in these organisational culture types results in corresponding increase in market innovation, however, an increase in supportiveness culture and innovation culture does not make any difference on market innovation in the firms studied. This accounts for why it ranked third (3rd) among other innovation types. Competitive culture, social responsibility culture, emphasis on rewards culture and stability culture correlates positively with resource innovation. However, the implication of the significant correlation between these types of organisational culture and resource innovation is that, as these organisational culture increases, resource innovation also increases. Meanwhile, an increase in supportiveness culture, innovation culture and performance orientation culture does not have any effect on resource innovation. This accounts for why resource innovation ranked least among all innovation types in quantity surveying firms. This confirm the study of Aderemi *et al.* (2009); Martins and Terblanche (2003) which assert that innovation is a veritable tool for improving the quality of services of firms in Nigeria, and that organisational culture is a critical factor in the success of any organization with particular emphasis on the relationship between organisational culture, innovation and creativity.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The study has identified and assessed the types of organisational culture and innovation practice in quantity surveying firms as well as the effects of organisational culture in quantity surveying firms. The summary of the findings from the analysis carried out, conclusions and the subsequent recommendations are presented in this chapter. The proposed recommendations will help improve the innovative practices of quantity surveying firms through the adoption of appropriate organisational culture(s).

5.2 SUMMARY OF FINDINGS

1. The study found that: Organisational culture has significant relationship with innovation practice in quantity surveying firms. This is established by the correlation results which. All the types of organisational have one or more significant relationship with one or more innovation types. Also, all the types of organisational culture correlate with innovation types. Therefore, any improvement in any organisational culture, results in significant improvement in one or more innovation practice.
2. Quantity surveying firms exhibit multiple structures as all the types of organisational culture assessed have mean scores above the 2.5 threshold. This means that all organisational culture types are dominant in quantity surveying firms. However, supportiveness culture appeared to be most dominant while performance orientation

culture was seen to be second most dominant and competitive culture the third most dominant organisational culture.

3. Quantity surveying firms exhibit multiple types of innovation as all the types of innovation assessed have mean scores above the 2.5 threshold. This means that all innovation types are dominant in quantity surveying firms. However, service innovation is the most dominant innovation type in quantity surveying firms followed by organisational innovation being the second most dominant and market innovation, the third most dominant innovation type.
4. Social responsibility culture, emphasis on rewards culture and stability culture correlate significantly with all innovation types in quantity surveying firms as they have positive relationship with all five (5) innovation types. Competitiveness culture correlate significantly with four (4) innovation types. Meanwhile, supportiveness culture, innovation culture and performance orientation culture has the least number of significant correlation with innovation types.

5.3 CONCLUSIONS

In the course of achieving the aim of this research, the study assessed the types of organisational culture and innovation practice in quantity surveying firms as well as the relationship between organisational culture and innovation in quantity surveying firms.

It is therefore concluded that organisational culture has positive relationship with innovation in quantity surveying firms studied. This indicates that any improvement in either organisational culture or innovation, will result in corresponding improvement in either innovation or organisational culture.

It is also concluded that all organisational culture types (competitive culture, social responsibility culture, supportiveness culture, innovation culture emphasis on rewards culture performance orientation culture and stability culture) are all present in Nigerian quantity surveying firms. Supportiveness culture, performance orientation culture and competitive culture were found to be most dominant among other organisational culture types.

All innovation types (service innovation, process innovation, organisational innovation, market innovation and resource innovation) are present in Nigerian quantity surveying firms. However, service innovation, organisational innovation and market innovation were seen to be the most dominant innovation types in the firms studied.

5.4 RECOMMENDATIONS

Based on the findings of this research, the following recommendations are made:

1. Quantity surveying firms exhibit multiple types of organisational culture. It is therefore recommended that strategic framework should be developed within quantity surveying firms to identify each type of organisational culture per time and the way and when to apply each type in enhancing innovation in quantity surveying firms.
2. Quantity surveying firms exhibit multiple types of innovation. It is therefore recommended that strategic framework should be developed within quantity surveying firms to identify each type of innovation striving at a particular time and the way and how to sustain it as well as enhance the non-growing innovation type in quantity surveying firms.

