CUSTOMER-PERCEIVED VALUE : PRINCIPLES FOR THE FORMULATION OF A POLICY FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION IN CONSTRUCTION IN BOTSWANA

by

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DECLARATION

I, Jacqueline Kaumba, hereby declare that this treatise is entirely my own work, except where otherwise stated and has not been produced in any manner or form before. All references used have been accurately reported.

Signed

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JACQUELINE KAUMBA

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ABSTRACT

Title of treatise : Customer-perceived value: Principles for the formulation of a policy framework to regulate the project management profession in construction in Botswana.

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This research focuses on the identification of perceived value by the client inherent in the project management attributes in terms of its benefits and the remuneration to be determined through a policy framework to regulate the profession in relation to its application to implement construction projects.

The recognition by the government of new procurement methods that are cost effective, accelerate project implementation and outsourcing of specialist skills to assist government departments to implement public projects in the construction industry , gave rise to this research.

This study analyses and identifies that customer-perceived value provides guidelines for the principles necessary to formulate a policy framework for regulating the project management profession in construction in Bostwana to achieve successful implementation of projects.

The importance of this study is in the conclusion that, establishing these principles in line with the policy framework used in South Africa is pertinent in order to adhere to best practice acceptable internationally as supported by the provisions in the “Act 10 of 2001 Public Procurement and Asset Disposal”, by relating these to the guidelines identified in the customer-perceived value concept.

ABBREVIATIONS

NDP	is the abbreviation used for the National Development Plan of Botswana
PMBOK	is the abbreviation used for the Project Management Body of Knowledge, PMI, USA (2000)
DABS	is the abbreviation used for the Department of Architecture and Building Services in Botswana.
DEMS	is the abbreviation used for the Department of Electrical and Mechanical Services in Botswana.
PM	Project Management
RSA	Republic of South Africa

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CHAPTER ONE

THE PROBLEM AND ITS SETTING

1.1 Introduction

In recent years there has been an emphasis on the improvement of services and/or products offered in the building industry, both in the public and private sector. This need has been mainly from the customers who have found difficulties in receiving value for money in the services and products offered by suppliers in the industry. At the same time, suppliers have blamed the customer for not placing value on their services in terms of their procurement policies bringing about poor quality of services and/or products.

The above phenomena has been a critical subject in most countries and have brought about the birth of statutory bodies to oversee the interests of both the customer and the supplier. This joint representation of the customer's and supplier's perception on the value of services and the products in exchange, has enabled the improvement in quality through the establishment of standards that conform to internationally recognised industry standards. Although this is not an end in itself, it, however, provides a yardstick against which performance can be measured. Results can also be used to further eliminate the loopholes identified.

The need for improving services and/or products in Botswana has become more rampant than ever before. This is as result of the lack of the government having a sound policy framework on how best professions in the building industry can be regulated to implement public projects, which have suffered a heavy backlog in the last few years. The Government has tried to source private organisations to resolve this issue, but all in vain. There is no coercive body to represent both the client's and professions' interest in terms of services and value for money offered. Though there is an adoption of South African standards in terms of remuneration and services to be provided, there is no specific policy framework for regulating the procurement of professionals in the construction industry prescribed in the Public Procurement and Asset Disposal Act (2001) of Botswana.

The government of the Republic of South Africa has recognised the need for the statutory bodies regulating the practices of professions in the Built Environment and has established the Council for the Built Environment to formulate the policy for engaging consultants' services through the formulation of principles underlying the policy framework to achieve the stated objectives in the White Paper. The government of Botswana lacks such, as a result there is not even existing terms of reference on which to engage the services of the project management professionals.

Project management is, thus one of the most critical professions that suffer identity in terms of its value. The Government has no sound policy on how to regulate the profession in terms of service offerings and remuneration. Worse, still is that the terms of reference are non-existent on what exactly are the services required to implement the projects successfully. The whole matter rests on the professionals to determine what they think should be offered. This is aggravated in the sense that the procurement system used, is a bidding method that entails that the criterion for selecting the successful bidder is not consistent with what the client is looking for in terms of services to be provided and the remuneration perceived. The need for a standardised system that conforms to international standards is, therefore, urgently required in Botswana to overcome the problem.

In view of the above, this study focuses on what steps the Government can take to identify the perceived value of project management in order to establish guidelines for a policy framework to regulate the project management profession to achieve successful implementation of public construction projects.

1.2 The statement of the problem

This research proposes to identify whether customer-perceived value forms a basis for the guidelines for the principles underlying the formulation of a national policy framework to regulate the project

management profession in the construction sector in comparison to international existing standards in order to achieve successful implementation of public sector construction projects in Botswana.

1.2.1 The Sub problems

1.2.1.1 The first sub-problem: The first sub problem is to identify propositions of customer-perceived value concept that guides the identification of principles necessary to formulate policy framework to regulate the project management profession.

What are the propositions of customer-perceived value concept that form a basis to identify principles necessary to formulate a policy framework to regulate the project management profession?

1.2.1.2 The second sub-problem: The second sub problem is to analyse and identify the application of project management standard processes necessary to overcome problems experienced in the implementation of construction projects revealing, the intrinsic value perceived in terms of the benefits, as a guide to formulate a policy framework to regulate the project management profession in the construction industry in Bostwana.

What attributes of project management are beneficial to the successful implementation of construction projects, that are identified as the intrinsic value perceived to guide the formulation of a policy framework to regulate the profession?

1.2.1.3 The third sub-problem: The third sub problem is to evaluate the principles that guide the formulation of a policy framework for statutory regulation of project management profession used in RSA in relation to customer-perceived value measurement and project management attributes, and interpret how these can be adapted in Botswana to regulate the PM profession in order to achieve the successful implementation of public construction project.

Do the principles underlying the policy framework to regulate project management profession practice adopted in RSA (White paper of the Department of Public Works, 1997) relate to propositions of customer-perceived value concept and attributes of project management, and if so, can these principles and attributes be adapted as a guide to formulate a policy framework for statutory regulation of the project management profession in the construction industry in Botswana?

1.3 The hypotheses

1.3.1 The first hypothesis is that the understanding of the customer-perceived value concept by the client is necessary for determining guidelines for the policy framework to regulate the project management profession in order to achieve the objectives of project implementation of public construction projects.

1.3.2 The second hypothesis is that understanding project management standard processes required for the implementation of construction projects is vital for the client to identify the intrinsic value perceived in terms of its benefits to guide the formulation of a policy framework to regulate the profession in order to achieve its goals successfully.

1.3.3 The third hypothesis is that the customer-perceived value concept identified with the standard processes of project management, is a basis on which principles for the formulation of a policy framework to regulate the project management profession can be identified in line with existing standards that conform to international standards in order to meet objectives for the implementation of public construction projects.

1.4 Delimitation of this study

1.4.1 This study only analyses and identifies the broad policy framework in relation to project management services for the implementation of public sector construction projects.

1.4.2 This study will not attempt to discuss project management processes and techniques in detail.

1.4.3 This study will be limited to policies adopted in South Africa and acceptable by the Republic of Botswana in relation to the project management profession and related disciplines.

1.4.4 This study will be limited to the implementation phase of construction projects.

1.4.5 This study will limit its survey sample to government departments authorised to engage in public procurement on behalf of the government and project management firms in the private sector registered in Botswana, regarded as representative of the entire country.

1.5 Definition of terms

1.5.2 Customer –perceived value

According to Wolfgang and Samir (2001, p257), Barry & Yadav defined value as benefits received for burdens endured.

Wolfgang & Samir (2001) came up with the following definition for customer-perceived value:

"… we define customer-perceived value in industrial markets as the trade-off between the multiple benefits and sacrifices of a supplier's offering, as perceived by key decision makers in the customer's organisation, taking into consideration the available alternative supplier's offerings in a specific-use situation."

Customer-perceived value in this study is defined as the client's perception of the benefits and sacrifices derived from engaging project management professionals to implement construction projects. Benefits are expressed as those attributes relating to quality and sacrifices is expressed in monetary terms as price related aspects.

1.5.2 Project Management

Rory Burke (1999: p3) quotes from the body of knowledge (PMI) the definition of project management as:

"… the application of knowledge, skills, tools and techniques to project activities in order to meet stake holder's needs and expectations from a project*."*

Project management in this study is defined as the process of integrating everything that needs to be done throughout the project life cycle in order to meet the client's value perceptions from a project.

1.5.3 Construction projects

Construction projects shall mean the building works undertaken by Government to be implemented under the Ministry of Works, Transport and Communications and the Ministry of Local Government which includes only works implemented by DABS and DEMS.

1.5.4 Professions

Professions- The Policy Document on the Statutory Regulation of the Built Environment Professions (June 1999), RSA, defines the term professions to refer to the following:

- architectural profession
- construction management profession
- engineering profession
- landscape architectural profession
- quantity surveying profession

For the purposes of this study the project management profession is included as a profession currently under regulation in terms of the Act No. 48 of 2000 (RSA)

1.5.5 Industry standards –

Industry standards, in this study, is as defined by the Botswana Public Procurement and Asset Disposal Act (2001) as "…means best practices which shall include practices and standards which –

1.5.5.1 are safe and environmentally friendly

1.5.5.2 are innovative and increase efficiencies

1.5.5.3 save time and costs

1.5.5.4 relate to materials, processes, methods, designs, equipment,

products, services and practices: and

1.5.5.5 are as defined and coded by internationally recognised contractors' associations and professional bodies in the concerned fields.

1.5.6 Councils for the profession – as defined in the Policy Document on the Statutory Regulation of the Built Environment Professions (June 1999) shall mean "Statutory bodies responsible for the regulation of professions."

1.5.7 Built Environment as defined in the Policy Document on the Statutory Regulation of the Built Environment Professions (June 1999) RSA, shall mean –

> "The concept built refers to the functional area in which registered persons practice. The built environment includes all structures that are planned and/or erected above or under ground, as well as the land utilised for this purpose and the supporting infrastructure."

However, for the purposes of this study, it shall be taken to mean the construction industry depending on the context in which it is used.

1.5.8 Regulation of the professions - as defined in the Policy Document on the Statutory Regulation of the Built Environment Professions (June 1999) shall mean

> "The **regulation of the professions** refers to those mechanisms used to protect the public interest, identify and recognise the competency levels of members of the profession, to ensure acceptable educational standards and standards of practice in the profession and to control the professional conduct of members of the profession."

1.6 The assumptions

1.6.1 The first assumption is that the need for project management as a profession in the construction industry is vital and shall continue.

1.6.2 The second assumption is that client's satisfaction in terms of time, cost, quality and utility in products and/or services procured will always be the norm in the construction industry.

1.6.3 The third assumption is that project management practice can improve in terms of the implementation of construction projects through a policy framework that identifies the important attributes of project management standard processes that conform to industry standards.

1.6.4 The fourth assumption is that the need to develop a criterion to evaluate the requirements of the project management services to achieve the goals and objectives of construction projects is a continuous process.

1.7 The importance of the study

Project management has been used in the construction industry as a discipline to procure services and/or products in many countries for many years. Over the time it has proven to be a successful method of procurement system if properly implemented as opposed to the traditional methods used in many industries. Project management contains techniques necessary for the successful implementation of construction projects as Rory Burke (1999, p3) states:

"Traditionally work in the construction industry and defense procurement were seen as projects, but in recent years most pro-active companies are structuring their work as projects and using project management techniques to ensure successful competition."

Project management in Botswana has emerged as an organisational approach to the management of on-going implementation of projects in the construction industry in recent years. However, services provided by all professions in the construction industry in Botswana has proved

to be incompetent as expressed by the Botswana government in the NDP 8 (1997/98 – 2002/03, p 93).

“During the Mid-Term Review of the NDP it was revealed that all service departments were not providing services to the expected standards.”

The NDP 8 also reveals the government’s decision in order to improve the implementation capacity constraints, approved procurement of a multi-disciplinary Project Implementation Unit staffed by personnel from the private sector to clear the backlog of NDP 7 projects as well as to assist in project planning document preparation for NDP 8. This also reveals the need for government to engage project management professionals in order to achieve successful project implementation to fulfill the national goals.

The Botswana government, being a major client in the construction industry, expressed dissatisfaction with the administration and supervision of construction projects. This was again, highlighted in the NDP 7 and NDP 8 stating the dissatisfaction in the implementation of the construction projects as planned resulting in a backlog, which has not been resolved to date.

The above scenario has prompted this study to investigate the possible reasons leading to unsatisfactory project implementation, despite the

use of project management services by the government as a strategy to implement construction projects in Botswana.

The importance of this study lies in the findings that will achieve the following results:

- Improvement of the skills of project managers in the construction industry through regulation to uphold standards.
- Client satisfaction in terms of project implementation and project constraints such as time, cost and quality through an understanding of the value of project management in relation to its attributes.
- The promotion in industry standards for the procurement of project management services in Botswana.
- The development of an instrument to assist in the formulation of a policy framework that adds value to the project management profession.
- To provide appropriate opportunity for the participation of the private sector in the delivery of public assets; and
- To ensure that the management of public works projects meets other socio-economic objectives of government policy.

1.8 Summary and conclusions

The need for government, as a major client in construction, to achieve successful implementation of public sector projects, to fulfill stated national goals, requires an understanding of the services of the various

professions employed to achieve the stated end results. This entails the understanding of the benefits accrued from these services in terms of cost, time and quality, which are the main constraints attributing to influence the successful implementation of a project. The problems inherent in projects are overcome by the appropriate employment of the services of the professions practicing in the construction industry.

In conclusion, this research shall focus on the project management profession being the most critical profession that has not been fully understood in terms of its value inherent in the processes and techniques applied in its use and its importance in overcoming the pitfalls in the successful implementation of construction projects. Thus, the need for government to regulate the project management profession, in order to gain value from the service provided.

The next chapter deals with the literature review related to the value concept in order to identify client's perceptions of value inherent in a service or product offered to implement its goals.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

2.1 Introduction

The nature of the construction industry, special problems and requirements call for measures to improve the performance of the industry. Project procurement and administration in the construction sector is one of the areas that lack skills and policies to be effectively implemented. The procurement system, of any kind, determines the documentation, procedures and practices in the industry and among other things defines the roles of the participants and the relationships among them.

The Botswana construction industry is dependant on government being the major client for work and this was expressed by K.Palalani in his presentation paper at the CIB conference (2000, p25) that:

> "……..The government continues to be its major client, implying that its workload depends mainly on government policies and direction."

The above also reveals that the government plays the major role in determining the manner in which consultants are to be engaged to provide services for the implementation of public sector projects.

The role players in the construction industry offering consultancy services to the Botswana government have also expressed dissatisfaction in the procurement system and K. Palalani (2000) in his explanation on the causes of government over-expenditure stated that *"…*However, the consultants, on the other hand, argue that the tender system does not necessarily guarantee value for money."

Moreover, the government believes that the value for money resides in consultants' fees being reduced to provide services for the implementation of construction projects and no emphasis has been placed on how best the government can extract its value perception on the services offered by the consultants to achieve its national goals and objectives from the projects undertaken.

This study will, therefore, focus on identifying how the client can incorporate the perceived-value of project management residing in its prescribed attributes to formulate policy to regulate the project management profession in order to attain satisfaction in terms of project objectives and goals during the implementation phase.

The above analogy requires an understanding of the concept of value in relation to the client's perceptions on project management services as a means to achieve the predetermined objectives and goals to implement construction projects. Therefore the subsequent paragraphs in this chapter shall deal with the literature related to the value concept in relation to its application in general, identification of value in project management standard processes in relation to its application in the implementation of construction projects and the policy documentation on the statutory regulation of professions in the construction industry in the RSA in relation to the customer-perceived-value concept.

2.2 Value and its concept

The value concept has been widely used in various disciplines such as economics, accounting, finance, strategy, production management, and marketing. The value concept in marketing research has been construed to refer to customer focus, customer satisfaction, customer delight, customer loyalty or customer value. However, the value concept has undergone numerous studies to produce a definition in the context of client-perceived value in order to attain satisfaction in service or product offerings. The concept is often used in relation with two other components: "customer-perceived quality" and "customer satisfaction."

To get a clear understanding of the concept customer-perceived value it is appropriate to elaborate on the two above components as follows:

2.2.1 Customer-perceived quality

Traditional approaches to quality have adopted a restrictive definition of the concept, reducing it to “internal” (e.g. technical) product quality delivered by a supplier.

Wolfgang & Samir (2001, p530) poses the following question:
“What exactly is quality? Most operational definitions stem from quality experts and consultants i.e. Crosby’s ‘conformance to requirements’, Deming’s ‘predictable degree of conformity and dependability at low cost and suited to market’, Juran’s ‘fitness for purpose’ and Oakland’s ‘meeting the customer requirements’.”

This study shall focus on customer-perceived value in terms of its quality components being that of ‘meeting the customer requirements’ and how this if translated into perceived value, can guide the client to produce a policy that regulates the supplier services and remuneration.

2.2.2 Customer satisfaction

In traditional customer satisfaction models, quality is presumed to precede customer satisfaction.

According to Wolfgang and Samir's (2001, p527) literature review, "Customer satisfaction research is influenced by the disconfirmation paradigm. This paradigm states that the customer's satisfaction feeling is a result of the comparison between perceived performance and one or more comparison standards, such as expectations." The customer is satisfied when he feels that the product's performance is equal to what was expected.

The above definition of customer satisfaction reveals that the client's satisfaction in any service offering is dependant on the perception of the value inherent in the service offered compared to set standards.

It has been stated that traditional customer's satisfaction models rate a company's performance as perceived by existing customers but do not integrate competition in the set of analysis.

The following table shows definitions of Customer-Perceived Value by the different authors

Table 1

Definitions of Customer Perceived Value, Wolfgang and Samir's (2001, p527)

Definition of Customer-Perceived Value	Authors
The customer's overall assessment of the utility of a product based on a perception of what is received and what is given	Zeithaml,Berry, Parasuraman
Ratio of perceived benefits relative to perceived sacrifice	Monroe

Trade-off between desirable attributes compared with sacrifice attributes	Woodruff and Gardial
Perceived worth in monetary units of the set of economic, technical, service, social benefits received by a customer firm in exchange for the price paid for a product offering, taking into consideration the available alternative supplier's offerings and price.	Anderson, Jain and Chintangunta
The customers' assessment of the value that has been created for them by a supplier given the trade-offs between all relevant benefits and sacrifices in a specific use situation.	Flint, Woodruff and Gardial

The analysis of the definitions of customer-perceived value presented in Table 1, according to Wolfgang and Samir's (2001, p527), identifies 3 key issues to be considered in this study when identifying value as follows:

2.2.3 Multiple components of value

Customer-perceived value is presented in the above table as a trade-off between benefits and sacrifices perceived by the customer in a supplier's offering.

a) Perceived benefits are a combination of the following:

- Physical attributes
- Service attributes
- Technical support available in relation to a particular use situation.

b) Perceived sacrifices sometimes are described in monetary terms. Some researchers argue that Customer's value a reduction in sacrifices more than an increase in benefits.

