

## Services Marketing within South African Engineering Enterprises: A Comparative Study of Theory and Practice

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**Abstract**--South African enterprises that provide engineering services have a multi-industry scope contributing significantly towards South Africa's GDP. This motivates the need to gain an insight into the marketing of engineering related services such as that of engineering consultants.

Knowledge of services is dispersed across different disciplines resulting in inconsistencies between the definitions of services amongst different disciplines [1].

It would appear that the marketing strategies of engineering services enterprises in South Africa do not necessarily consider and articulate the services value proposition of the engineering enterprise as a service system entity. The primary objective of this research is to determine whether the marketing strategies that prevail in engineering services enterprises in South Africa are built upon a service science system foundation as described in literature.

The research field known as Service Science Management and Engineering (SSME) has been established to integrate service research across disciplines. A knowledge framework that conceptualises services marketing approaches described in literature is presented and contribute towards the integrated service research body of knowledge. The knowledge framework is then compared to the mental model as articulated in engineering services enterprises in South Africa.

A descriptive narrative inquiry research methodology is used to conduct the research. Discrepancies between the mental models pertaining to services marketing strategies as articulated in engineering services enterprises are highlighted by comparison to the knowledge framework of service marketing.

### I. INTRODUCTION

The global economy has progressed from a primarily production based economy to an experience based services economy consisting of both consumer and business services [6].

It has become increasingly evident in recent years that services enterprises contribute significantly to both the global and local South African Gross Domestic Product (GDP). In analysing South Africa's most recent GDP data, it appears that services industries contribute as much as 62% towards South Africa's GDP [15].

This research will be specific to engineering services as an element of services industries in South Africa. According to the ISC classification guide, engineering related services are considered a sub-element of ISC code 8 (Financial intermediation, insurance, real estate and business services).

It could be argued that the GDP contribution from engineering services are also dispersed across other industries such as mining and construction. It is therefore proposed that the contribution of engineering services towards South

Africa's GDP is approximated to the total contribution of ISC code 8 namely 19.5% for 2014.

The above mentioned significant contribution motivates the need for gaining an insight into the marketing of engineering enterprises.

One implication of the dispersed knowledge of services across different disciplines is that inconsistencies between the definition of services amongst different disciplines such as marketing, and engineering exist [1].

The following definition of services supports the notion that services need to be approached from a systems perspective [1]: "Services are the application of specialized competences (knowledge and skills) through deeds, processes and performances for the benefit of another entity or the entity itself".

A literature survey on the marketing of services indicate that there is a clear distinction between marketing strategies applicable to services as opposed to those applicable to products [7].

A preliminary literature survey reveals that a mindset change in the marketing of services has occurred to some extent in recent years. Enterprises need to constantly adopt their market orientated business strategies according to customers' needs and their perception of value [12].

The primary objective of this research is to determine whether the marketing strategies that prevail in engineering services enterprises in South Africa are built upon a service science system foundation as described in literature.

The primary objectives leads to questions that result the following subsidiary research objectives

1. How is the concept of services articulated in literature ?
2. How is marketing strategies pertaining to services described in literature ?
3. How does the taxonomy of services marketing strategies fit into a knowledge framework ?
4. How do engineering services enterprises in South Africa articulate their service value offering in terms of a business model ?
5. How do engineering services enterprises in South Africa understand services in general ?
6. How do engineering services enterprises in South Africa articulate their marketing strategies?
7. What knowledge gaps exist between the theoretical knowledge framework of services marketing and the way engineering services enterprises in South Africa articulate their services marketing strategies ?

## II. PROPOSED CONCEPTUAL METHOD

As mentioned a literature review was done in order to develop a conceptual framework for the existing theory around the marketing of services.

Based on this literature review it is proposed that a conceptual knowledge framework for the marketing of services consists of three dimensions namely:

1. The enterprise's business model description of service
2. The context of service definition
3. The marketing approach

## III. RESEARCH METHOD AND APPROACH

A literature study will be conducted to determine existing paradigms of services marketing and how these paradigms can be described in a knowledge framework. The research is therefore theory building research. Following this a narrative enquiry will be conducted with the objective of determining whether engineering services enterprises in South Africa conceptualise their services from a service systems approach. This narrative enquiry will be conducted by means of interviews with various stakeholders in South African engineering services enterprises to ascertain whether the trends emerging from the narrative enquiry are aligned with the theory researched.

The teleological type of research will be of analytical descriptive nature and qualitative data will be gathered by means of a literature study as well as a narrative enquiry.

The results obtained by means of a narrative inquiry research methodology will not be generalised.

## IV. KNOWLEDGE FRAMEWORK DEVELOPED FROM LITERATURE REVIEW

### A. Context of Service Knowledge

Since service industries increasingly developed and contributed towards the GDP of most developing and developed economies in recent years, the focus on services research has broadened in scope. Subsequently, both the context and conceptualisation of the services realm have evolved [3].

A sequential overview of how the concept of services have developed in literature is described below.

#### Stage One

During the first period of research prior to the 1980s, services were separated from products in terms of marketing and operations. Shostack's [14] proposed goods-services continuum affirms this view. The goods-services continuum is clearly aligned with the notion that services comprise of "a deed, a performance or an effort" as articulated by Rathmell in 1966 [7]. Building on the imprint that services are different to products, literature clearly distinguished service organisations from manufacturing organisations [13]. Subsequent research logically deduced that services

marketing strategies are different to that of product marketing strategies.