3. The hierarchies in quantity in quantity surveying firms (Principal partners, seniors quantity surveyors and junior quantity surveyors) shares commonalities on the perception of organisational culture and innovation. These common front should be an approach for advancing the fortune of the firms at individual and organisational levels.

5.5 CONTRIBUTION TO KNOWLEDGE

1. The study established that there is a relationship between organisational culture and quantity surveying firms studied. This indicates that any significant improvement in competitive culture, social responsibility culture, innovation culture, emphasis on rewards culture, performance orientation culture will result in a significant improvement in service innovation, organisational innovation, market innovation, process innovation and resource innovation. Likewise, any improvement in any of the service innovation mentioned above will result in an improvement in the organisational culture types mentioned.
2. The study established that quantity surveying firms exhibit multiple cultures as supportiveness culture, performance orientation culture and competitive culture were seen to be more dominant in quantity surveying firms.
3. The study determined that quantity surveying firms exhibit multiple innovation types as service innovation, organisational innovation and market innovation were seen to be more dominant in quantity surveying firms studied.

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Dear Respondent,

REQUEST FOR COMPLETION OF QUESTIONNAIRE

This research is designed to collect data for an ongoing M.sc research on “**Assessing the effect of Organisational Culture on Innovation in Nigerian Quantity Surveying Firms**”

Organisational culture is known to be one of the major determinants of organisational innovation that gives competitive advantage.

The questionnaire is therefore intended to solicit information from you as a quantity surveyor engaged in consultancy practice. This research will provide information for quantity surveying firms to engage in the most appropriate organisational culture to enhance innovation within their firms.

It will be appreciated if you could provide necessary information with utmost clarity and sincerity. You are assured that the information provided will be treated with utmost confidentiality and used only for academic purpose.

Thank you for your anticipated maximum cooperation.

Yours faithfully,

Haruna A. F

Supervisor: Dr. Ahmed Doko, Department of Quantity Surveying, Ahmadu Bello University, Zaria

Co-Supervisor: Mall. Mustapha Abdulrazaq, Department of Quantity Surveying, Ahmadu Bello University, Zaria

Section A: Demographic Information

1. Years of your experience in consultancy services
2. Kindly indicate the year this firm was established.....
3. Indicate your years of experience in this firm
4. What is the structure of this firm? (a) Sole proprietorship [] (b) Partnership [] (c) Limited liability []
5. Kindly indicate your highest academic qualification (a) ND [] (b) HND [] (c) B.sc/B.tech [] (d) Masters degree [] (e) PHD []
6. Membership of professional body (NIQS) (a) Probationer [] (b) Graduate [] (c) Corporate [] (d) Fellow []
7. Kindly indicate your current level in hierarchy in this firm (a) Principal Partner [] (b) Associate Partner [] (c) Senior Partner/Senior Q.S [] (d) Junior Quantity Surveyor []

Section C: Identification of the Types of Organisational Culture in Quantity Surveying Firms

8. The following are the types of organisational culture that have been identified in quantity surveying firms. How would you rate each of the organisational culture types based on their characteristics using the scale shown below?