2.2.4 The impact of roles and perceptions

Value is perceived subjectively by customers. Customers are not homogenous: therefore, different customer segments perceive different values within the same product.

It is important also to note the following:

- Different members in the customer organisation are involved in the purchasing process
- Some organisations may establish a formal buying center in other cases the members may be part of an informal group.
- Number of people involved in the purchasing process and their positions may vary across customer organisations.

2.2.5 The importance of competition

Value is relative to competition. Delivering a better combination of intrinsic quality attributes in a product and related services i.e. offering better value than the competitor will help a company to create sustainable competitive advantage.

The above paragraph explains the importance of the customer's knowledge of where value resides in the suppliers' offerings in order to attain satisfaction.

A literature review of Wolfgang and Samir (2001, p525) reveals that the value concept in the business context has classifications that the client needs in order to achieve their goals and gives the following definition:

> "…Centrally held enduring core beliefs, desired end-states, or higher order goals of the individual customer or customer organisation that guide behaviour…….the customers perceptions of what they want to happen in a specific kind of use situation with the help of a product or a service offering to accomplish a desired purpose or goal."

The above statement reveals that value to customers lies in their perceptions of their desire to implement a particular project with the help of a service to meet the desired end-state and forms a basis of the guidelines for the buying behavior of the customer.

Given the above value concept, we could deduce that value perceived by the customer for services offered by suppliers resides in the customer's policy incorporating the key elements of value measurement i.e. benefits and sacrifices, in order to achieve satisfaction of the stated goals and objectives.

The above literature reveals that it is important for the client to understand where value resides in terms of the services offered by the supplier. The understanding of value inherent in the service offerings helps the client to develop a criterion on which it can base its judgment in terms of satisfaction and such criterion can be incorporated into their policy frameworks.

2.2.6 Customer-Perceived Value measurement process

There is no literature available on this subject. However, from the following abstract the researcher is prompted to establish the relevance of identifying where the value resides in terms of the client's policy to acquire services that would deliver the stated goals.

2.2.6.1 Identification of benefits and sacrifices

Wolfgang and Samir (2001, p530) identified benefits and sacrifices as dimensions of customer-perceived value measurement. They developed a criterion to identify these dimensions by grouping them into "quality-related" aspects as an expression of perceived benefits and "price related" aspects representing the perceived sacrifices of the various supplier offerings.

Wolfgang and Samir (2001, P532) adopted a theme in their study that customers could easily obtain information about the quality

characteristics of the product through product documentation and testing. Therefore, the approach used was based on a positive correlation between quality and price to measure customer value in industrial markets.

The above researchers also identified according to literature adopted in their studies, that the business-to-business purchasing process typically involves different members of a buying organisation, which entails that the approach has to ensure that they capture the value perceptions of the key informants involved in the purchasing process. The literature also indicates that value perception across different supplier member organisations was conducted to ensure different value perceptions.

The appropriate method adopted, identified the following as necessary:

- aggregating the different views of the members within a single customer company.
- aggregating the perceptions of the various customer organisations in the form of a summary of the overall customer perceptions of the different supplier's products.

This study is based on the above proposition, that the client should be well informed about the quality and price of the services offered by project management professionals and this is documented and tested through a policy framework on how this can add value to the goals to

be achieved. It is also important to identify that this can only be achieved by involving all stakeholders required in project implementation. This study also undertakes to measure the value inherent in project management services by identifying the positive correlation between the “quality aspects” and the “price aspects” as perceived value by the client.

The following paragraph shall discuss project management application and identify the attributes of project management that forms the basis of value measurement in terms of benefits and sacrifices as discussed in the preceding paragraphs. The discussion will include the client’s perceptions in the application of project management to achieve its goals and objectives from the projects.

2.3 Project management and its application

The role of project management to overcome the main constraints of time, cost and quality inherent in construction projects to achieve client satisfaction has received much attention in the recent years. An extract from a research paper “Good Project Management” (http://www.projectmanagementhomepage.com) states the following:

> “….The value of good project management is that you have standard processes in place to deal with all contingencies.

Project management processes and techniques are used to coordinate resources to achieve predictable results."

The above extract looks at the value proposition for project management as time and effort required to proactively manage a project whose cost is made up for over the life of the project by achieving the following:

- Resolving problems more quickly
- Not working in areas that are outside of the scope of the project
- Resolving future risk before the problems occur
- Communicating with and managing expectations of customers
- Building a higher quality product the first time

A literature review of Kerzner (1998, p3), explaining the importance of understanding project management, reveals that successful project management can be defined as having achieved the project objectives:

- Within time
- Within cost
- At the desired performance or technology level
- While utilizing the assigned resources effectively and efficiently
- Accepted by the client

Kerzner (1998, p3), identified the following potential benefits from project management:

- Identification of functional responsibilities to ensure that all activities are accounted for, regardless of personnel turnover
- Minimizing the need for continuous reporting
- Identification of time limits for scheduling
- Identification of a methodology for trade-off analysis
- Measurement of accomplishment against plans
- Early identification of problems so that corrective action may follow
- Improved estimating capability for future planning
- Knowing when objectives cannot be met or will be exceeded

Kerzner (1998, p3),stated that the above benefits cannot be achieved without overcoming obstacles such as:

- Project complexity
- Customer's special requirements
- Organisational restructuring
- Project risks
- Changes in technology
- Forward planning and pricing

The above literature reveals that the success of project management lies in integrating its standard processes in all project activities to satisfy the client's needs and expectations from the project. Therefore this study will view the perceived-value of project management to reside in what is prescribed as the project management processes.

Project management shall also be viewed in two dimensions of the benefits and the sacrifices that form the basis of measuring value inherent in the discipline to meet the client's objectives in undertaking projects.

Project management processes are discussed below to provide a framework of how these are applied to project activities in order to meet the stakeholders' requirements and needs.

2.3.1 Project management processes

The Project Management Body of Knowledge (PMBOK), plays a role in identifying and describing best practices that are applicable to most projects. The PMBOK divides project management into nine knowledge areas as follows;

- **Project integration**: integrates the three main project management processes of planning, execution and control. Here inputs from several knowledge areas are brought together.

- **Project Scope Management**: includes the processes required to ensure that the projects include all work required, and only the work required, completing the project successfully. This is primarily concerned with meeting the sponsor's and stakeholders' goals and objectives through scope planning,

scope definition, scope change management and scope verification.

- **Project Time Management**: includes the process required to ensure timely performance of the project. It consists of activity definition, activity sequencing, duration estimating, schedule development and time control.

- **Project Quality Management**: includes the process required to ensure that the project will satisfy the needs for which it was undertaken. It consists of determining the required conditions, quality planning, quality assurance and quality control.

- **Project Human Resources Management**: includes the process required to make the most effective use of the people involved in the project. It consists of organisation planning, staff acquisition and team development.

- **Project Communication Management:** includes the process required to ensure proper collection and dissemination of project information. It consists of communication planning, information distribution, projects progress reporting and administrative closure.

- **Project Risk Management:** includes the process concerned with identifying, analysing and responding to project risk. It consists of risk identification, risk quantification and impact, response development and risk control.

- **Project Procurement Management:** includes the process required to acquire goods and services from outside the performing project team or organisation. It consists of procurement planning, solicitation, source selection, contract administration and contract closeout.

The above knowledge areas are sub-divided in to the core elements and facilitating elements. The core elements are Scope, Time, Cost and Quality that determine the deliverable objectives of the project and the facilitating elements are Integration, Human Resources, Communication, Risk, Procurement and Contract which determine the means of achieving the deliverable objectives.

Project management requires integration of the above-mentioned processes to succeed. Failure to perform in one area may entail sacrificing performance in another area. It is important to understand the integrative nature of project management to achieve stated objectives and/or desired end states.

Project management processes need to be understood by the customer's representatives for them to achieve the organisation's stated goals because they guide the buying behavior and the customer's perceptions of what they want to happen in a specific kind of use situation.

PMBOK provides a framework to assist in understanding the integrative nature of project management and its importance by describing project management in terms of the following component processes and their interactions:

- Project Processes
- Process Groups
- Process interactions
- Customising Process interactions
- Mapping of Project Management Processes

Successful project management requires actively managing these interactions to attain client satisfaction.

The following paragraph shall discuss the application of project management by focusing on the nature of construction projects and the importance of adopting project management processes to achieve the objectives and goals of the project.

2.3.2 The role of project management during the implementation stage of construction projects

Project management is an emerging profession and is applicable in many areas of business. The PMBOK (2000, p4) confirms that there is knowledge of the profession of project management and provides basic reference to the profession of project management in the following fields:

- Senior executives
- Managers of project managers
- Project managers and other project teams
- Project customers and other project stakeholders
- Functional managers with employees assigned to project teams
- Educators teaching project management and related subjects
- Consultants and other specialists in project management and related fields
- Trainers developing project management educational programs.

The PMBOK (2000, p6) also states that “the term project management is sometimes used to describe an organisational approach to the management of on-going operations.”

The PMBOK suggests that it is critical to understand project management for the success of the projects.

In order to explain what role project management plays in the implementation of construction projects it is necessary to understand the definition of projects that is encompassed in both construction projects and project management terms.

PMBOK derives the definition of a project by describing the characteristics of a project as follows:

- Projects are often implemented as a means of achieving an organisation's strategic plan
- Projects duration ranges from a few weeks to more than five years
- Projects involve a single unit of one organisation or many across organisational boundaries
- Projects are means by which strategy is implemented
- A project has a definite beginning and a definite end i.e. the end is reached when the project's objectives have been achieved, or not achieved or terminated

The nature of projects involves a degree of uncertainty and requires control. Projects are subdivided into phases for purposes of control and provision of links to on-going operations in an organisation. The PMBOK (2000, p11) refers to these phases as the project life cycle.

The literature reveals that each project phase is marked by completion of one or more deliverables which form part of a generally sequential logic designed to ensure proper definition of the product of the project.

The PMBOK (2000, p14) identifies the construction project life cycle adapted from Morris' description as follows:

- Feasibility – project formulation, feasibility studies, and strategy design and approval. A go/no-go decision is made at the end of this phase.
- Planning and design – base design, cost and schedule, contract terms and conditions and detailed planning. Major contracts are let at the end of this phase.
- Construction – manufacturing, delivery, civil works, installation, and testing. The facility is substantially complete at the end of this phase.
- Takeover and start up – final testing and maintenance. The facility is full in operation at the end of this phase.

The above explains the importance of project management as an organisational approach which client's can adopt through the application of project management standard processes to implement construction projects in order to achieve the objectives and goals of the project phases.

Moreover, project implementation presents special challenges to project managers that almost presuppose extensive cost and time over-runs even before a project commences. These challenges arise, mainly, from inherent risks such as political instability, excessively bureaucratic contract procedures and lack of adequate infrastructure. These problems suggest that there is a need to develop 'appropriate' management tools and techniques specifically tailored to implement projects successfully.

Having discussed the nature of construction projects and the role of project management in the implementation of construction projects, it is imperative to discuss the importance of project management during the lifecycle of the project to attain its objectives successfully.

2.3.3 Project management vs. project life cycle

The activities that constitute the process of delivering a project can be classified into distinct phases as discussed in the previous paragraphs. One of the characteristics of the project life cycle is the ability to influence project outcomes such as cost, time performance and the overall value of the project product. This influence of project outcomes is highest at the earliest phases of the project and decreases rapidly in the final phases. Thus the decisions and commitments made during the early stage of project phases have significant high levels of influence

on subsequent project expenditures and project implementation strategies.

At the on set of the project, the decisions whether or not to proceed with implementing the project has a 100% level of influence on subsequent project outcomes. Once a commitment has been made to proceed with implementing the project, further decision making is required to define the project scope, design of the product and the contractual and technical strategies that will be used in project implementation.

The above paragraph reveals that the early phases of the project delivery process are, therefore, the biggest opportunity areas to build in value, reduce overall project costs, reduce the potential for expensive changes later on in the project and minimise the probability of project failure. Before construction commences project activities such as, project formulation and feasibility studies, tendering and planning need to be effectively managed in order to achieve a satisfactory project outcome to both the client and contractor.

The subsequent paragraph describes the project management processes required to manage project implementation effectively.

2.3.4 Project management processes necessary for the project implementation

Some of the managerial factors responsible for project failure are identified as poor project definition and poor project planning. O.O. Faniran (2000, pg 453) quoted the following:

"According to Smith et al (1998), the identification of the strategic needs of project stakeholders is a significant stage in the development process. Smith describes the project definition stage as the stage where the stakeholders' needs, objectives and requirements are clarified into the definition of a project or projects…….when the strategic analysis of needs has been rigorously and conscientiously pursued then it should result in a clearer view of goals, a better definition of 'real' needs and a strategic decision that recommends the best means to achieve the identified goals."

The broad based national enquiry set up to review procurement and contractual arrangements in the U.K construction industry (Latham 1994) also made significant statements supporting the need for project definition as a significant stage in the project delivery process:

Faniran (2000, pg 453) states the following:

“Formulation of a project strategy by the client is the first building block to a successful and cost effective scheme. The route followed is…

- The client perceives a need for a new construction or refurbishment
- An internal assessment is made which considers the benefits, risks and financial constraints. It lists options for carrying out the project
- Those options are put in order of benefits and feasibility
- At that point, the client takes a decision in principle as to whether the project is necessary or feasible at all.”

Project planning is the process of determining appropriate objectives for the achievement of predetermined project objectives. The importance of the planning process is improving the project performance and major failures on projects can be traced to inadequate planning, inaccurate planning, and/or blind adherence to originally formulated plans, regardless of how the environment has changed in the interim.

The above discussion entails that the successful implementation of projects is dependant on the client identifying those project management techniques and tools (or processes) required to achieve project objectives and goals. The client also needs to assess the benefits of engaging project managers to implement the projects. The

next paragraph focuses on the benefits of project management in project implementation.

2.3.5 Benefits of Project Management in Project Implementation

Faniran (2000, p455) states that "…good project management at the front-end would overcome or reduce most of the problems that were identified to be affecting the successful performance of projects in developing countries. Ogunlana et al (1996) recommended that it would benefit the construction process if the parties to the project spend more time on front-end planning."

The above statement entails that if project management is not properly procured, it would influence the problems that affect the successful performance of projects.

Faniran (2000, p455) looked at some of the common benefits in the construction process that overcome the problems through good front-end project management as follows:

- Finance – inadequate access to long and short term funding to finance projects is one of the major aspects leading to projects being abandoned. Project management can, at the very early stage of the project, research and identify finance arrangements to be carried out as part of an overall strategy for executing the project activities.

- Equipment failure – This problem can be identified in the early stages of the project on defining how the project is to be implemented in the overall project plans and contingency allowed for.
- Material shortages – This can be identified at the stage of project execution strategies and the overall project plan and contingency plans established
- Labour supply – The availability of skilled labour is a long term problem and this can be overcome through proper human resources planning i.e. training, recruitment, and, where necessary, importation.
- Incompetent/inadequate contractors – A good pre-selection or pre-qualification exercise will overcome most problems with incompetent and inadequate contractors through procurement processes by the project managers.
- Contractual disputes – this problem is common due to unclear objectives and poor definitions of client requirements. This can be overcome through established dispute resolution procedures by the project manager.
- Poor workmanship – The establishment of appropriate inspection methods and quality control procedures in the project plan will significantly reduce this type of problem.
- Design changes – The establishing of clear procedures for managing and controlling changes to any part of the project will

ensure that any changes necessary will have minimal impact on a project.

- Poor initial assessment, evaluation and planning – Project management activities needs to be properly recognized and adequate resources invested in the activities. This initial expense will certainly lead to enormous time and cost savings and a higher probability of eventual project success.

The above benefits requires good project management as soon as the decision of undertaking the project is made by the stakeholders to ensure that resources are expended as effectively as possible in a manner that will give the highest probability of return.

The project manager should be vested with the appropriate responsibility and authority to make vital decisions. Early selection of a suitable project manager ensures that there is strong leadership, proper information, clear objectives and sound decision making right from the start of the project and help to avoid unproductive expenditure of money, resources and time. The tasks that are included in the project management work plan during project implementation are as follows:

- Defining the purpose of the project (expectations/requirements of the client)

- Determining how the project purpose will be achieved (procurement strategies, operational processes and key resources that will be required to achieve the project objectives)
- Investigating financing arrangements for funding the project.
- Identification of constraints to achieving the project objectives (risk identification and analysis)
- Developing project procedures (e.g reporting and review procedures, responsibility areas, authority to spend money)
- Definition of project termination points to ensure that expenditure of time, resources and money is not wasted.

The other dimension of perceived value that cannot be left out is what is regarded as the “perceived-sacrifices” which has been explained in the study as normally expressed in monetary terms and is considered to have a positive correlation with the benefits. The client needs to establish the price (or the remuneration) to the supplier for the service offerings that are required in a specific use situation. Literature does not expand on how this can be determined, but only considers this to be a trade-off between quality and price in value creation. This positive correlation means that the higher the standards of quality the higher the cost because additional resources are required to achieve the set standards. Wolfgang (2000, p531) states the following:

"…Price potentially conveys two opposite functions: on the one hand, it may be perceived as a sacrifice and on the other hand as a symbol for extra quality, value, or prestige."

2.3.6 SUMMARY AND CONCLUSIONS

Identification of the benefits derived from the project management services is very critical to the client when selecting project managers. The above literature reviews that project management plays an effective role in successful construction project implementation through project management activities applied to the project life cycle.

The above leads to the conclusion that price would entail a symbol of extra quality that the client can obtain information about through documentation and testing standards already set by international organisations or associations for acquiring the services of project management.

The next chapter discusses the guidelines necessary for deriving principles for the formulation of a policy framework to regulate the project management profession in relation to the customer-perceived value concept as discussed in the preceding chapters.

CHAPTER THREE

GUIDELINES FOR THE FORMULATION OF A POLICY FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION IN THE CONSTRUCTION INDUSTRY

3.1 Introduction

The aim of this chapter is to analyse the policy framework as a strategic objective adopted by the Republic of South Africa for regulating the project management profession to achieve the national socio-economic goals in particular to implement public construction projects.

Reference will made to the policy framework adopted in the Republic of South Africa as a basis on which to analyse the guidelines for regulating the project management profession, because of its conformity to best practice in relation to international industry standards to be discussed in this chapter and its recognition in terms of the definition in the Public Procurement and Asset Disposal Act (2001) of Bostwana which states the following

> "…means best practices which shall include practices and standards which –
>
> - are safe and environmentally friendly

- are innovative and increase efficiencies
- save time and costs
- relate to materials, processes, methods, designs, equipment, products, services and practices: and
- are as defined and coded by internationally recognised contractors' associations and professional bodies in the concerned fields.

3.2 Background of the policy document on the statutory regulation of the Built Environment Professions in RSA

The principle underlying this portion of literature regarding policy for regulating professions in the Built Environment is the comment on the background of the policy made by the Minister of Public Works in the RSA that reveals that there is value to be identified in the services offered by the professions. The Minister's comment (EGSC By-laws, p6) as follows:

> "…The intrinsic value of professions lies in their role and function in socio-economic development. While socio-economic development and improvement of the quality of life in South Africa enjoys priority attention, professional expertise needs to be nurtured, professional standards need to be maintained and professional services need to be within reach of all communities."

The above expression relates to the client's perception of value in the profession necessary to meet their desired end state i.e. socio economic goals to improve quality standards.

The government, having perceived this value in terms of its benefits through the services offered by the profession, is determined to develop and safeguard the profession, by regulating the profession through legislation.

3.2.1 Principles underlying the policy framework for regulating professions in the Built Environment

The broad principles underlying the policy framework used in the RSA are necessary to determine the basis of how these emerged in respect of the value perceptions of the client in supplier's or profession's services offered.

The discussion boarders on abstracting value components from these principles as discussed below:

3.2.1.1 Statutory regulation of the professions

This principle supports the value proposition which states the client values the benefits derived from the services offered to meet the desired goals, based on the following extracts:

- The Ministry, on behalf of the government, recommends the need to regulate the professions through legislation in order to improve professional competency and standards in South Africa.

3.2.1.2 Providing support for broader national development priorities through the statutory regulation system of the professions

This principle generally supported the proposition that the client needs to understand the quality characteristics of a product /service in order to assess value perceptions based on the following extracts:

- Recognition of the significant role that the professions play in development of national projects towards their successful implementation.

- The identification of the expertise in the professions available to the Government as a valuable source of information and advice on matters of critical importance.

3.2.1.3 Professional regulation should not unnecessarily interfere with market forces or with the commercial aspects of professional practice

The above principle supports the value proposition that states that perceived value is relative to competition in order to deliver a better combination of intrinsic quality attributed in a product or service, based on the following extract:

- The government identifies professional services as an important part of the economic activity of the country and as a potential growth sector that through regulation can promote an environment in which competition is stimulated and should not unnecessarily interfere with the commercial aspects of professional practice.

3.2.1.4 Creating an enabling environment

This principle is identified with the proposition of customer-perceived value that states that a client's perceived value is a result of the comparison between perceived performance and one or more comparison standards such as expectations that are documented and tested. This is identified with the following extracts:

- Regulating the competence of professions by recognising and identifying the minimum competence requirements to provide profession functions in a realistic manner through the provision of a system for upgrading of qualifications based on various forms of prior learning and experience.

3.2.1.5 Striving towards international practice

This principle expresses the value proposition that states that value is relative to competition evident in the following extract:

- The Government recognises the fact that the services offered by professions in South Africa are equal to the best available elsewhere in the world. This is demonstrated through the ease with which registered members of professions enjoy recognition and obtain employment virtually anywhere in the world. This has enabled co-operation between the statutory bodies and voluntary societies in South Africa and their counterparts elsewhere in the world.
- The Government has taken a stand to support this interaction and encourage professions to identify international best practices, studied and followed in professional practices. This is necessary for the competition of services in relation to the global environment.

3.2.1.6 Support for the role of voluntary professional associations in the development of the professions

This principle entails that government understands the value proposition that notes that value of the same service is perceived differently by other stakeholders involved in any given situation by recognising the role that the societies play in the development of professionals.

The following extracts reveals the above perceptions:

- The Government, identifies the role that Voluntary Societies play of serving as a mouthpiece, lobbyist and power base of the professions in representing the interest of their members and not that of the State or of the public by promoting the art, science and development of the professions and their attention being focused on the development of the professions.
- Government emphasises on recognising the fact that there is a need for clarity on the relationship between public interest and the interests of the professions thus supporting the role that the voluntary societies play to achieve this need.

3.2.1.7 Professional regulation based on a system of peer review, but with a larger degree of public participation.

This principle reveals that it is important to understand the quality composition of services offered by the professionals as specialised body of knowledge and skill that requires appropriate education in order to regulate the profession and consequently maintain the standards necessary to achieve national goals. This is expressed through the following extracts.

- Recognition of the practice of professions as dependent on a specialised body of knowledge and skills that require appropriate education.
- The monitoring and evaluation of professional practice being dependent on a superior level of professional expertise in the specific field thus basing their work on a system of peer review i.e calling for the participation of the professions in the regulation system together with an independent representation of the public interest to ensure a clear focus on the public interest.

3.2.1.8 Recognition of the commonalities as well as the differences between the professions

Identifying that, though the professions operate in the same industry, there are differences in terms of composition, the number of registered

persons that need to be included in the regulatory system and their relationship with other occupational groupings may be affected by the regulatory system. This means that the policy framework needs to make provision for the same.

The above principle reveal that the Government being the major client in the construction sector needs an understanding of the role the professions play in the construction sector in order to formulate policy framework to regulate the professions.

Having considered the principles above, one thing of importance in this study is to identify the value composition in terms of quality and price aspects that were addressed in order to formulate the policy framework to regulate the professions in the construction industry. This is identified through establishing various statutory councils for the professions. Before we discuss the value composition, it is pertinent to understand the role of the council in terms of regulating the professions.

The Government realised the role that the professions play in the built environment as follows

- lending valuable support to development initiatives through structured advice on development proposals and policy issues,
- mobilisation of expertise for implementing development projects from the public, as well as the private sectors, and

- the compilation and development of specifications and standards, among others, and also
- that on behalf of Government, could undertake evaluation of international best practice in respect of development projects.

The thought of a managed co-ordination between the professions was necessary to support matters of high priority for the country. This understanding of the value composition of services offered was part of the policy formulation that guide how the professions are to be regulated.

In order to ensure how this could be achieved the Government instituted a policy to introduce a statutory body with the responsibility for co-ordination in order to have access to the co-ordinated support of the professions with regard to national development priorities and the regulation of the professions. Therefore, the Statutory Council for the Built Environment was proposed and legislation was passed in this regard.

An important aspect to note is the recognition by the Government of the role that professions play in the industry and the importance of having a relationship that is beneficial to the public through legislation.

The Policy Document further defines the councils for the various professions that are regulated under the Council for the Built

Environment according to legislation. These councils are charged with various functions that ensures that quality is attained and determines remuneration/price for the service provided in order get the perceived value from the client's point of view.

3.3 Identification of perceived value dimensions in terms of regulating professions through functions of the statutory councils

Wolfgang and Samir (2001, p530) identified perceived benefits and sacrifices as dimensions of customer-perceived value measurement. They developed a criterion to identify these dimensions by grouping them into "quality-related" aspects as an expression of perceived benefits and "price related" aspects representing the perceived sacrifices of the various supplier offerings.

Wolfgang and Samir (2001, p532) adopted a theme in their study that customers could easily obtain information about the quality characteristics of the product through product documentation and testing. Therefore, the approach used was based on a positive correlation between quality and price to measure customer value in industrial markets. This means that there is a relationship between quality and price in relation to the concept of customer-perceived value.

The above principle has been adopted to interpret the perceived value of the client as a basis of regulating the various professions through a policy framework in terms of the quality aspects and price aspects as explained in the preceding paragraphs.

3.3.1 Quality-related aspects

The client realised that, in order to attain their value perceptions of the services provided by the professions in terms of quality-related aspects they had to set standards or expected desired end goals. An abstract of these controls, as stipulated in the White Paper as functions of the councils for the professions are as follows:

3.3.1.1 Education, training and professional development

The councils where charged with these functions to maintain quality of services offered by the professionals through the following:

- Setting professional competency standards within the framework of the South African Qualifications Authority
- Achievement of appropriate standards of competence in a profession is of public interest because there, then, is a formal basis for the objective judging of the suitability of a particular person to undertake specific work.

- Setting standards and quality assurance in professions through the accreditation of educational programmes offered by various educational institutions.

3.3.1.2 Registration

In order to regulate the capabilities of professionals in terms of the quality of services offered the councils have been charged with the following responsibility:

- To register individuals in a profession in order to evaluate the competency against predetermined registration requirements.
- To administer registration in order to uphold standards that are locally appropriate and internationally acceptable.
- To make provision for certain professional titles for registered persons to enable the general public to identify the competency levels of the registered persons.
- Identification and recognition of the various levels of competence and registration of applicants at each level in order to maximize the value of human resource potential in the professions through the specification of the requirements for progression from one category to the next.
- Proposals for regular renewals of registration in order to reassess the competences in terms of upgrading the category of registration as well as an obligation to maintain the required levels of professional expertise.

3.3.1.3 International recognition of qualifications

In order to maintain standards that conform to international best practice for the services offered by the professionals the councils have been charged with the following responsibilities:

- To assess and evaluate the professional competence of persons from other countries to enable them to gain appropriate recognition in South Africa.
- To establish mechanisms for registered persons to gain recognition elsewhere in the world.

3.3.1.4 Reservation of functions

For quality to prevail in the services offered it has to be monitored by regulating the professionals based on the experiences obtained therefore the council was charged with the following:

- Reservation of certain functions of the professions necessary to ensure protection of the health, safety and pecuniary interests of the public and of quality standards.
- Identification of functions to be reserved for registered persons and to arrange for the reservation.
- Co-operate with government departments who administer other legislation to protect all aspects of the health, safety and pecuniary interests of the public through the effective and realistic reservation of functions.

3.3.1.5 Professional conduct

Professional conduct upholds quality through the code of conduct that restricts professionals from deviating from the standards set for practicing various professions in terms of scope of services to be offered and the remuneration expected. Thus the councils are required to maintain these through the following:

- To establish a code of conduct that enshrines the behavioral norms for the profession concerned for registered persons.
- Define the minimum standard of behavior expected of registered persons. The conduct of the registered person should always be measurable against the norms defined in the code to ensure that the interests of the public are being served and that the standards set by the professions are upheld at all times.

3.3.2 Price-related aspects

The Policy Document (1998, p19) states the following in this regard "…It is therefore important that guidelines on appropriate fees for professional services be available to assist both parties when drawing up agreements between clients and service providers."

"While technical merit should be the main criterion for the selection and appointment of a professional consultant, the remuneration for the service rendered remains an important component of the agreement.

Since the value added by the professional, and the responsibility which he or she carries, is of vital importance to the client, it is imperative that remuneration for the service rendered be the subject of negotiation within wide, but reasonable, limits."

This confirms the definition of customer-perceived value as:

> "The customers' assessment of the value that has been created for them by a supplier, given the trade-offs between all relevant benefits and sacrifices in a specific use situation."

In addition to this, the Policy Document states the other important aspect of the relationship between the quality and the price of the service being offered in terms of value by the following statement:

> "...Ideally, remuneration should reflect the value added to a project or assignment. Since it is seldom possible to assess the value added on a rigorous basis, it is necessary that general guidelines for determining a reasonable professional fee be made available."

The councils therefore undertake the following in terms of their functions in this regard:

- To publish guideline fees.
- Development of guidelines, updated on a regular basis

- To facilitate the discussion of the basis for payment of fees as well as the appropriate quantum or tariffs between service providers and representative clients to be utilized to formulate or amend guidelines on professional fees.

It is important also to note here that the scope of services to be provided by professional consultants for a fee be clearly defined and understood by the client and the service provider.

One of the comments made in the Guidelines for the engagement of Consulting Engineers, regarding the selection of consulting engineer on the basis of value they contribute to the projects and the service they will render is that, “The cost of professional services is a small percentage of total project cost, but the service can make a major contribution to success in terms of the final cost and performance of the project.”

3.4 Summary and conclusions

The Policy Document , though broad in its principles, reflects the perceived value that the client recognises in a profession i.e. perceived benefits are related to perceived sacrifices. From the broader view of this policy framework of regulating the project management profession specific policies regarding what is expected in terms of the scope of

works and fees when engaging project management professions are established by the South African Council for the Project and Construction Management Professions in conjuction with the Association of Construction and Project Managers representing the interests of the client, the public and the profession at large being the stakeholders to public construction projects.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

The main objective is to identify the customer-perceived value as a tool necessary to formulate principles that form the basis of a policy framework to regulate the project management profession and to relate this to the policy framework used in South Africa in order to produce a policy that adheres to international industry standards that can be applied to achieve successful implementation of public construction projects in Botswana.

The hypotheses derived from the research problem are to be evaluated through the interpretation of data collected by reference data, questionnaires and structured interviews with the criterion group.

4.2 Research design

The research design is based on the requirements to submit a treatise as partial fulfillment for the MSc. (Project management) degree that suggests scientific methods to be used in the treatise are in line with the guidelines set out by the University of Pretoria for the preparation of a treatise.

The framework for research methodology for this study relies on the descriptive survey methods of collecting data by means of a questionnaire circulated to a sample representative of the study population and data are to be processed statistically. Normative data shall be used to interpret treated data.

4.3 Defining the research population and sample size

The Botswana Government's policy (NDP 8, chapter 8 p198, 1997/98-2002/3) in the area of public works is geared towards greater use of the private sector in the provision of services which are currently carried out within Government departments and the approach to provide a new procurement method that is cost effective is targeted.

The "Public Procurement and Asset Disposal Act No. 10 of 2001 of Botswana," contains broad provisions relating to the procurement policy to be adopted by procuring and disposing entities of any kind and does not prescribe any specific policy framework within which procurement of project management professionals may be implemented. In the absence of these provisions, the Government's works policy stipulates that services that are outsourced are expected to be provided cost effectively, offering specialist skills to the department to expedite project implementation.

The Government departments are defined as disposing and procuring entity and locally registered project management consulting firms shall comprise the criterion group for research. The sample size is representative of the following:

- Local Authorities – 12 individuals
- Department of Local Government – 5 individuals
- Department of Building and Engineering Services (combined division of DEMS & DABS) – 20 individuals
- Project Management Consulting Firms – 20 individuals

The sample size of the project management firms was determined by checking the listing in the national directory, as the Government has not registered any firms for the provision of project management due to the lack of terms of reference.

4.4 Composition of the questionnaire

The purpose of the questionnaire and structured interview is to collect relevant data to study the problem and test the hypotheses based on the expertise of the selected sample.

The questionnaire was preceded by a letter issued jointly between myself and the University of Pretoria explaining the objective of the questions that is to analyse and identify customer-perceived value as a

guideline for the principles for the formulation of a policy framework to regulate the project management profession and how relating to the principles in the policy framework in South Africa can be used in this policy framework to adhere to international industry standards in order to achieve successful implementation of public construction projects.

The questionnaire is subdivided in six sections, related to the sub-problems and the hypotheses as follows:

A. Personal particulars of respondent.

B. Analysing and identifying Customer perceived value and its application.

C. Application of project management to the implementation of construction projects.

D. Identifying project management attributes in relation to customer perceived value guidelines.

E. Benefits of project management

F. Guidelines for the principles of a policy framework for regulating the project management profession in the construction industry used in the RSA and the identification of perceived value dimensions through regulation of the profession by statutory councils.

The questions were to be answered by indicating the most applicable number on a scale of 1 to 4, representing the choice of answers by the respondent.

4.5 TESTING THE QUESTIONNAIRE – PILOT STUDY

The initial questionnaire was handed to three independent pilot respondents practicing project management who are involved in project implementation of public projects, and possess an average of 10 years experience in the construction industry.

The pilot study was necessary to eliminate any shortcomings that may be identified and necessary corrections was done to produce the final questionnaire.(see appendix 1).

CHAPTER FIVE

ANALYSIS AND INTERPRETATION OF RESEARCH RESULTS

5.1 Introduction

The questionnaire was distributed by fax, by hand and by post to the research population and sample size defined in the previous chapter.

The following feed back was received:

Fifty questionnaires were circulated to the sample population, which included professions from various disciplines mainly, project managers, architects, quantity surveyors and engineers from both the private and public sector. Thirty four out of the fifty questionnaires circulated was received back. Most of the response was collected through the telephone, especially for those outside Gaborone and those in Gaborone were received by hand and through interviews. Although most respondents complained about the questionnaire being long, they were keen on the subject because the subject contained new ideas and concepts that most are not familiar with.

5.2 Classification and model for interpreting the data

The type of questions contained in the questionnaire were probe type questions because of the nature of the subject being an abstract based on a concept that most professions in the built environment are not familiar with. This was confirmed during the interviews. The questions were classified to include, in the first section, the personal particulars and experience of the respondents. The subsequent sections related to the three sub-problems and the corresponding three hypotheses as below:

Questionnaire Section B, question 1 relates to Sub-problem 1 and Hypothesis 1

The heading of this section was:

"Customer-perceived value in business terms is a concept used to define the client's perception of value as contained in a service/product offering in terms of the perceived benefits and perceived sacrifices derived. Perceived benefits are expressed as "quality related aspects" and perceived sacrifices as "price related aspects.""

The main question was:

1. "Given the above concept, how do you identify the following propositions in relation to the application of project management by the government in the implementation of public construction projects?"

It was then broken down into subsection (questions 1.1 to 1.10)

Questionnaire Section C, D & E, questions 2, 3, 4, 5, 6 and 7 relates to Sub-problem 2 and Hypothesis 2

2 Do you think it is necessary to understand the project management standard processes necessary to deal with problems experienced in project implementation in construction?

3. Do you agree that project management processes and techniques are used to co-ordinate resources to achieve predictable results?

4. Do you think the following problems experienced in project implementation can be overcome with the application of project management processes to achieve successful implementation of the public construction projects? (This was broken down to sub-section 4.1 to 4.8)

5. Do you understand or identify the following project management standard processes and their application towards project implementation in construction? (This was broken down to sub-section 5.1 to 5.8)

6. Do you think the following problems experienced in project implementation can be overcome with the application of project management processes to achieve successful implementation of the public sector construction projects? (This was broken down to sub-section 6.1 to 6.8)

7. Can you from the above deduce that project management needs to be properly assessed, recognised, evaluated and planned to obtain value perceived through a documented policy frame work that can be regulated and tested by the client?

Questionnaire Section F questions 8, 9, 10, 11, 12 and 13 relates to Sub-problem 3 and Hypothesis 3

8. Do you think the Policy Framework used in RSA to regulate professions for Built Environment (normally adopted by the government as guidelines for terms of reference to bid for consultancy services) conforms to best practice as defined by the Public Procurement and Asset Disposal Act (2001) in Botswana, that it shall include practices and standards as follow, (This was broken down to sub-section 8.1 to 8.5)

9. With reference to the White Paper released regarding the statutory regulation of Built Environment Professions in RSA, the Minister made the following statement, In your view, does this statement reveal that

value perceived by the client in a profession is expressed through recognition of its benefits contained in the services offered and the need to regulate the profession to meet the desired end goals?