5= strongly agree 4=agree 3= somewhat agree 2 = disagree 1 = strongly disagree

SN	Statement/Rank	5	4	3	2	1
	The Competitive Culture					
1	This firm lay emphasis on quality of service					
2	The firm is achievement oriented in nature					
3	The firm believes in being distinctive or being different from others					
4	The firm is influenced by other market forces from other firms					
	The Social Responsibility Culture					
5	This firm reflects well on its plan before actual execution					
6	The firm believes in keeping a good reputation while rendering services					
7	The firm is socially responsible to the society					
8	The firm believes in having a clear guiding philosophy					
	Supportiveness Culture					
9	Employees work as a team rather than individuals					
10	Information is shared freely among employees					
11	Emphasis on working relationship among employees in the firm is encouraged					
12	Collaborative effort in achieving task is encouraged in this firm					

	Innovation Culture					
13	In this firm, newer and innovative ways of doing thing are encouraged					
14	This firm is quick to take advantages of opportunities					
15	This firm is risk taking in nature					
16	Opportunities to take individual responsibilities are encouraged in this firm					
	Emphasis on Rewards Culture					
17	This firm believes in fairness in all dealings					
18	Incentives are given to employees for outstanding performance					
19	There are opportunities for professional growth In this firm					
20	Excellent performance by employees is praised in this firm					
	Performance Orientation Culture					
21	This firm has high expectation for performance					
22	Employees in this firm are enthusiastic about their job					
23	Employees in this firm are highly result oriented					
24	Employees in this firm are highly organized					
	Stability					
25	This firm is generally stable					
26	This firm has an approach of calmness in achieving goals rather than hash approach					
27	Conflicts in this firm is relatively low					
28	Security of employment is highly guaranteed in this firm					

Section B: Assessment of Innovation Practice in your firm

9. Kindly indicate your involvement in the following areas of quantity surveying practice
 (a) Value/risk management [] (b) Management consultancy [] (c) Feasibility Studies []
 (d) Project management [] (e) Planning and Supervision [] (f) Value Management [] (g)
 Facilities Management [] (h) PFI consultancy [] (I) Services to non-construction sectors
 [] () others specify.....
10. Kindly indicate your perception of the degree of newness of these practices
 (a) New to your firm [] (b) New to the construction industry [] (c) New to the society
11. Please kindly indicate your perception of the practices in 9 above (a) opportunity to
 the firm [] (b) threat to the firm[]
12. The following are the types of innovation that have been identified in quantity surveying
 firms. How would you rate each of the innovation types based on their characteristics
 using the scale shown below?

5= strongly agree 4=agree 3= somewhat agree 2 = disagree 1 = strongly disagree

S/N	Statement/Rank	5	4	3	2	1
	SERVICE INNOVATION					
1	Provision of diverse services to the client					
2	Improvement on existing service					
3	Anticipating client's need					
4	Collaboration with end-users to develop new services					
5	Provision of multi-disciplinary services					
6	Client response-report system					
7	Changes in organisation structure to meet client's needs					
	PROCESS INNOVATION					
8	Development of long-term working relationship with other firms					
9	Development of software within the firm					
10	Use of local or wide area network within the firm					
11	Engagement in in-house training for employees					
12	Forming alliance to offer services to clients					
13	Presence of Research and Development department within the firm					
14	Subcontracting to obtain specialist service					
	ORGANISATIONAL INNOVATION					
15	Major decisions are taken at management level					
16	Employees are involved in major decisions					
17	Empowerment of staff to increase communication					
18	Change in organisational structure to reflect newer services					
19	Presence of reward and recognition system within the firm					
20	Presence of interactive decision making					
21	Development of knowledge management processes for capturing knowledge					
	MARKET INNOVATION					
22	Identification of newer market opportunities for the firm					
23	Molding demands of clients in ways that services are rendered					
24	Active research trends in market					
25	Anticipating demands of clients					
26	Review of level of clients' satisfaction over time					
27	Rendition of services outside the construction industry					
28	Active review of completed projects over time					
	RESOURCE INNOVATION					
29	Collaborative activities with external professional research units					
30	Considerable expenditure on in-house training and education					
31	Collaborative activities with educational institutions in research and consultancy					
32	Availability of in-house research unit					
33	External forms of training and professional development					
34	Knowledge sharing between members of the firm					
35	Sharing and exchange of experience with other firms					