10. Principles underlying the policy framework to regulate professions in the Built Environment. (This was broken down to sub-section 10.1 to 10.6)

The main heading was:

11. “Identification of perceived value dimensions of perceived benefits expressed as “quality related aspects” through the functions of the statutory council.”

The main question was:

11.1 “The White Paper reveals that the various statutory councils for the professions established were charged with the responsibility to ensure that quality is attained, in your view do you think the functions stated below are related to the benefits expressed as quality related aspects of the professions?” (This was broken down to sub-section 11.1.1 to 11.1.4)

The main heading was:

12. “Identification of perceived value dimensions of perceived sacrifices expressed as “price related aspects” through the functions of the statutory council.”

The main question was:

12.1 “The White Paper notes that it is important that uidelines on appropriate fees for professional services be available to assist both parties when drawing up agreements between clients and service providers and this is to be the responsibility of the statutory council. In your opinion, do the following functions of the statutory council reveal that the client perceives that remuneration is a function of perceived value that reflects value added to a project and requires to be regulated?” (This was broken down to sub-section 12.1.1 to 12.1.2)

13 In your professional opinion do you think the above principles reflect the following? (This was broken down to 13.1 to 13.5)

The data collected from the questionnaires are interpreted by analysing the arithmetic mean of the sum of numbers on the measurement scale, representing the average answer chosen by the respondents. The table below shows the model for interpreting the data collected e.g if the arithmetic mean for question 1 is 3.3 then the answer is probably yes.

Table 2: Model for interpreting the data

<table>
<tr><td></td><td colspan="4">Interpretation of answers

(Arithmetic mean from 34 respondents)</td></tr>
<tr><td>Measurement scale</td><td>1 – 2</td><td>2.1 – 2.5</td><td>2.6 - 3</td><td>3.1 – 4</td></tr>
<tr><td></td><td colspan="4"></td></tr>
<tr><td rowspan="3">Possible answers</td><td>Definite</td><td colspan="2">Indecisive / Probably</td><td>Definite</td></tr>
<tr><td>No</td><td>No</td><td>Yes</td><td>Yes</td></tr>
<tr><td colspan="4"></td></tr>
</table>

The table below illustrates how the arithmetic mean is calculated e.g The number of respondents is six and their answers on the measurement scale averages 1.8 the interpretation of the answer on the scale is NO.

Table 3: Example of arithmetic mean calculation and interpretation

Respondent	Answer on scale	Meaning of answer	Arithmetic mean
A B C D E F	1 2 3 1 1 3	No Indecisive Probably No No Probably	
TOTAL	11	÷ 6 =	1.8
The majority answer is NO, therefore the arithmetic mean is between 1 and 2 on the scale and the interpretation to the above example is therefore NO.			

The arithmetic mean consequently indicates whether the majority of respondents answered yes or no or indecisively or probably and therefore it can be deduced whether the respondents confirm or reject or are indecisive to the hypothesis related to the sub-problem as represented by the applicable questions and answers.

The results of the 34 respondents are tabulated as below:

SECTION A

5.3 Professional particulars of respondents

1. What Profession do you practice?

Project Manager	12	Architect	12	Engineer	2	Quantity Surveyor	8	Others-specify	

Others

(specify):……..……

2. What is your

(i) Qualification?

Diploma	2	Degree	28	Masters	4	Others-specify	

Others

(specify):……..……

(ii) Experience after academic training?

0–5 years	4	6 - 10 years	10	11-15 years	8	Over 15 years	12

3. Are you involved in project implementation of public construction projects on behalf of government?

Yes	28	No	6

4. Which of the following sector are you employed/engaged in?

Consulting firm	24	Public officer	10

5. Are you involved in the formulation of policy issues regarding regulation of practice of professions' services and remuneration in the construction industry?

Yes	6	No	28

5.3.1 Interpretation of answers to Section A, questions 1-5

The respondents were mainly project managers, architects and quantity surveyors with minimum qualifications of a degree and on average, over 10 years of experience.

The majority of the respondents are involved in the implementation of public construction projects on behalf of government. Most of the

respondents were from the private consulting firms and the rest are public officers.

The majority of the respondents are not involved in the formulation of policy issues concerning the regulation of the practice of professions' services and remuneration in the construction industry.

The purpose of this section of the questionnaire was to establish the expertise required to arrive at a valid conclusion for this study. From the above response it can be deduced that the respondents possess valuable knowledge required for this research.

The interpretations for the results of the data collected from the 34 respondents are given below for sections B to F:

Below is the table used for the tabulation of the results of the response and the arithmetic mean as follows (Refer to appendix B for arithmetic mean calculation):

Interpretation of respondents' answer	**Arithmetic Mean**

Earlier in the chapter a synopsis of the questionnaire was given. The preceding paragraphs deal with the analysis and interpretation of the results of this research according the sections of the questionnaire.

SECTION B

5.4 Customer-perceived value concept

Definition: CUSTOMER-PERCEIVED VALUE IN BUSINESS TERMS IS A CONCEPT USED TO DEFINE THE CLIENT'S PERCEPTION OF VALUE CONTAINED IN A SERVICE/PRODUCT OFFERING IN TERMS OF THE PERCEIVED BENEFITS AND PERCEIVED SACRIFICES DERIVED. PERCEIVED BENEFITS ARE EXPRESSED AS "QUALITY-RELATED ASPECTS" AND PERCEIVED SACRIFICES AS "PRICE RELATED ASPECTS"

1.0 Given the above concept, how do you identify the following propositions in relation to the application of project management by the government in the implementation of public construction projects?

YES	**3.7**

1.1 Perceived value of project management by the client lies in their perception of their desire to implement a project with the help of a service to meet the desired end state.

YES	**3.9**

1.2 It is important for the client to understand the benefits derived from the service in order to attain the perceived desired end state on a project.

YES	**3.9**

1.3 Quality is related to the benefits the client expects from a service offered.

YES	**3.9**

1.4 Understanding the quality composition of services offered can guide the buying behavior of clients in terms of policy formulation.

YES	**3.6**

1.5 Perceived sacrifices (remuneration) are expressed in monetary terms. Clients' perception in terms of price related aspects of the service offered can be viewed as that clients value a reduction in sacrifices more than an increase in benefits.

YES	**3.2**

1.6 Perceived benefits are related to perceived sacrifices meaning that quality is related to price.

YES	**3.6**

1.7 Client's perceived value is a result of the comparison between perceived performance and one or more comparison standards such

as expectations that are documented and tested.

YES	**3.2**

1.8 Information on quality related aspects of a service/product can be obtained through existing documentation and testing used in the industry that conform to recognised international standards.

YES	**3.6**

1.9 Perceived value is relative to competition. Competition is important in order to deliver a better combination of intrinsic quality attributed in a product or service.

PROBABLY	**2.9**

1.10 Value of the same service is perceived subjectively by different members of client organisation and other stakeholders involved in project implementation therefore it is important for the client to incorporate the perceptions of other stakeholders to establish a formal purchasing process or policy frame work regarding the buying behavior in order to uphold quality standards.

YES	**3.4**

5.4.1 Interpretation of answers to Section B, questions 1 to1.10

The respondents identified convincingly with most of the above propositions of customer perceived value except for the proposition which states that perceived value, is relative to competition and that competition is important in order to deliver a better combination of intrinsic quality attributed in a product or service. This can be mainly attributed to the fact that most professions in the construction industry in Botswana do not favour the bidding system used to engage consultants by the government.

Earlier discussions in chapter one, concerning the statement of the problem reveals the dissatisfaction of this system by some of the profession by Mr. Palalani in his explanation on the causes of government over-expenditure stated that"...However, the consultants on the other hand argue that the tender system does not necessarily guarantee value for money."

The respondents demonstrated an understanding of the propositions of customer-perceived value that can assist the client/customer to identify the value perception in any service offered.

The above response and given the definition of customer perceived value as a concept used to define the client's perception of value as contained in a service/product offering expressed in terms of perceived benefits and sacrifices brings, and confirming the reasons that gave rise to the problem statement, sub-problems and hypothesis for this research.

SECTION C

5.5 Application of project management during project implementation

Objective: **TO ANALYSE PROJECT MANAGEMENT ATTRIBUTES NECESSARY FOR CONSTRUCTION PROJECT IMPLEMENTATION AND HOW THESE CAN BE INTERPRETED TO FORMULATE A POLICY FRAMEWORK TO REGULATE THE PROFESSION BY THE CLIENT**

2.0 Do you think it is necessary to understand the project management standard processes necessary to deal with problems experienced in project implementation in construction?

YES	**3.9**

3.0 Do you agree that project management processes and techniques are used to co-ordinate resources to achieve predictable results?

YES	**3.7**

4.0 Do you think the following problems experienced in project implementation can be overcome with the application of project management processes to achieve successful implementation of the public construction projects.

YES	**3.5**

4.1 Project complexity

YES	**3.5**

4.2 Customer's special requirements

YES	**3.3**

4.3 Organisational restructuring

YES	**3.2**

4.4 Project risks

YES	**3.4**

4.5 Changes in technology

YES	**3.5**

4.6 Forward planning & pricing

YES	**3.6**

4.7 Communicating with and managing expectations of the client

YES	**3.8**

4.8 Not working in areas that are outside of the scope of the project.

YES	**3.7**

5.5.1 Interpretation of answers to Section C, questions 2 to 4.8

The respondent agreed decisively that it is necessary to understand the project management standard processes necessary to deal with problems experienced during project implementation in construction.

The respondents also agreed definitely that project management processes and techniques are used to co-ordinate resources to achieve predictable results. Though the respondents at this point were not tested on the level of understanding the project management processes and techniques, most of them responded convincingly to this question.

Furthermore, the respondents decisively agreed that the application of project management processes, during project implementation, can overcome problems as outlined (question 4.1 to 4.8) to achieve successful implementation.

The objective of this section of the questionnaire was to analyse the application of project management attributes that are necessary for project implementation to overcome common problems experienced on construction projects so as to arrive at an understanding as to why it is necessary to formulate a policy framework to regulate the profession in the construction industry.

SECTION D

5.6 Identifying project management attributes

5.0 Do you understand or identify the following project management standard processes and their application towards project implementation in construction?

5.1 Project integration in terms of planning, execution and control.

YES	**3.7**

5.2 Project scope management required to ensure that projects

include all work required and only the work required completing the project successfully.

YES	**3.8**

5.3 Project time management required to ensure timely performance of the project.

YES	**3.8**

5.4 Project quality management required to ensure that the project will satisfy the needs for which it was undertaken.

YES	**3.6**

5.5 Project human resources management required to make the most effective use of the people involved with the project.

YES	**3.7**

5.6 Project communication management required to ensure proper collection and dissemination of project information.

YES	**3.7**

5.7 Project risk management including the processes and techniques concerned with identifying, analysing & responding to project risk.

YES	**3.7**

5.8 Project procurement management required to acquire goods and services from outside the performing project team or organisation.

YES	**3.7**

5.81 Interpretation and analysis of answers to Section D, questions 5 to 5.8

The respondents confirmed there knowledge of the standard processes of project management and their application towards project implementation in construction convincingly. However, during the interview most respondents confirmed that though they understand these standard processes they have never been applied accurately as required on most public projects because project management is a new approach to the procurement system and has not been fully understood by the client.

SECTION E

5.7 Benefits of project management

6.0 Do you think the following benefits of project management achieved through the application of above project management processes identify with the quality related aspects of the service provided?

6.1 To identify financial arrangements to be carried out as part of an overall strategy for executing the project activities.

YES	**3.1**

6.2 To define how the project is to be implemented in the overall project plans and contingency allowed for avoiding equipment failure.

YES	**3.4**

6.3 Avoid materials shortages at the stage of project execution strategies.

YES	**3.4**

6.4 Human resources planning necessary to identify availability of skilled labour to avoid shortage of labour supply.

YES	**3.4**

6.5 To avoid incompetent and inadequate contractors through a good pre-selection or pre-qualification exercise to overcome most problems through the procurement process.

YES	**3.4**

6.6 Contractual disputes through the establishment of clear

objectives and proper definition of client requirements achieved by established dispute resolution procedures by the project manager.

YES	**3.9**

6.7 Establishment of an appropriate inspection method and quality control procedure in the project plan to overcome poor workmanship.

YES	**3.5**

6.8 The establishment of clear procedures for managing and controlling changes to any part of the project to ensure that design changes will have minimal impact on a project.

YES	**3.8**

7.0 Can you from the above deduce that project management needs to be properly assessed, recognised, evaluated and planned to obtain value perceived through a documented policy frame work that can be regulated and tested by the client?

YES	**3.7**

5.7.1 Interpretation of answers to Section E, questions 6 to 7

The respondents were definite about the benefits of project management through the application of its standard processes that identify with quality related aspects of the service provided as defined in the customer-perceived value concept.

The respondents also confirmed that project management as a profession, needs to be properly assessed, recognised, evaluated and

planned to obtain value perceived through a documented policy framework that can be regulated and tested by the client.

SECTION F

5.8.0 Customer-perceived value: Guidelines related to principles for the formulation of policy framework to regulate the project management profession

Objective: ANALYSE THE POLICY DOCUMENT USED IN RSA IN RELATION TO CUSTOMER-PERCEIVED VALUE CONCEPT AND INTERPRET HOW THESE PRINCIPLES USED CAN BE APPLIED TO FORMULATE A POLICY FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION

8.0 Do you think the Policy Framework used in RSA to regulate

professions for Built Environment (normally adopted by the government as guidelines for terms of reference to bid for consultancy services) conforms to best practice as defined by the Public Procurement and Asset Disposal Act (2001) in Botswana, which shall include practices and standards as follows:

8.1 are safe and environmentally friendly

PROBABLY	**2.9**

8.2 are innovative and increase efficiencies

YES	**3.1**

8.3 save time and costs

PROBABLY	**2.7**

8.4 relate to materials, processes, methods, designs, equipment, products, services and practices and

PROBABLY	**3**

8.5 are defined and coded by internationally recognised contractors' associations and professional bodies in the concerned fields.

PROBABLY	**2.9**

9.0 With reference to the White Paper released regarding the statutory

regulation of Built Environment Professions in RSA, the Minister made the following statement, "……..the intrinsic value of professions lies in their role and function in socio-economic development ……..professional expertise needs to be nurtured, professional standards need to be maintained and professional services need to be within reach of all communities."

In your view, does this statement reveal that value perceived by the client in a profession is expressed through recognition of its benefits contained in the services offered and the need to regulate the profession to meet the desired end goals?

YES	**3.2**

5.8.1.1 Interpretation of answers to Section F, questions 8.1 to 9

The respondents did not answer convincingly on average whether the policy framework used in the RSA to regulate professions conforms to the best practice as defined by the Public Procurement and Asset Disposal Act (2001) of Botswana.

The respondents were indecisive on the aspect of the standards conforming to the following:

- are safe and environmentally friendly; from the response experience by the expertise involved reveal that they do not find the policy applicable

in the Botswana environment due to various reasons such as lack of understanding leading to misinterpretation of the intent of various clauses.

- Save time and cost mainly; because they are not interpreted as intended to apply.

The respondents identified convincingly the value perceptions contained in the White Paper release in the RSA regarding the regulation of professions in the Built environment.

5.8.2 PRINCIPLES UNDERLYING THE POLICY FRAMEWORK TO REGULATE PROFESSIONS IN THE BUILT ENVIRONMENT

10.1 The ministry, on behalf of government, recommends the need to regulate the professions through legislation in order to improve professional competency, does this reveal that the government as the major client in the Built Environment, recognises that the benefits derived from the services of the profession need to be regulated to attain value?

YES	**3.4**

10.2 Recognising the significant role that the professions play in development of national projects towards their successful implementation requires co-ordination of the services of the different professions. Does this highlight the value proposition

that states that the client needs to understand the quality characteristics inherent in a product or service offered by the supplier in order to measure value?

YES	**3.6**

10.3 Identification that regulation of professions can promote an environment in which competition is stimulated, does this reveal the understanding that value is relative to competition necessary to deliver a better combination of intrinsic quality attributed in a product or service?

YES	**3.1**

10.4 Identification that through regulation of professions, minimum competence requirements to provide professional services can be identified. Does this identify with the value proposition that perceived value is as a result of the comparison between perceived performance and one or more comparison standards such as expectations that can be documented and tested?

YES	**3.3**

10.5 Identification of the role that the voluntary societies play in serving the interests of the professions by promoting the art, science and development of the professions. Does this entail that the client understands the value proposition that notes that

value of the same service is perceived differently by other stakeholders and in order to attain value different views of value perception from others should be considered?

PROBABLY	**3**

10.6 Recognising that the practice of any profession is dependant on a specialised body of knowledge and skills that require appropriate education and through the establishment of a statutory council to monitor and evaluate this standard for the expertise required can regulate the profession. Does this reveal that understanding the quality composition in services in terms of expertise provided by the profession can guide buying behavior of clients' in terms of policy formulation?

YES	**3.6**

5.8.2.1 Interpretation of answers to Section F, questions 10 to 10.6

The respondents supported convincingly the above principles underlying the policy framework to regulate professions in the Built Environment in the RSA based on the value propositions of the customer-perceived value concept as identified.

5.8.3 IDENTIFICATION OF PERCEIVED VALUE DIMENSIONS OF PERCEIVED BENEFITS EXPRESSED AS "QUALITY RELATED ASPECTS" THROUGH THE FUNCTIONS OF THE STATUTORY COUNCIL

11.1 The Paper reveals that the various statutory councils for the professions established where charged with the responsibility to

ensure that quality is attained, in your view do you think the functions stated below are related to the benefits expressed as quality related aspects of the profession?

11.1.1 Setting professional competency standards within the Framework of the South African qualifications Authority in order to provide a formal basis for the objective evaluation of the suitability of a particular person to undertake specific work.

YES	**3.6**

11.1.2 To administer registration of individuals in a profession in order to uphold standards that are locally appropriate and internationally acceptable

YES	**3.8**

11.1.3 Reservation of certain functions of the profession necessary to ensure quality standards are maintained in the interest of the public.

YES	**3.6**

11.1.4 To define minimum standards of behavior expected of professions to maintain acceptable norms in the interest of the public.

YES	**3.8**

5.8.3.1 Interpretation of answers to Section F, questions 11.1 to 11.1.4

The respondents definitely agreed with the proposition that the functions charged to the statutory councils described in the White Paper of RSA to carry the responsibility to ensure that quality is attained can be identified as perceived value dimensions expressed as “quality related aspects”.

5.8.4 IDENTIFICATION OF PERCEIVED VALUE DIMENSIONS OF PERCEIVED SACRIFICES EXPRESSED AS "PRICE RELATED ASPECTS" THROUGH THE FUNCTIONS OF THE STATUTORY COUNCIL

12.1 The White Paper notes that it is important that guidelines on appropriate fees for professional services be available to assist both parties when drawing up agreements between clients and service providers and this to be the responsibility of the statutory council. In your opinion, do the following functions of the statutory council reveal that the client perceives that remuneration is a function of perceived value that reflects value added to a project and requires to be regulated?

12.1.1 To publish guideline fees

YES	**3.8**

12.1.2 Development of guidelines of fees, updated on a regular basis

YES	**3.1**

13.0 In your professional opinion do you think the above principles reflect the following?

13.1 Customer-perceived value concept is indeed the basis on which value inherent in a profession can be established?

YES	**3.1**

13.2 The value established above can be interpreted to formulate principles necessary for a policy framework that could be used to regulate the profession in order to achieve stated goals

YES	**3.6**

13.3 Statutory regulation of the project management profession is inevitable in Botswana to overcome the problems associated with project implementation through a policy framework that incorporates value perception of the client regarding the services offered by the expertise.

YES	**3.5**

13.4 Establish a statutory council with the responsibility to ensure that the value perceived by the client in the project management profession is nurtured and maintained in terms of expected quality standards and remuneration for the services offered.

YES	**3.6**

13.5 Recognition of the value perceptions of other stakeholders, such as voluntary associations that represent the interests of the project management profession supportive to achieve national goals such as implementation of public construction projects, is in evitable.

PROBABLY	**3**

5.9.0 Interpretation of answers to Section F, questions 12.1 to 13.5

The function of providing guidelines on appropriate fees for professional services when drawing up agreements between clients and service providers, was identified as perceived value dimension expressed as “price related aspects” by the respondents.

The respondents also decisively confirmed that the principles adopted in the formulation of the policy document to regulate the professions in the Built Environment reveals the following:

- The Customer-perceived value concept is indeed the basis on which value inherent in a profession, can be established.
- The value established above can be interpreted to formulate principles necessary for a policy framework that could be used to regulate the profession in order to achieve stated goals

- Statutory regulation of the project management profession is inevitable in Botswana to overcome the problems associated with project implementation through a policy framework that incorporates value perception of the client regarding the services offered by the expertise.
- Establish a statutory council with the responsibility to ensure that the value perceived by the client in the project management profession is nurtured and maintained in terms of expected quality standards and remuneration for the services offered.
- Recognition of the value perceptions of other stakeholders, such as voluntary associations that represent the interests of the project management profession supportive to achieve national goals such as implementation of public construction projects, is in evitable.

CHAPTER SIX

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This research focused on the client-perceived value concept as a basis on which principles required to formulate a policy framework to regulate the profession as applied in RSA can be derived, specifically in the project management profession where services are required to implement public construction projects in Botswana.

The current problems encountered by the government to implement public construction projects and its dissatisfaction towards services offered by the professions in the construction industry as highlighted in the NDP 8 gave rise to this research**.**

The evidence of lack of a policy framework specific to the regulation of project management profession required to prescribe the competent levels and remuneration in order for the client to attain satisfaction is not questionable.

While it is a fact that project management profession has not received recognition by the government in Botswana in terms of legislation, the need for its use has been expressed through the establishment of a Project Implementation Unit under the umbrella of what was previously referred to as DABS and DEMS which has been merged to form the Department of Building and Engineering Services (DBES), mainly to implement public construction projects. These are also referred to as the procuring and disposing entities of public assets.

Currently, under the Ministry of Education, a project management unit has been established to deal with the implementation of the backlog for primary school construction projects but the government is still facing implementation problems due to the lack of knowledge and skills of project management services.

This study identified the perceived value of the client regarding the project management profession in terms of its benefits expressed as “quality related aspects” and sacrifices as “price related aspects” derived from the customer-perceived value concept. It was analysed based on this concept, the principles necessary to formulate a policy framework to regulate the profession, as used in the RSA, in terms of quality and remuneration for the services offered to implement public construction projects successfully.

The research problems and hypotheses as formulated in chapter one, were investigated by means of a study of a literature review of the relevant subjects and a supportive survey was conducted by means of a questionnaire circulated to a sample population defined in the previous chapter of which 68% responded.

The research results were analysed and interpreted in the previous chapter and the following conclusions and recommendations were derived at.

6.2 Sub-problems and Hypotheses

6.2.1 Sub-problem 1

To identify propositions of customer-perceived value concept that guides identification of principles necessary to formulate policy framework to regulate the project management profession.

With reference to the literature review in chapter 2, Wolfgang and Samir (2001, p530) provide the definition of customer perceived value in business terms as a concept used to define the client's perception of value as contained in a service and/orproduct offering in terms of the perceived benefits and perceived sacrifices derived.

From the literature review it was identified that benefits and sacrifices are dimensions of customer-perceived value measurement. They developed a criterion to identify these dimensions by grouping them into “quality-related” aspects as an expression of perceived benefits and “price related” aspects representing the perceived sacrifices of the various supplier offerings.

The propositions for identifying customer-perceived value were described in the literature review and from the analyses and interpretation of the responses to the questionnaire concerning sub-problem 1, it can be concluded that it is important to identify propositions of the customer-perceived value concept that guides the identification of principles necessary to formulate policy framework to regulate the project management profession.

6.2.2 Hypothesis to Sub-problem 1

Understanding the customer-perceived value concept by the client is necessary for determining guidelines for the policy framework to regulate the project management profession in order to achieve the objectives of project implementation of public construction projects.

It can be, reasonably, deduced from the analysis and interpretation of the responses related to the above sub-problem that the hypothesis to sub-problem 1 is valid, that understanding the customer-perceived

value proposition is vital for identifying guidelines necessary for a policy framework required to regulate the project management profession to achieve the successful implementation of public construction projects.

It is also recommended that the following customer-perceived value proposition form the basis for deriving the mentioned guidelines or principles:

- Perceived value of project management by the client lies in their perception of their desire to implement a project with the help of a service to meet the desired end state.
- It is important for the client to understand the benefits derived from the service in order to attain the perceived desired end state on a project.
- Quality is related to the benefits the client expects from a service offered.
- Understanding the quality composition of services offered can guide the buying behavior of clients in terms of policy formulation.
- Perceived sacrifices (remuneration) are expressed in monetary terms. Clients' perception in terms of price related aspects of the service offered can be viewed as that clients value a reduction in sacrifices more than an increase in benefits.
- Perceived benefits are related to perceived sacrifices meaning that quality is related to price.

- Client's perceived value is a result of the comparison between perceived performance and one or more comparison standards such as expectations that are documented and tested.
- Information on quality related aspects of a service and/or product can be obtained through existing documentation and testing used in the industry that conform to recognised international standards.
- Perceived value is relative to competition. Competition is important in order to deliver a better combination of intrinsic quality attributed in a product or service.
- Value of the same service is perceived subjectively by different members of client organisation and other stakeholders involved in project implementation, therefore, it is important for the client to incorporate the perceptions of other stakeholders to establish a formal purchasing process or policy frame work regarding the buying behavior in order to uphold quality standards.

6.2.3 Sub-problem 2

To analyse and identify the application of project management standard processes necessary to overcome problems experienced in the implementation of construction projects revealing, the intrinsic value perceived in terms of the benefits, as a guide to formulate a policy framework to regulate the project management profession in the construction industry in Bostwana

The analysis and interpretation to responses in Section C of the questionnaire draws the following conclusions:

- It is necessary to understand the project management standard processes necessary to deal with problems experienced in project implementation in construction.
- Project management processes and techniques are used to co-ordinate resources to achieve predictable results.
- Application of project management processes to implement construction projects successfully can overcome the following common problems experienced on projects:
    - (i) Project complexity
    - (ii) Customer's special requirements
    - (iii) Organisational restructuring
    - (iv) Project risks
    - (v) Changes in technology
    - (vi) Forward planning & pricing
    - (vii) Communicating with and managing expectations of the client
    - (viii) Not working in areas that are outside of the scope of the project.

The above establishes that it is necessary to understand the application of project management standard processes in order to

achieve successful implementation of construction projects as confirmed by the respondents.

6.2.4 Hypothesis to Sub-problem 2

Project management standard processes required for the implementation of construction projects is vital for the client to identify the intrinsic value perceived in terms of its benefits to guide the formulation of a policy framework to regulate the profession in order to achieve its goals successfully.

The analysis and interpretation of the responses to Section D and E, of the questionnaire, confirms the validity of the hypothesis to sub-problem 2 by drawing the following conclusions:

a. The client needs to understand the following standard processes of project management required to successfully implement construction projects:

   (i) Project integration in terms of planning, execution and control.

   (ii) Project scope management required to ensure that projects include all work required and only the work required to complete the project successfully.

   (iii) Project time management required to ensure timely performance of the project.

(iv) Project quality management required to ensure that the project will satisfy the needs for which it was undertaken.

(v) Project human resources management required to make the most effective use of the people involved with the project.

(vi) Project communication management required to ensure proper collection and dissemination of project information.

(vii) Project risk management including the processes and techniques concerned with identifying, analysing and responding to project risk.

(viii) Project procurement management required to acquire goods and services from outside the performing project team or organisation.

b. The client needs to identify the intrinsic value perceived in project management processes through its benefits identified below:

(i) To identify financial arrangements to be carried out as part of an overall strategy for executing the project activities.

(ii) To define how the project is to be implemented in the overall project plans and contingency allowed to avoid equipment failure.

(iii) Avoid material shortages at the stage of project execution strategies.

(iv) Human resources planning necessary to identify availability of skilled labour to avoid shortages of labour supply.

(v) To avoid incompetent and inadequate contractors through a good pre-selection or pre-qualification exercise to overcome most problems through the procurement process.

(vi) Contractual disputes through the establishment of clear objectives and proper definition of client requirements achieved by established dispute resolution procedures by the project manager.

(vii) Establishment of an appropriate inspection method and quality control procedure in the project plan to overcome poor workmanship.

(viii) The establishment of clear procedures for managing and controlling changes to any part of the project to ensure that design changes will have minimal impact on a project.

From the literature review it was established that customer-perceived value is identified by two dimensions namely, benefits expressed as “quality aspects” and sacrifices expressed as “price related aspects”. The client needs to critically understand these aspects in a service and/or product in order to attain the perceived value. It was established that these quality aspects can be documented and tested by the client based on existing standards documented elsewhere thus the analysis of the practical benefits derived form the application of project management.

The above can also be concluded based on the analysis and interpretation of the responses to question 7 of the questionnaire, that project management needs to be properly assessed, recognised, evaluated and planned to obtain value perceived through a documented policy framework that can be regulated and tested by the client.

6.2.5 Sub-problem 3

To evaluate the principles that guide formulation of policy framework for statutory regulation of project management profession used in RSA in relation to customer-perceived value measurement and project management attributes and interpret how these can be adapted in Botswana to regulate the PM profession in order to achieve successful implementation of public construction project.

This study is based on the proposition, that the client should be well informed about the quality and price of the services offered by project management professionals in order to document and test through policy framework the value perceptions in the services provided. It is also important to identify that this can only be achieved by involving all stakeholders required in project implementation.

The literature review also identified according to literature adopted in their studies that the business-to-business purchasing process typically

involves different members of a buying organisation. This entails that the approach has to ensure that it captures the value perceptions of the key informants involved in the purchasing process. The literature also indicates that value perception across different supplier member organisations was conducted to ensure different value perceptions.

Based on the findings from the literature review and the analysis and interpretation of the responses to Section F of the questionnaire, the principles contained in the policy framework (reference to the White Paper) used in the RSA to regulate the professions in the Built Environment relate to customer-perceived value propositions or guidelines as confirmed below:

- Recommends the need to regulate the professions through legislation in order to improve professional competency reveals the client recognises the need to regulate the profession because the benefits derived from the services yields value perceived by the client.
- Recognising the significant role the professions play in the development of national projects towards successful implementation calls for the co-ordination of the services of the different professions, highlight that the client understands the quality characteristics inherent in the service offered necessary for regulation.
- Identification that regulation of the professions can promote an environment in which competition is stimulated, reveals the

understanding that value is relative to competition necessary to deliver a better combination of intrinsic quality attributed in a service.

- Identification that through regulation of professions, minimum competency requirements to provide professional services can be identified, reveals that perceived value is as a result of the comparison between perceived performance and one or more comparison standards such as expectations that can be documented and tested.
- Identification of the role that the voluntary societies play in serving the interests of the professions by promoting the art, science and development of the professions, entails that the client understands that value of the same service is perceived differently by other stakeholders and, in order to attain value, different views of value perception from others should be considered.
- Recognising that the practice of any profession is dependent on a specialised body of knowledge and skills that require appropriate education and through the establishment of a statutory council to monitor and evaluate the standard for the expertise required to be regulated, reveals that the client understands the quality composition in terms of the expertise required from the profession guides buying behaviour of the client which is incorporated in the policy framework.

The conclusion drawn from the above is that customer-perceived value propositions guide the principles necessary to formulate a policy framework to regulate the professions in order to achieve successful implementation of project objectives.

6.2.6 Hypothesis to sub-problem 3

Customer-perceived value concept identified with the standard processes of project management is a basis on which principles for the formulation of a policy framework to regulate the project management profession can be identified in line with existing standards that conforms to international standards in order to meet objectives for the implementation of public construction projects.

With reference to the literature review in chapter 2, Wolfgang and Samir (2001, p530) identified benefits and sacrifices as dimensions of customer-perceived value measurement. They developed a criterion to identify these dimensions by grouping them into “quality-related” aspects as an expression of perceived benefits and “price related” aspects representing the perceived sacrifices of the various supplier offerings. This literature reviews establishes the conclusion that customer-perceived value contains guidelines that are required to formulate policy framework that contains principles necessary to regulate the professions in the construction industry.

The analysis and interpretation drawn from the responses to the questions in Section F of the questionnaire, relating to the White paper of RSA on the policy document used to regulate the professions in the Built Environment reveals the establishment of statutory councils with the responsibility to ensure quality standards in the professions and also to determine the remuneration for the services provided is a confirmation of the customer-perceived value measurement of the two dimensions referred to as benefits and sacrifices expressed as quality and price related aspects respectively.

The above confirmations establishes support for hypothesis 3 and validity of this hypothesis.

6.3 Conclusions

The above findings will contribute in addressing the problem that the government of Botswana is facing to establish a criteria for engaging project management services and also for the practioners looking forward to the client to promalgate legislation to regulate the practice of the project management profession in order to achieve successful implementation of public construction projects.

The study also arrived at the following recommendations through the questionnaire and from the analysis and interpretation it was established that:

- Customer-perceived value concept is indeed the basis on which value inherent in a profession can be established.
- The value established in a profession can be interpreted to formulate principles necessary for a policy framework that could be used to regulate the profession in order to achieve stated goals.
- Statutory regulation of project management profession is inevitable in Botswana to overcome the problems associated with project implementation through a policy framework that incorporates value perception of the client regarding the services offered by expertise.
- Establish a statutory council with the responsibility to ensure that the value perceived by the client in the project management profession is nurtured and maintained in terms of expected quality standards and remuneration for the services offered.
- Recognition of the value perception of other stakeholders such as voluntary associations that represent the interests of the project management profession supportive to achieve national goals such as implementation of public construction projects.

6.4 Recommendations for further research

The following are the recommendations for further research:

- Emphasis was mainly on regulation of project management, but the same can apply to other professions in the construction industry and not only in Bostwana, but also elsewhere.
- The research mainly focused on the formulation of a policy framework where one does not exist but research can also be done on investigating the basis of the existing policy document on the regulation of professions in the construction industry to establish the idea or motive for such policies.
- Further research can also be conducted on the customer-perceived value concept to understand the application of the concept in relation to other management principles as applied to the construction industry.

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Appendix I: Sample of Questionnaire

19th July 2004

Dear Sir/Madam

PRINCIPLES FOR THE FORMULATION OF POLICY FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION IN BOTSWANA: QUESTIONNAIRE

This questionnaire is based on the above subject matter necessary for the submission of a treatise as a partial fulfillment of the requirements to obtain a Master's degree in Project Management at the University of Pretoria.

The research focuses on the perception of the client in terms of the value of project management that form a basis of the underlying principles to formulate a policy framework to regulate the profession in the construction industry in Botswana. The results of this research shall benefit the industry to enhance the quality of project management profession to be practiced in the construction industry.

It is with the above view, that you have been selected to contribute your valued expertise in this industry to come up with a justified conclusion on this research.

Kindly allow 25-30 minutes of your time to complete and return the attached questionnaire, together with your recommendations.

All information given will be treated as strictly confidential and shall only be used for this purpose. There will be no reference to you as the source of information whatsoever.

Thanking you for your valuable participation.

Yours faithfully

Gert Basson	**Jacqueline Kaumba**
Study Leader	**Researcher**

Programme Leader for Msc. (Project Management)

Appendix 2 – Calculation of arithmetic mean

SECTION B: **CUSTOMER-PERCEIVED VALUE CONCEPT**

1.0 Given the above concept, how do you identify the following propositions in relation to the application of project management by the government in the implementation of public construction projects?

1.1 Perceived value of project management by the client lies in their perception of their desire to implement a project with the help of a service to meet the desired end state.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	8	24	
4	26	104	
TOTAL	34	128	128/34 = 3.7

1.2 It is important for the client to understand the benefits derived from the service in order to attain the perceived desired end state on a project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	

2	0	0	
3	2	6	
4	32	128	
TOTAL	34	134	134/34 = 3.9

1.3 Quality is related to the benefits the client expects from a service offered.

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	0	0	
2	0	0	
3	4	12	
4	30	120	
TOTAL	34	134	134/34 = 3.9

1.4 Understanding the quality composition of services offered can guide the buying behavior of clients in terms of policy formulation.

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	0	0	
2	0	0	
3	12	36	
4	22	88	
TOTAL	34	124	124/34 = 3.6

1.5 Perceived sacrifices (remuneration) are expressed in monetary terms. Clients' perception in terms of price related aspects of the service offered can be viewed as that clients value a reduction in sacrifices more than an increase in benefits.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	8	16	
3	10	30	
4	16	64	
TOTAL	34	110	110/34 = 3.2

1.6 Perceived benefits are related to perceived sacrifices meaning that quality is related to price.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	2	4	
3	10	30	
4	22	88	
TOTAL	34	122	122/34 = 3.6

1.7 Client's perceived value is a result of the comparison between perceived performance and one or more comparison standards such as expectations that are documented and tested.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	6	12	
3	14	42	
4	14	56	
TOTAL	34	110	110/34 = 3.2

1.8 Information on quality related aspects of a service/product can be obtained through existing documentation and testing used in the industry that conform to recognised international standards.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	2	4	
3	10	30	
4	22	88	
TOTAL	34	122	122/34 = 3.6

1.9 Perceived value is relative to competition. Competition is important in order to deliver a better combination of intrinsic quality attributed in a product or service.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	6	6	
2	0	2	
3	18	54	
4	10	40	
TOTAL	34	102	102/34 = 3.2

1.10 Value of the same service is perceived subjectively by different members of client organisation and other stakeholders involved in project implementation therefore it is important for the client to incorporate the perceptions of other stakeholders to establish a formal purchasing process or policy frame work regarding the buying behavior in order to uphold quality standards.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	4	4	
2	0	0	
3	8	24	

4	22	88	
TOTAL	34	116	116/34 = 3.4

SECTION C: APPLICATION OF PROJECT MANAGEMENT DURING PROJECT IMPLEMENTATION

OBJECTIVE: TO ANALYSE PROJECT MANAGEMENT ATTRIBUTES NECESSARY FOR CONSTRUCTION PROJECT IMPLEMENTATION AND HOW THESE CAN BE INTERPRETED TO FORMULATE A POLICY FRAMEWORK TO REGULATE THE PROFESSION BY THE CLIENT

2. Do you think it is necessary to understand the project management standard processes necessary to deal with problems experienced in project implementation in construction?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	2	6	
4	32	128	

TOTAL	34	134	134/34 = 3.9

3. Do you agree that project management processes and techniques are used to co-ordinate resources to achieve predictable results?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	9	27	
4	24	96	
TOTAL	34	125	134/34 = 3.7

4. Do you think the following problems experienced in project implementation can be overcome with the application of project management processes to achieve successful implementation of the public construction projects.

4.1 Project complexity

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN

1	4	4	
2	0	0	
3	4	12	
4	26	104	
TOTAL	34	120	120/34 = 3.5

4.2 Customer's special requirements

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	0	0	
2	1	2	
3	15	45	
4	16	64	
TOTAL	34	111	111/34 = 3.3

4.3 Organisational restructuring

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	1	1	
2	6	12	
3	12	36	
4	15	60	
TOTAL	34	109	109/34 = 3.2

4.4 Project risks

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	0	0	
3	7	21	
4	22	88	
TOTAL	34	114	114/34 = 3.4

4.5 Changes in technology

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	3	6	
3	9	27	
4	22	88	
TOTAL	34	121	121/34 = 3.5

4.5 Forward planning & pricing

ANSWER ON	NUMBER OF	TOTAL SCORE	CALCULATION OF

SCALE	RESPONDENTS		ARITHMETIC MEAN
1	0	0	
2	1	2	
3	13	39	
4	20	80	
TOTAL	34	121	121/34 = 3.6

4.6 Communicating with and managing expectations of the client

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	7	21	
4	27	108	
TOTAL	34	129	129/34 = 3.8

4.7 Not working in areas that are outside of the scope of the project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	9	27	
4	24	96	
TOTAL	34	125	125/34 = 3.7

SECTION D: IDENTIFYING PROJECT MANAGEMENT ATTRIBUTES

5 Do you understand or identify the following project management standard processes and their application towards project implementation in construction?

5.1 Project integration in terms of planning, execution and control.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	3	3	
2	0	0	
3	2	6	
4	29	116	
TOTAL	34	125	125/34 = 3.7

5.2 Project scope management required to ensure that projects include all work required and only the work required completing the project successfully.

ANSWER ON	NUMBER OF	TOTAL SCORE	CALCULATION OF

SCALE	RESPONDENTS		ARITHMETIC MEAN
1	0	1	
2	2	4	
3	3	9	
4	29	116	
TOTAL	34	130	130/34 = 3.8

5.3 Project time management required to ensure timely performance of the project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	2	4	
3	2	6	
4	30	120	
TOTAL	34	130	130/34 = 3.8

5.4 Project quality management required to ensure that the project will satisfy the needs for which it was undertaken.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	2	4	
3	5	15	
4	25	100	
TOTAL	34	121	121/34 = 3.6

5.5 Project human resources management required to make the most effective use of the people involved with the project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	1	2	
3	3	9	
4	28	112	
TOTAL	34	125	125/34 = 3.7

5.6 Project communication management required to ensure proper collection and dissemination of project information.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	0	0	
3	4	12	
4	28	112	
TOTAL	34	126	126/36 = 3.7

5.7 Project risk management including the processes and techniques concerned with identifying, analysing & responding to project risk.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	3	3	
2	0	2	
3	4	12	
4	27	108	
TOTAL	34	125	125/34 = 3.7

5.8 Project procurement management required to acquire goods and services from outside the performing project team or organisation.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	1	1	
2	0	0	
3	7	21	
4	26	104	

TOTAL	34	126	126/34 = 3.7

SECTION E: BENEFITS OF PROJECT MANAGEMENT

6 Do you think the following benefits of project management achieved through the application of above project management processes identify with the quality related aspects of the service provided?

6.1 To identify financial arrangements to be carried out as part of an overall strategy for executing the project activities.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	3	6	
3	9	27	
4	17	68	
TOTAL	34	106	106/34 = 3.1

6.2 To define how the project is to be implemented in the overall project plans and contingency allowed for avoiding equipment failure.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	6	12	
3	7	21	
4	21	84	
TOTAL	34	117	117/34 = 3.4

6.3 Avoid materials shortages at the stage of project execution strategies.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	3	3	
2	3	6	
3	7	21	
4	21	84	
TOTAL	34	114	114/34 = 3.4

6.4 Human resources planning necessary to identify availability of skilled labour to avoid shortage of labour supply.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	4	8	
3	7	21	
4	21	84	
TOTAL	34	115	115/34 = 3.4

6.5 To avoid incompetent and inadequate contractors through a good pre-selection or pre-qualification exercise to overcome most problems through the procurement process.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	3	3	
2	1	2	
3	8	24	
4	22	88	
TOTAL	34	117	117/34 = 3.4

6.6 Contractual disputes through the establishment of clear objectives and proper definition of client requirements achieved by established dispute resolution procedures by the project manager.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	3	9	
4	30	120	
TOTAL	34	131	131/34 = 3.9

6.7 Establishment of an appropriate inspection method and quality control procedure in the project plan to overcome poor workmanship.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	6	12	
3	6	18	

4	22	88	
TOTAL	34	118	118/34 = 3.5

6.8 The establishment of clear procedures for managing and controlling changes to any part of the project to ensure that design changes will have minimal impact on a project.

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	0	0	
2	2	4	
3	0	0	
4	32	128	
TOTAL	34	132	132/34 = 3.8

7. Can you from the above deduce that project management needs to be properly assessed, recognised, evaluated and planned to obtain value perceived through a documented policy frame work that can be regulated and tested by the client?

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	2	2	
2	0	0	
3	3	9	

4	29	116	
TOTAL	34	127	127/34 = 3.7

SECTION F: CUSTOMER PERCEIVED VALUE - GUIDELINES RELATED TO PRINCIPLES FOR THE FORMULATION OF POLICY FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION

8. Do you think the Policy Framework used in RSA to regulate professsions for Built Environment (normally adopted by the government as guidelines for terms of reference to bid for consultancy services) conforms to best practice as defined by the Public Procurement and Asset Disposal Act (2001) in Botswana, which shall include practices and standards as follows:

8.1 are safe and environmentally friendly

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	10	20	
3	11	33	
4	11	44	
TOTAL	34	99	99/34 = 2.9

8.2 are innovative and increase efficiencies

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	7	14	
3	17	51	
4	10	40	
TOTAL	34	105	105/34 = 3.1

8.3 save time and costs

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	7	14	
3	15	45	
4	7	28	
TOTAL	34	92	92/34 = 2.7

8.4 relate to materials, processes, methods, designs, equipment, products, services and practices and

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	13	26	
3	9	27	
4	12	48	
TOTAL	34	101	101/34 = 3

8.5 are defined and coded by internationally recognised contractors' associations and professional bodies in the concerned fields.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	10	20	
3	12	36	
4	10	40	
TOTAL	34	98	98/34 = 2.9

9. With reference to the White Paper released regarding the statutory regulation of Built Environment Professions in RSA, the Minister made the following statement, "*……..the intrinsic value of professions lies in their role and function in socio-economic development……..professional expertise needs to be nurtured, professional standards need to be maintained and professional services need to be within reach of all communities*."

In your view, does this statement reveal that value perceived by the client in a profession is expressed through recognition of its benefits contained in the services offered and the need to regulate the profession to meet the desired end goals?

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	4	4	
2	4	8	
3	8	24	
4	18	72	
TOTAL	34	108	108/34 = 3.2

10. PRINCIPLES UNDERLYING THE POLICY FRAMEWORK TO REGULATE PROFESSIONS IN THE BUILT ENVIRONMENT

10.1 The ministry, on behalf of government, recommends the need to

regulate the professions through legislation in order to improve professional competency, does this reveal that the government as the major client in the Built Environment, recognises that the benefits derived from the services of the profession need to be regulated to attain value?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	1	1	
2	5	10	
3	9	27	
4	19	76	
TOTAL	34	114	114/34 = 3.4

10.2 Recognising the significant role that the professions play in development of national projects towards their successful implementation requires co-ordination of the services of the different professions. Does this highlight the value proposition that states that the client needs to understand the quality characteristics inherent in a product or service offered by the supplier in order to measure value?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	0	0	
3	8	24	

4	24	96	
TOTAL	34	122	122/34 = 3.6

10.3 Identification that regulation of professions can promote an environment in which competition is stimulated, does this reveal the understanding that value is relative to competition necessary to deliver a better combination of intrinsic quality attributed in a product or service?

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	2	2	
2	6	12	
3	13	39	
4	13	52	
TOTAL	34	105	105/34 = 3.1

10.4 Identification that through regulation of professions, minimum competence requirements to provide professional services can be identified. Does this identify with the value proposition that perceived value is as a result of the comparison between perceived performance and one or more comparison standards such as expectations that can be documented and tested?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	3	6	
3	17	51	
4	14	56	
TOTAL	34	113	113/34 = 3.3

10.5 Identification of the role that the voluntary societies play in serving the interests of the professions by promoting the art, science and development of the professions. Does this entail that the client understands the value proposition that notes that value of the same service is perceived differently by other stakeholders and in order to attain value different views of value perception from others should be considered?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	4	8	
3	11	33	

4	14	56	
TOTAL	34	102	102/34 = 3

10.6 Recognising that the practice of any profession is dependant on a specialised body of knowledge and skills that require appropriate education and through the establishment of a statutory council to monitor and evaluate this standard for the expertise required can regulate the profession. Does this reveal that understanding the quality composition in services in terms of expertise provided by the profession can guide buying behavior of clients' in terms of policy formulation?

ANSWER ON SCALE	**NUMBER OF RESPONDENTS**	**TOTAL SCORE**	**CALCULATION OF ARITHMETIC MEAN**
1	0	0	
2	1	2	
3	10	30	
4	23	92	
TOTAL	34	124	124/34 = 3.6

11 IDENTIFICATION OF PERCEIVED VALUE DIMENSIONS OF PERCEIVED BENEFITS EXPRESSED AS "QUALITY RELATED ASPECTS" THROUGH THE FUNCTIONS OF THE STATUTORY COUNCIL

11.1 The White Paper reveals that the various statutory councils for the professions established where charged with the responsibility to ensure that quality is attained, in your view do you think the functions stated below are related to the benefits expressed as quality related aspects of the profession?

11.1.1 Setting professional competency standards within the framework of the South African qualifications Authority in order to provide a formal basis for the objective evaluation of the suitability of a particular person to undertake specific work.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	0	0	
3	9	27	
4	23	92	
TOTAL	34	121	121/34 = 3.6

11.1.2 To administer registration of individuals in a profession in order to uphold standards that are locally appropriate and internationally acceptable.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	3	6	
3	1	3	
4	30	120	
TOTAL	34	129	127/34 = 3.8

11.1.3 Reservation of certain functions of the profession necessary to ensure quality standards are maintained in the interest of the public.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	1	1	
2	3	6	
3	5	15	
4	25	100	
TOTAL	34	122	122/34 = 3.6

11.1.4 To define minimum standards of behavior expected of professions to maintain acceptable norms in the interest of the public.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	8	24	
4	26	104	
TOTAL	34	128	128/34 = 3.8

12 IDENTIFICATION OF PERCEIVED VALUE DIMENSIONS OF PERCEIVED SACRIFICES EXPRESSED AS "PRICE RELATED ASPECTS" THROUGH THE FUNCTIONS OF THE STATUTORY COUNCIL

12.1 The White Paper notes that it is important that guidelines on appropriate fees for professional services be available to assist both parties when drawing up agreements between clients and service providers and this to be the responsibility of the statutory council. In your opinion, do the following functions of the

statutory council reveal that the client perceives that remuneration is a function of perceived value that reflects value added to a project and requires to be regulated?

12.1.1 To publish guideline fees.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	5	15	
4	28	112	
TOTAL	34	129	129/34 = 3.8

12.1.2 Development of guidelines of fees, updated on a regular basis.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	9	9	
2	2	4	
3	1	3	
4	22	88	

TOTAL	34	104	104/34 = 3.1

13 In your professional opinion do you think the above principles reflect the following?

13.1 Customer-perceived value concept is indeed the basis on which value inherent in a profession can be established?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	1	2	
3	14	42	
4	14	56	
TOTAL	34	105	105/34 = 3.1

13.2 The value established above can be interpreted to formulate principles necessary for a policy framework that could be used to regulate the profession in order to achieve stated goals.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	15	45	
4	19	76	
TOTAL	34	124	124/34 = 3.6

13.3 Statutory Regulation of the project management profession is inevitable in Botswana to overcome the problems associated with project implementation through a policy framework that incorporates value perception of the client regarding the services offered by the expertise.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	3	6	
3	11	33	
4	20	80	
TOTAL	34	119	119/34 = 3.5

13.4 Establish a statutory council with the responsibility to ensure that the value perceived by the client in the project management profession is nurtured and maintained in terms of expected quality standards and remuneration for the services offered.

ANSWER ON	NUMBER OF	TOTAL SCORE	CALCULATION OF

SCALE	RESPONDENTS		ARITHMETIC MEAN
1	0	0	
2	2	4	
3	9	27	
4	23	92	
TOTAL	34	123	123/34 = 3.6

13.5 Recognition of the value perceptions of other stakeholders, such as voluntary associations that represent the interests of the project management profession supportive to achieve national goals such as implementation of public construction projects, is in evitable.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	11	22	
3	11	33	
4	12	48	
TOTAL	34	103	103/34 = 3

CUSTOMER-PERCEIVED VALUE: PRINCIPLES FOR THE FORMULATION OF THE POLICY FRAMEWORK TO REGULATE PROJECT MANAGEMENT PROFESSION IN CONSTRUCTION INDUSTRY IN BOTSWANA.

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Introduction

In recent years, there has been an emphasis on improvement of services and/ or products in terms of quality offered in the building industry in Botswana (NDP 8, 2000). The need to get value for money by the client has been the norm in this industry. Service providers have also raised concern about value placed on their services in terms of remuneration being low (Palalani, 2000).

This study was based on the above scenario to find out the client's perception on the value of services offered by the project managers and how these perceptions can be interpreted to formulate a policy framework to regulate the profession in the construction industry. The study also focused on evaluating the policy frame work used in South Africa to regulate the profession in relation to the customer-perceived value which is a concept adopted in this research to identify the value perceptions in terms of benefits and remuneration of the services provided.

LITERATURE REVIEW

Value and its concept

The literature concerning value and its concept was derived from a research done by Wolgang & Samir (2001) on Measuring Customer-Perceived Value Markets which revealed the identification of customer-perceived value in two dimensions namely benefits expressed as “quality related aspects” and sacrifices expressed as “price related aspects”. From the literature certain value proposition were identified as guidelines to formulate principles necessary to formulate a policy frame work to regulate the engagement of professions to provide services for the implementation of construction projects.

The following value propositions were identified to establish the value perceptions in a service or product that could guide the customer buying behaviour:

- Perceived value of project management by the client lies in their perception of their desire to implement a project with the help of a service to meet the desired end state.
- It is important for the client to understand the benefits derived from the service in order to attain the perceived desired end state on a project.
- Quality is related to the benefits the client expects from a service offered.

- Understanding the quality composition of services offered can guide the buying behaviour of clients in terms of policy formulation.
- Perceived sacrifices (remuneration) are expressed in monetary terms. Client's perception in terms of price related aspects of the service offered can be viewed as that clients value a reduction in sacrifices more than an increase in benefits.
- Perceived benefits are related to perceived sacrifices meaning that quality is related to price.
- Client's perceived value is a result of the comparison between perceived performance and one or more comparison standards such as expectations that are documented and tested.
- Information on quality related aspects of a service/product can be obtained through existing documentation and testing used in the industry that conform to recognised international standards.
- Perceived value is relative to competition. Competition is important in order to deliver a better combination of intrinsic quality attributed in a product or service.
- Value of the same service is perceived subjectively by different members of client organisation and other stakeholders involved in project implementation therefore it is important for the client to incorporate the perceptions of other stakeholders to establish a formal purchasing process or policy frame work regarding the buying behaviour in order to uphold quality standards.

Project management and its application

Project management is an emerging profession and is applicable in many areas of business. The term project management has been used to describe an organisational approach to the management of on-going operations (PMBOK, 2000). It is critical to understand project management for the success of the project. It was also established that the value of good project management is that you have standard processes in place to deal with all contingencies. Project management processes and techniques are used to coordinate resources to achieve predictable results (http://www.projectmanagementhomepage.com).

The project management processes involve the following:

- **Project integration i.e** planning, execution and control.
- **Project scope management i.e** ensuring that projects include all work required and only work required to complete the work successfully
- **Project time management i.e** ensure timely performance of the project.
- **Project cost management i.e**
- **Project quality management i.e** ensure that the project will satisfy the needs for which it was undertaken.

- **Project human resources management i.e** to ensure that you make effective use of the people involved with the project.
- **Project communication management i.e** ensure proper collection and dissemination of project information.
- **Project risk management i.e** identifying, analysing and responding to project risks.
- **Project procurement management i.e** acquiring goods and services from outside the performing team or organisation.

The role of project management during the implementation of construction projects

It was established that the nature of construction projects involves a degree of uncertainty and requires control. In order to achieve this, the project is subdivided into distinct phases referred to as project life cycle as follows:

- Feasibility – includes project formulation. Feasibility studies, and strategy design and approval.
- Planning and design – includes design, cost and schedules, contract terms and conditions, detailed planning.
- Construction – manufacturing, delivery, civil works, installation and testing.
- Takeover and start up – final testing and maintenance.

Project management was established through its application to the above phases can overcome the problems experienced during project implementation as outlined below (Kerzner, 1998):

- Project complexity
- Customer's special requirements
- Organisational restructuring
- Project risks
- Changes in technology
- Forward planning and pricing

Benefits of project management in project implementation

Some of the common benefits derived from the application of project management during project lifecycle are as follows (Faniran, 2000)

- Finance
- Equipment failure
- Material shortages
- Labour supply
- Incompetent/inadequate contractors
- Contractual disputes
- Poor workmanship
- Design changes
- Poor initial assessment, evaluation and planning of project activities

Guidelines for the formulation of a policy framework to regulate project management profession in the construction industry

From the literature it was established that customer's could easily obtain information about quality characteristics of the product through product/service through documentation and testing. This information can be obtained through existing documentation and testing used in the industry that conform to recognised international standards (Wolfgang & Samir, 2001).

This study analysed the policy document used in South Africa as established to be one that conforms to the requirements prescribed by the Botswana government to qualify as a basis for best practices to be adopted when procuring services as terms of reference (Botswana Public Procurement and Disposal Act No. 10 2001).

The basic justification for focusing on this policy document in relation to customer-perceived value concept was the statement made by the Minister (EGSC By-laws, 1999) that the intrinsic value of professions lies in their role and function in socio-economic development and that professional expertise needs to be nurtured, professional standards need to be maintained and professional services need to be within reach of all communities.

Principles underlying the policy framework to regulate professions in the Built Environment

The objective was to extract customer perceived-value propositions adopted in the principles outlined in the documentation to regulate the professions. The principles adopted were as follows:

- To regulate the professions through legislation in order to improve professional competency.

- Recognition of the role that the professions play in development of national goals towards their successful implementation requires co-ordination of the services of the different professions.
- Identification that the regulation of professions can promote an environment in which competition is stimulated.
- Identification that through regulation of professions, minimum competence requirements to provide professional services can be identified.
- Identification of the role that the voluntary societies play in serving the interests of the professions by promoting the art, science and development of the professions.
- Recognising that the practice of any profession is dependant on a specialised body of knowledge and skills that require appropriate education and through establishment of a statutory council to monitor and evaluate the standard for the expertise required.

Identification of perceived value dimensions of perceived benefits expressed as "quality related aspects" through the functions of the statutory council

The emphasis on this portion of literature was to extract the perceived-value of the client regarded as benefits which are expressed as 'quality related aspects' of the service. The client was obligated to form a statutory council with the

responsibility to make sure that there is benefit in regulating the professions in terms of its quality aspects as follows:

- Setting professional competency standards within the framework of the South African Qualifications Authority in order to provide a formal basis for the objective evaluation of the suitability of a particular person.
- To administer registration of individuals in a profession in order to uphold standards that are locally appropriate and internationally acceptable.
- Reservation of certain functions of the profession necessary to ensure quality standards are maintained in the interest of the public.
- To define minimum standards of behaviour expected of professions to maintain acceptable norms in the interest of the public.

Identification of perceived value dimensions of perceived sacrifices expressed as "price related aspects" through the functions of the statutory council

The document emphasised that it is important that guidelines on appropriate fees for professional services be available to assist both parties when drawing up agreements between clients and service providers through the functions of the statutory councils to include (EGSC By-laws, 1999) :

- To publish guideline fees.

- Development of guideline of fees, updated on a regular basis.

It was also stated in the policy document that while technical merit should be the main criterion for the selection and appointment of a professional consultant, the remuneration for the service rendered remains an important component of the agreement. Since the value added by the professional, and the responsibility which he or she carries, is vital importance to the client, it is imperative that remuneration for the service rendered be the subject of negotiation within wide but reasonable limits.

The conclusion was drawn up stating that ideally remuneration should reflect the value added to a project or assignment. Since it is seldom possible to assess the value added on a rigorous basis, it is necessary that general guidelines for determining a reasonable professional fee be made available.

RESEARCH FINDINGS

A questionnaire was distributed to a sample population of 50 representative of the target group which was limited to professions from the construction industry. The response was received from 34 respondents and based on this an analysis and interpretation was drawn concerning the sub-problems and hypothesis of the study.

Customer-perceived value concept

The professionals identified convincingly with most of the propositions of customer perceived value except for the proposition which states that perceived value is relative to competition and that competition is important in order to deliver a better combination of intrinsic quality attributed in a product or service. This can mainly be attributed to the fact that most professions in the construction industry in Botswana do not favour the bidding system used to engage consultants by the government.

Our early discussions in chapter one concerning the statement of the problem reveals the dissatisfaction of this system by some of the profession as stated by Mr. Palalani in his explanation on the causes of government over-expenditure stated that*"……However, the consultants on the other hand argue that the tender system does not necessarily guarantee value for money*."

However, the professionals demonstrated an understanding of the propositions of customer-perceived value that can assist the client/customer to identify the value perception in any service offered.

From the responses, analysis and interpretation of the results it was concluded that it is important to identify propositions of customer-perceived value concept

that guides identification of principles necessary to formulate policy framework to regulate the project management profession.

Application of project management during project implementation

The professionals agreed that it is necessary to understand the project management standard processes necessary to deal with problems experienced during project implementation in construction.

The professional also agreed that project management processes and techniques are used to co-ordinate resources to achieve predictable results.

Furthermore, the professionals decisively agreed that application of project management processes during project implementation can overcome common problems experienced in construction projects to achieve successful implementation.

It was established that the application of project management attributes is necessary for project implementation to overcome common problems experienced on construction projects.

Identifying project management attributes

The professionals confirmed there knowledge of the standard processes of project management and their application towards project implementation in construction convincingly.

It was also established during the interview that though they understand these standard processes they have never been applied accurately as required on most public projects because project management is a new approach to the procurement system and has not been fully understood by the client.

Benefits of project management

The professionals were confident about the benefits of project management through application of its standard processes that identify with quality related aspects of the service provided as defined in the customer-perceived value concept.

The professionals also confirmed that project management as a profession needs to be properly assessed, recognised, evaluated and planned to obtain value perceived through a documented policy framework that can be regulated and tested by the client.

Guidelines related to the principles for the formulation of policy framework to regulate the project management profession

The professionals were not answer convinced on average whether the policy framework used in RSA to regulate professions conforms to the best practice as defined by the Public Procurement and Asset Disposal Act (2001) of Botswana.

The respondents were indecisive on the aspect of the standards conforming to the following:

- are safe and environmentally friendly; from the experience that the expertise involved do not find them applicable in the Botswana environment due to various reasons.
- Save time and cost mainly because they are not interpreted as intended to apply.

The professionals identified convincingly with the value perceptions contained in the White paper release in RSA regarding the regulation of professions in the Built environment.

Principles underlying the policy framework to regulate professions in the Built Environment

The professionals also supported convincingly the principles underlying the policy framework to regulate professions in the Built Environment in RSA based on the value propositions of customer-perceived value concept as identified.

Identification of perceived-value dimensions of perceived benefits expressed as "quality related aspects" through the functions of the statutory council

The professionals definitely agreed with the proposition that the functions charged with the statutory councils described in the White Paper of RSA to carry the responsibility to ensure that quality is attained can be identified as perceived value dimensions expressed as "quality related aspects".

Identification of perceived-value dimensions of perceived sacrifices expressed as "price related aspects" through the functions of the statutory council

The professionals likewise were supportive that the function of the statutory council to provide guidelines on appropriate fees for professional services when drawing up agreements between clients and service providers to be identified as

perceived value dimension of sacrifices expressed as “price related aspects” of the service rendered.

Recommendations

The study also arrived at the following recommendations through the questionnaire and from the analysis and interpretation it was established that:

- Customer-perceived value concept is indeed the basis on which value inherent in a profession can be established.
- The value established in a profession can be interpreted to formulate principles necessary for a policy framework that could be used to regulate the profession in order to achieve stated goals.
- Statutory regulation of project management profession is inevitable in Botswana to overcome the problems associated with project implementation through a policy frame work that incorporates value perception of the client regarding the services offered by expertise.
- Establish a statutory council with the responsibility to ensure that the value perceived by the client in the project management profession is nurtured and maintained in terms of expected quality standards and remuneration for the services offered.
- Recognition of the value perception of other stakeholders such as voluntary associations that represent the interests of the project

management profession supportive to achieve national goals such as implementation of public construction projects.

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Appendix I: Sample of Questionnaire

19th July 2004

Dear Sir/Madam

PRINCIPLES FOR THE FORMULATION OF POLICY FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION IN BOTSWANA: QUESTIONNAIRE

This questionnaire is based on the above subject matter necessary for the submission of a treatise as a partial fulfillment of the requirements to obtain a Master's degree in Project Management at the University of Pretoria.

The research focuses on the perception of the client in terms of the value of project management that form a basis of the underlying principles to formulate a policy framework to regulate the profession in the construction industry in Botswana. The results of this research shall benefit the industry to enhance the quality of project management profession to be practiced in the construction industry.

It is with the above view, that you have been selected to contribute your valued expertise in this industry to come up with a justified conclusion on this research.

Kindly allow 25-30 minutes of your time to complete and return the attached questionnaire, together with your recommendations.

All information given will be treated as strictly confidential and shall only be used for this purpose. There will be no reference to you as the source of information whatsoever.

Thanking you for your valuable participation.

Yours faithfully

Gert Basson	**Jacqueline Kaumba**
Study Leader	**Researcher**
Programme Leader for Msc. (Project Management)	

Appendix 2 – Calculation of arithmetic mean

SECTION B: **CUSTOMER-PERCEIVED VALUE CONCEPT**

1.0 Given the above concept, how do you identify the following propositions in relation to the application of project management by the government in the implementation of public construction projects?

1.1 Perceived value of project management by the client lies in their perception of their desire to implement a project with the help of a service to meet the desired end state.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	8	24	
4	26	104	
TOTAL	34	128	128/34 = 3.7

1.1 It is important for the client to understand the benefits derived from the service in order to attain the perceived desired end state on a project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	2	6	
4	32	128	
TOTAL	34	134	134/34 = 3.9

1.2 Quality is related to the benefits the client expects from a service offered.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	4	12	
4	30	120	
TOTAL	34	134	134/34 = 3.9

1.3 Understanding the quality composition of services offered can guide the buying behavior of clients in terms of policy formulation.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	12	36	
4	22	88	
TOTAL	34	124	124/34 = 3.6

1.4 Perceived sacrifices (remuneration) are expressed in monetary terms. Clients' perception in terms of price related aspects of the service offered can be viewed as that clients value a reduction in sacrifices more than an increase in benefits.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	8	16	
3	10	30	
4	16	64	
TOTAL	34	110	110/34 = 3.2

1.5 Perceived benefits are related to perceived sacrifices meaning that quality is related to price.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	2	4	
3	10	30	
4	22	88	
TOTAL	34	122	122/34 = 3.6

1.6 Client's perceived value is a result of the comparison between perceived performance and one or more comparison standards such as expectations that are documented and tested.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	6	12	
3	14	42	
4	14	56	
TOTAL	34	110	110/34 = 3.2

1.7 Information on quality related aspects of a service/product can be obtained through existing documentation and testing used in the industry that conform to recognised international standards.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	2	4	
3	10	30	
4	22	88	
TOTAL	34	122	122/34 = 3.6

1.8 Perceived value is relative to competition. Competition is important in order to deliver a better combination of intrinsic quality attributed in a product or service.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	6	6	
2	0	2	
3	18	54	
4	10	40	
TOTAL	34	102	102/34 = 3.2

1.10 Value of the same service is perceived subjectively by different members of client organisation and other stakeholders involved in project implementation therefore it is important for the client to

incorporate the perceptions of other stakeholders to establish a formal purchasing process or policy frame work regarding the buying behavior in order to uphold quality standards.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	4	4	
2	0	0	
3	8	24	
4	22	88	
TOTAL	34	116	116/34 = 3.4

SECTION C: APPLICATION OF PROJECT MANAGEMENT DURING PROJECT IMPLEMENTATION

OBJECTIVE: TO ANALYSE PROJECT MANAGEMENT ATTRIBUTES NECESSARY FOR CONSTRUCTION PROJECT IMPLEMENTATION AND HOW THESE CAN BE INTERPRETED TO FORMULATE A POLICY FRAMEWORK TO REGULATE THE PROFESSION BY THE CLIENT

1. Do you think it is necessary to understand the project management standard processes necessary to deal with problems experienced in project implementation in construction?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	2	6	
4	32	128	
TOTAL	34	134	134/34 = 3.9

2. Do you agree that project management processes and techniques are used to co-ordinate resources to achieve predictable results?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	9	27	
4	24	96	
TOTAL	34	125	134/34 = 3.7

4. Do you think the following problems experienced in project implementation can be overcome with the application of project management processes to achieve successful implementation of the public construction projects.

4.1 Project complexity

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	4	4	
2	0	0	
3	4	12	
4	26	104	
TOTAL	34	120	120/34 = 3.5

4.2 Customer's special requirements

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	15	45	
4	16	64	
TOTAL	34	111	111/34 = 3.3

4.3 Organisational restructuring

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	1	1	
2	6	12	
3	12	36	
4	15	60	
TOTAL	34	109	109/34 = 3.2

4.4 Project risks

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	0	0	
3	7	21	
4	22	88	
TOTAL	34	114	114/34 = 3.4

4.5 Changes in technology

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	3	6	
3	9	27	
4	22	88	
TOTAL	34	121	121/34 = 3.5

4.5 Forward planning & pricing

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	13	39	
4	20	80	
TOTAL	34	121	121/34 = 3.6

4.6 Communicating with and managing expectations of the client

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	7	21	
4	27	108	
TOTAL	34	129	129/34 = 3.8

4.7 Not working in areas that are outside of the scope of the project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	9	27	
4	24	96	
TOTAL	34	125	125/34 = 3.7

SECTION D: IDENTIFYING PROJECT MANAGEMENT ATTRIBUTES

5 Do you understand or identify the following project management standard processes and their application towards project implementation in construction?

5.1 Project integration in terms of planning, execution and control.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	3	3	
2	0	0	
3	2	6	
4	29	116	
TOTAL	34	125	125/34 = 3.7

5.2 Project scope management required to ensure that projects include all work required and only the work required completing the project successfully.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	1	
2	2	4	
3	3	9	
4	29	116	
TOTAL	34	130	130/34 = 3.8

5.3 Project time management required to ensure timely performance of the project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	2	4	
3	2	6	
4	30	120	
TOTAL	34	130	130/34 = 3.8

5.4 Project quality management required to ensure that the project will satisfy the needs for which it was undertaken.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	2	4	
3	5	15	
4	25	100	
TOTAL	34	121	121/34 = 3.6

5.5 Project human resources management required to make the most effective use of the people involved with the project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	1	2	
3	3	9	
4	28	112	
TOTAL	34	125	125/34 = 3.7

5.6 Project communication management required to ensure proper collection and dissemination of project information.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	0	0	
3	4	12	
4	28	112	
TOTAL	34	126	126/36 = 3.7

5.7 Project risk management including the processes and techniques concerned with identifying, analysing & responding to project risk.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	3	3	
2	0	2	
3	4	12	
4	27	108	
TOTAL	34	125	125/34 = 3.7

5.8 Project procurement management required to acquire goods and services from outside the performing project team or organisation.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	1	1	
2	0	0	
3	7	21	
4	26	104	
TOTAL	34	126	126/34 = 3.7

SECTION E: BENEFITS OF PROJECT MANAGEMENT

6 Do you think the following benefits of project management achieved through the application of above project management processes identify with the quality related aspects of the service provided?

6.1 To identify financial arrangements to be carried out as part of an overall strategy for executing the project activities.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	3	6	
3	9	27	
4	17	68	
TOTAL	34	106	106/34 = 3.1

6.2 To define how the project is to be implemented in the overall project plans and contingency allowed for avoiding equipment failure.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	6	12	
3	7	21	
4	21	84	
TOTAL	34	117	117/34 = 3.4

6.3 Avoid materials shortages at the stage of project execution strategies.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	3	3	
2	3	6	
3	7	21	
4	21	84	
TOTAL	34	114	114/34 = 3.4

6.4 Human resources planning necessary to identify availability of skilled labour to avoid shortage of labour supply.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	4	8	
3	7	21	
4	21	84	
TOTAL	34	115	115/34 = 3.4

6.5 To avoid incompetent and inadequate contractors through a good pre-selection or pre-qualification exercise to overcome most problems through the procurement process.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	3	3	
2	1	2	
3	8	24	
4	22	88	
TOTAL	34	117	117/34 = 3.4

6.6 Contractual disputes through the establishment of clear objectives and proper definition of client requirements achieved by established dispute resolution procedures by the project manager.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	3	9	
4	30	120	
TOTAL	34	131	131/34 = 3.9

6.7 Establishment of an appropriate inspection method and quality control procedure in the project plan to overcome poor workmanship.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	6	12	
3	6	18	
4	22	88	
TOTAL	34	118	118/34 = 3.5

6.8 The establishment of clear procedures for managing and controlling changes to any part of the project to ensure that design changes will have minimal impact on a project.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	2	4	
3	0	0	
4	32	128	
TOTAL	34	132	132/34 = 3.8

7. Can you from the above deduce that project management needs to be properly assessed, recognised, evaluated and planned to obtain value perceived through a documented policy frame work that can be regulated and tested by the client?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	0	0	
3	3	9	
4	29	116	
TOTAL	34	127	127/34 = 3.7

SECTION F: CUSTOMER PERCEIVED VALUE - GUIDELINES RELATED TO PRINCIPLES FOR THE FORMULATION OF POLICY FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION

8. Do you think the Policy Framework used in RSA to regulate professsions for Built Environment (normally adopted by the government as guidelines for terms of reference to bid for consultancy services) conforms to best practice as defined by the Public Procurement and Asset Disposal Act (2001) in Botswana, which shall include practices and standards as follows:

8.1 are safe and environmentally friendly

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	10	20	
3	11	33	
4	11	44	
TOTAL	34	99	99/34 = 2.9

8.2 are innovative and increase efficiencies

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	7	14	
3	17	51	
4	10	40	
TOTAL	34	105	105/34 = 3.1

8.3 save time and costs

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	7	14	
3	15	45	
4	7	28	
TOTAL	34	92	92/34 = 2.7

8.4 relate to materials, processes, methods, designs, equipment, products, services and practices and

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	13	26	
3	9	27	
4	12	48	
TOTAL	34	101	101/34 = 3

8.5 are defined and coded by internationally recognised contractors' associations and professional bodies in the concerned fields.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	10	20	
3	12	36	
4	10	40	
TOTAL	34	98	98/34 = 2.9

9. With reference to the White Paper released regarding the statutory regulation of Built Environment Professions in RSA, the Minister made the following statement, "*……..the intrinsic value of professions lies in their role and function in socio-economic development……..professional expertise needs to be nurtured,*

professional standards need to be maintained and professional services need to be within reach of all communities."

In your view, does this statement reveal that value perceived by the client in a profession is expressed through recognition of its benefits contained in the services offered and the need to regulate the profession to meet the desired end goals?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	4	4	
2	4	8	
3	8	24	
4	18	72	
TOTAL	34	108	108/34 = 3.2

10. PRINCIPLES UNDERLYING THE POLICY FRAMEWORK TO REGULATE PROFESSIONS IN THE BUILT ENVIRONMENT

10.1 The ministry, on behalf of government, recommends the need to regulate the professions through legislation in order to improve professional competency, does this reveal that the government as the major client in the Built Environment, recognises that the benefits derived from the services of the profession need to be regulated to attain value?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	1	1	
2	5	10	
3	9	27	
4	19	76	
TOTAL	34	114	114/34 = 3.4

10.2 Recognising the significant role that the professions play in development of national projects towards their successful implementation requires co-ordination of the services of the different professions. Does this highlight the value proposition that states that the client needs to understand the quality characteristics inherent in a product or service offered by the supplier in order to measure value?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	0	0	
3	8	24	
4	24	96	
TOTAL	34	122	122/34 = 3.6

10.3 Identification that regulation of professions can promote an environment in which competition is stimulated, does this reveal the understanding that value is relative to competition necessary to deliver a better combination of intrinsic quality attributed in a product or service?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	6	12	
3	13	39	
4	13	52	
TOTAL	34	105	105/34 = 3.1

10.4 Identification that through regulation of professions, minimum competence requirements to provide professional services can be identified. Does this identify with the value proposition that perceived value is as a result of the comparison between

perceived performance and one or more comparison standards such as expectations that can be documented and tested?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	3	6	
3	17	51	
4	14	56	
TOTAL	34	113	113/34 = 3.3

10.5 Identification of the role that the voluntary societies play in serving the interests of the professions by promoting the art, science and development of the professions. Does this entail that the client understands the value proposition that notes that value of the same service is perceived differently by other stakeholders and in order to attain value different views of value perception from others should be considered?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	4	8	
3	11	33	
4	14	56	
TOTAL	34	102	102/34 = 3

10.6 Recognising that the practice of any profession is dependant on a specialised body of knowledge and skills that require appropriate education and through the establishment of a statutory council to monitor and evaluate this standard for the expertise required can regulate the profession. Does this reveal that understanding the quality composition in services in terms of expertise provided by the profession can guide buying behavior of clients' in terms of policy formulation?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	10	30	
4	23	92	
TOTAL	34	124	124/34 = 3.6

11 IDENTIFICATION OF PERCEIVED VALUE DIMENSIONS OF PERCEIVED BENEFITS EXPRESSED AS "QUALITY RELATED ASPECTS" THROUGH THE FUNCTIONS OF THE STATUTORY COUNCIL

11.1 The White Paper reveals that the various statutory councils for the professions established where charged with the responsibility to ensure that quality is attained, in your view do

you think the functions stated below are related to the benefits expressed as quality related aspects of the profession?

11.1.1 Setting professional competency standards within the framework of the South African qualifications Authority in order to provide a formal basis for the objective evaluation of the suitability of a particular person to undertake specific work.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	2	2	
2	0	0	
3	9	27	
4	23	92	
TOTAL	34	121	121/34 = 3.6

11.1.2 To administer registration of individuals in a profession in order to uphold standards that are locally appropriate and internationally acceptable.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	3	6	
3	1	3	
4	30	120	
TOTAL	34	129	127/34 = 3.8

11.1.3 Reservation of certain functions of the profession necessary to ensure quality standards are maintained in the interest of the public.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	1	1	
2	3	6	
3	5	15	
4	25	100	
TOTAL	34	122	122/34 = 3.6

11.1.4 To define minimum standards of behavior expected of professions to maintain acceptable norms in the interest of the public.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	8	24	
4	26	104	
TOTAL	34	128	128/34 = 3.8

12 IDENTIFICATION OF PERCEIVED VALUE DIMENSIONS OF PERCEIVED SACRIFICES EXPRESSED AS "PRICE RELATED ASPECTS" THROUGH THE FUNCTIONS OF THE STATUTORY COUNCIL

12.1 The White Paper notes that it is important that guidelines on appropriate fees for professional services be available to assist both parties when drawing up agreements between clients and service providers and this to be the responsibility of the statutory council. In your opinion, do the following functions of the statutory council reveal that the client perceives that remuneration is a function of perceived value that reflects value added to a project and requires to be regulated?

12.1.1 To publish guideline fees.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	1	2	
3	5	15	
4	28	112	
TOTAL	34	129	129/34 = 3.8

12.1.2 Development of guidelines of fees, updated on a regular basis.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	9	9	
2	2	4	
3	1	3	
4	22	88	
TOTAL	34	104	104/34 = 3.1

13 In your professional opinion do you think the above principles reflect the following?

13.1 Customer-perceived value concept is indeed the basis on which value inherent in a profession can be established?

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	5	5	
2	1	2	
3	14	42	
4	14	56	
TOTAL	34	105	105/34 = 3.1

13.2 The value established above can be interpreted to formulate principles necessary for a policy framework that could be used to regulate the profession in order to achieve stated goals.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	0	0	
3	15	45	
4	19	76	
TOTAL	34	124	124/34 = 3.6

13.3 Statutory Regulation of the project management profession is inevitable in Botswana to overcome the problems associated with project implementation through a policy framework that incorporates value perception of the client regarding the services offered by the expertise.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	3	6	
3	11	33	
4	20	80	
TOTAL	34	119	119/34 = 3.5

13.4 Establish a statutory council with the responsibility to ensure that the value perceived by the client in the project management profession is nurtured and maintained in terms of expected quality standards and remuneration for the services offered.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	2	4	
3	9	27	
4	23	92	
TOTAL	34	123	123/34 = 3.6

13.5 Recognition of the value perceptions of other stakeholders, such as voluntary associations that represent the interests of the project management profession supportive to achieve national goals such as implementation of public construction projects, is in evitable.

ANSWER ON SCALE	NUMBER OF RESPONDENTS	TOTAL SCORE	CALCULATION OF ARITHMETIC MEAN
1	0	0	
2	11	22	
3	11	33	
4	12	48	
TOTAL	34	103	103/34 = 3

[PLEASE NOTE THAT THE QUESTIONNAIRE IS MADE UP OF THREE SECTIONS AND CONTAINS 21 PAGES]

Please indicate by ticking on the number of your choice in the box to answer each question section B & C, which is represented on the scale as follows:

No	=	1
Indecisive	=	2
Probably	=	3
Yes	=	4

For Example,

1	**2**	**3**	**4**

SECTION A : PERSONAL PARTICULARS

1. What Profession do you practice?

Project Manager ☐ Architect ☐ Engineer ☐ Quantity Surveyor ☐ Others- specify ☐

Others (specify):……..……

2. What is your

A. Qualification?

Diploma ☐ Degree ☐ Masters ☐ Others- specify ☐

Others (specify):……..……

B. Experience?

0–5 years ☐ 6 - 10 years ☐ 11-15 years ☐ Over 15 years ☐

3. Are you involved in project implementation of public construction projects on behalf of government?

Yes ☐ No ☐

4. Which of the following sector are you engaged in?

Consulting firm ☐ Public officer ☐

5. Are you involved in the formulation of policy issues regarding professions in the construction industry?

Yes ☐ No ☐

SECTION B: **CUSTOMER-PERCEIVED VALUE CONCEPT**

Definition: **CUSTOMER-PERCEIVED VALUE IN BUSINESS TERMS IS A CONCEPT USED TO DEFINE THE CLIENT'S PERCEPTION OF VALUE IN CONTAINED IN A SERVICE/PRODUCT OFFERING IN TERMS OF THE PERCEIVED BENEFITS AND PERCEIVED SACRIFICES DERIVED. PERCEIVED BENEFITS ARE EXPRESSED AS "QUALITY RELATED ASPECTS" AND PERCEIVED SACRIFICES AS "PRICE RELATED ASPECTS"**

1.0 Given the above concept, how do you identify the following propositions in relation to the application of project management by the client in the implementation of public construction projects?

1.1 Perceived value of project management by the client lies in their perception of their desire to implement a project with the help of a service to meet the desired end state.

1	**2**	**3**	**4**

1.2 It is important for the client to understand the benefits derived from the service in order to attain the perceived desired end state in a project.

1	**2**	**3**	**4**

1.3 Quality is related to the benefits the client expects from a service offered.

1	**2**	**3**	**4**

1.4 Understanding the quality composition of services offered can guide the buying behaviour of clients in terms of policy formulation.

1	**2**	**3**	**4**

1.5 Perceived sacrifices are expressed in monetary terms. Clients perception in terms of price related aspects of the service offered can be viewed as clients value a reduction in sacrifices more than an increase in benefits.

1	**2**	**3**	**4**

1.6 Perceived benefits are related to perceived sacrifices meaning that quality is related to price.

1	**2**	**3**	**4**

1.7 Client's perceived value is a result of the comparison between perceived performance and one or more comparison standards such as expectations that are documented and tested.

1	**2**	**3**	**4**

1.8 Information on quality related aspects of a service/product can be obtained through existing documentation and testing used elsewhere that conform to recognised international standards.

1	**2**	**3**	**4**

1.9 Perceived value is relative to competition. Competition is important in order to deliver a better combination of intrinsic quality attributed in a product or service.

1	**2**	**3**	**4**

1.10 Value of the same service is perceived subjectively by different members of client organisation and other stakeholders involved in project implementation therefore it is important for the client to incorporate the perceptions of other stakeholders to establish formal purchasing process or policy frame work regarding in order to uphold quality standards.

1	**2**	**3**	**4**

SECTION C: APPLICATION OF PROJECT MANAGEMENT DURING PROJECT IMPLEMENTATION

OBJECTIVE: TO ANALYSE PROJECT MANAGEMENT ATTRIBUTES NECESSARY FOR CONSTRUCTION PROJECT IMPLEMENTATION AND HOW THESE CAN BE INTERPRETED TO FORMULATE A POLICY FRAME WORK TO REGULATE THE PROFESSION BY THE CLIENT

2.0 Do you think it is necessary to understand the project management standard processes necessary to deal with problems experienced in project implementation in construction?

1	**2**	**3**	**4**

3.0 Do you agree that project management processes and techniques are used to co-ordinate resources to achieve predictable results?

4.0 Do you think the following problems experienced in project implementation can be overcome with the application of project management processes to achieve successful implementation of the public construction projects.

4.1 Project complexity

1	**2**	**3**	**4**

4.2 Customer's special requirements

1	2	3	4

4.3 Organisational restructuring

1	2	3	4

4.4 Project risks

1	2	3	4

4.5 Changes in technology

1	2	3	4

4.6 Forward planning & pricing

1	2	3	4

4.7 Communicating with and managing expectations of the client

1	2	3	4

4.8 Not working in areas that are outside of the scope of the project.

1	2	3	4

SECTION D: IDENTIFYING PROJECT MANAGEMENT ATTRIBUTES

5.0 Do you understand or identify the following project management standard processes and their application towards project implementation in construction?

5.1 Project integration in terms of planning, execution and control.

1	**2**	**3**	**4**

5.2 Project scope management required to ensure that projects include all work required and only the work required to complete the project successfully.

1	**2**	**3**	**4**

5.3 Project time management required to ensure timely performance of the project.

1	**2**	**3**	**4**

5.4 Project quality management required to ensure that the project will satisfy the needs for which it was undertaken.

1	**2**	**3**	**4**

5.5 Project human resources management required to make the most effective use of the people involved with the project.

1	**2**	**3**	**4**

5.6 Project communication management required to ensure proper collection & dissemination of project information.

1	2	3	4

5.7 Project risk management include the process concerned with identifying, analysing & responding to project risk.

1	2	3	4

5.8 Project procurement management required to acquire goods and services from outside the performing project team or organisation.

1	2	3	4

SECTION E: BENEFITS OF PROJECT MANAGEMENT

6.0 Do you think the following benefits of project management achieved through the application of above project management processes identify with the quality related aspects of the service provided?

6.1 To identify finance arrangements to be carried out as part of an overall strategy for executing the project activities.

1	**2**	**3**	**4**

6.2 To define how the project is to be implemented in the overall project plans and contingency allowed for to avoid equipment failure.

1	**2**	**3**	**4**

6.3 Avoid materials shortages at the stage of project execution strategies.

1	**2**	**3**	**4**

6.4 Human resources planning necessary to identify availability of skilled labour to avoid shortage of labour supply.

1	**2**	**3**	**4**

6.5 To avoid incompetent and inadequate contractors through a good pre-selection or pre-qualification exercise to overcome most problems through procurement process.

1	**2**	**3**	**4**

6.6 Contractual disputes through establishment of clear objectives and proper definition of client requirements achieved by established dispute resolution procedures by the project manager.

1	**2**	**3**	**4**

6.7 Establishment of an appropriate inspection method and quality control procedure in the project plan to overcome poor workmanship.

1	**2**	**3**	**4**

6.8 The establishing of clear procedures for managing and controlling changes to any part of the project to ensure that design changes will have minimal impact on a project.

1	**2**	**3**	**4**

7.0 Can you deduce from the above that project management needs to be properly assessed, recognised, evaluated and planned to obtain value perceived through a documented policy frame work that can be regulated and tested by the client?

1	**2**	**3**	**4**

SECTION F: CUSTOMER PERCEIVED VALUE - GUIDELINES RELATED TO PRINCIPLES FOR THE FORMULATION OF POLICY

FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION

OBJECTIVE: ANALYSE THE POLICY DOCUMENT USED IN RSA IN RELATION TO CUSTOMER-PERCEIVED VALUE CONCEPT AND INTERPRET HOW THE PRINCIPLES USED CAN BE APPLIED TO FORMULATE A POLICY FRAMEWORK TO REGULATE THE PROJECT MANAGEMENT PROFESSION

8.0 Do you think the Policy Framework used in RSA to regulate professions conforms to best practice as defined by the Public Procurement and Asset Disposal Act (2001) in Botswana, which shall include practices and standards as follows:

8.1 are safe and environmentally friendly

1	**2**	**3**	**4**

8.2 are innovative and increase efficiencies

1	**2**	**3**	**4**

8.3 save time and costs

1	**2**	**3**	**4**

8.4 relate to materials, processes, methods, designs, equipment, products, services and practices and

1	**2**	**3**	**4**

8.5 are defined and coded by internationally recognised contractors' associations and professional bodies in the concerned fields.

1	**2**	**3**	**4**

9.0 With reference to the White paper released regarding the statutory regulation of Built Environment Professions in RSA, the Minister made the following statement, "*……..the intrinsic value of professions lies in their role and function in socio-economic development…….professional expertise needs to be nurtured, professional standards need to be maintained and professional services need to be within reach of all communities*."

In your view, does this statement reveal that value perceived by the client in a profession is expressed through recognition of its benefits contained in the services offered and the need to regulate the profession to meet the desired end goals?

1	**2**	**3**	**4**

10.0 **PRINCIPLES UNDERLYING THE POLICY FRAMEWORK TO REGULATE PROFESSIONS IN THE BUILT ENVIRONMENT**

10.1 The ministry on behalf of government recommends the need to regulate the professions through legislation in order to improve professional competency, does this reveal that the government as the major client in the Built Environment, recognises that the benefits derived from the services of the profession need to be regulated to attain value?

1	**2**	**3**	**4**

10.2 Recognising the significant role that the professions play in development of national projects towards their successful implementation requires co-ordination of the services of the different professions, does this highlight the value proposition that states that the client needs to understand the quality characteristics inherent in a product or service offered by the supplier in order to measure value?

1	**2**	**3**	**4**

10.3 Identification that regulation of professions can promote an environment in which competition is stimulated, does this reveal the understanding that the value is relative to competition necessary to deliver a better combination of intrinsic quality attributed in a product or service?

1	2	3	4

10.4 Identifying that through regulation of professions, minimum competence requirements to provide professional services can be identified, does this identify with the value proposition that perceived value is as a result of the comparison between perceived performance and one or more comparison standards such as expectations that can be documented and tested?

1	2	3	4

10.5 Identifying the role of voluntary societies play in serving the interests of the professions by promoting the art, science and development of the professions, does this entail that the client understands the value proposition that notes that value of the same service is perceived differently by other stakeholders and in order to attain value different views of value perception from others should be considered?

1	2	3	4

10.6 Recognition that the practice of professions is dependant on a specialised body of knowledge and skills that require appropriate education and through the establishment of a statutory council to monitor and evaluate this standard for the expertise required can

regulate the profession, does this reveal that understanding the quality composition in services in terms of expertise provided by the profession can guide buying behaviour of client in terms of policy formulation?

1	2	3	4

11 IDENTIFICATION OF PERCEIVED VALUE DIMENSIONS OF PERCEIVED BENEFITS EXPRESSED AS "QUALITY RELATED ASPECTS" THROUGH THE FUNCTIONS OF THE STATUTORY COUNCIL

11.1 The White paper reveals that the various statutory councils for the professions established where charged with the responsibility to ensure that quality is attained, in your view do you think the functions stated below are related to the benefits expressed as quality related aspects of the profession?

1	2	3	4

11.1.1 Setting professional competency standards within the framework of South African qualifications Authority in order to provide a

formal basis for the objective judging of the suitability of a particular person to undertake specific work.

1	**2**	**3**	**4**

11.1.2 To administer registration of individuals in a profession in order to uphold standards that are locally appropriate and internationally acceptable

1	**2**	**3**	**4**

11.1.3 Reservation of certain functions of the profession necessary to ensure quality standards are maintained in the interest of the public.

1	**2**	**3**	**4**

11.1.4 To define minimum standards of behaviour expected of professions to maintain acceptable norms in the interest of the public.

1	**2**	**3**	**4**

12 IDENTIFICATION OF PERCEIVED VALUE DIMENSIONS OF PERCEIVED SACRIFICES EXPRESSED AS "PRICE

RELATED ASPECTS" THROUGH THE FUNCTIONS OF THE STATUTORY COUNCIL

12.1 The White paper notes that it is important that guidelines on appropriate fees for professional services be available to assist both parties when drawing up agreements between clients and service providers and this to be the responsibility of the statutory council. In your opinion, do the following functions of the statutory council reveal that the client perceives that remuneration is a function of perceived value that reflects value added to a project and requires to be regulated?

12.1.1 To publish guideline fees

1	**2**	**3**	**4**

12.1.2 Development of guidelines, updated on a regular basis

1	**2**	**3**	**4**

13.0 In your professional opinion do you think the above principles reflect the following?

13.1 Customer-perceived value concept is in deed the basis on which value inherent in a profession can be established?

1	2	3	4

13.2 The value established above can be interpreted to formulate principles necessary for a policy framework that could be used to regulate the profession in order to achieve stated goals

1	2	3	4

13.3 Statutory Regulation of project management profession is inevitable in Botswana to overcome the problems associated with project implementation through a policy framework that incorporates value perception of the client regarding the services offered by the expertise.

1	2	3	4

13.4 Establish a statutory council with the responsibility to ensure that the value perceived by the client in the project management profession is nurtured and maintained in terms of expected quality standards and remuneration for the services offered.

1	2	3	4

13.5 Recognition of the value perceptions of other stakeholders such as voluntary associations that represent the interests of the project management profession supportive to achieve national goals in terms of implementation of public construction projects is in evitable.

1	2	3	4