#### Stage Two

Traditional engineering enterprises that manufacture products have been finding themselves in an environment where their customers require not just transaction orientated products, but relationship driven services [19].

Manufacturing and operations research paradigms seem to suggest that services need to be combined with products thereby adding value to the manufactured product [10]. This practice is known as "servitization" and is described by Vandermerwe and Rada as follows, "modern corporations are increasingly offering fuller market packages or "bundles" of customer-focussed combinations of goods, services, support, self-service, and knowledge. But services are beginning to dominate. This movement is termed the 'servitization of business'" [21].

A key consequence of servitization is that traditional manufacturing companies need to change their way of thinking towards a business solution (or value offering) that is offered in response to a customers need [18].

One of these changes include a move away from transaction orientated operation towards a services relationship with customer [18].

#### Stage Three

The third phase of services research builds on the notion of servitization by re-examining the goods-services continuum context. Goods are a mechanism for delivering/providing services [17]. They therefore define services as "the application of specialized competences (knowledge and skills) through deeds, processes and performances for the benefit of another entity or the entity itself." It can be concluded that goods act as a medium for services to create value. With the aim to propose a consolidated view of services and the associated complexities IBM and Cambridge University Institute for manufacturing define service systems as "a dynamic value co-creating configuration of resources (people, technology, organisations and shared information)" [11]. Based upon the argument that various notions of services exist across the disciplines of marketing, operations and computer sciences, [1] proposes a service system for conceptualising services.

The key output of this phase of services research is that services are conceptualised as systems that take on the form of networks consisting of interacting elements. .

#### Stage Four

Towards 2008 the inter-connectedness of service system via relationship networks was well-established. Additionally, the logic of opposing services to products was gradually being replaced by Service-Dominant (SD) Logic. This logic is built on the premise that service needs to be contextualised as the value co-creation when service systems (consisting of various elements) interact to deliver value. In other words,

service-dominant logic reasons that service involve both things and actions. Although the worldview of services had evolved to service-dominant logic, service research areas remained in isolated disciplines such as service marketing, service operations, service economics and service systems. It was therefore proposed that a new field of research is established in order to consolidate isolated service research areas. This field of research is known as Service Science Management and Engineering (SSME) and aims to ultimately integrate service research across disciplines in order to address the challenges faced in the world of services.

*B. Theory on the marketing of services*

The characteristics that describe services and distinguish services from products have a direct bearing on the marketing of services and more specifically how the marketing of services differs from the marketing of products. Research on marketing strategies that are applicable to services is predominantly contained in the Marketing Research discipline.

The Marketing Research disciplines is a discipline that aim to deliver business strategies that are market orientated. The objective of these strategies are to satisfy customer needs and expectations by means of marketing as a process that relate to the marketplace.

One of the initial cornerstones of services marketing research is the services marketing triangle as first proposed by Grönroos in 1990 [7]. The services marketing triangle as shown in figure 1 consists of three key components that are linked by three services marketing strategies as follows:

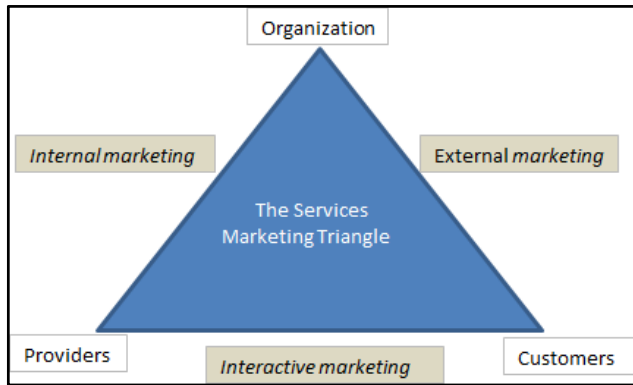


Figure 1 The Services Marketing Triangle Source: Fisk, Grove and John [7])

External marketing (from the organisation to the customer) has traditionally been based on a framework known as the 4Ps Marketing Mix and is conventionally seen as the dominant marketing management paradigm [4]. The 4Ps refers to Product, Place, Price and Promotion. Constantinides [4] contend that in the marketing of services 3Ps need to be added to the 4Ps of the marketing mix resulting in 7Ps. These are Participants, Physical Evidence and Process.

Marketing strategies described in literature by Borza & Borza (2014:240) state that the traditional external marketing strategies applied in companies predominantly consist of the traditional 7P strategies alongside digital marketing strategies such as search engine optimization, e-mail marketing and online advertising. In their research Ettenson, Conrado and Knowles [5:p.26] only refers to the 4Ps marketing mix as applied in B2B (business-to-business) environments. Their research has shown that marketers in B2B environments using the 4Ps marketing mix paradigm still focus on product technology and quality and not on emphasising the value of solutions.

Ettenson et al. [5:p.26] proposes an alternative to external services 4Pmarketing strategy due to the reason stated above. The framework is referred to by the acronym SAVE which replaces the 4Ps framework and shifts focus from products to solutions, as reflected in the table below.

The most recent definition of marketing as per the American Marketing Association is as follows: “Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large” [2].

This definition emphasizes quite a few important elements that relate to this specific marketing domain. Of particular importance is the emphasis on the fact that any offering that is exchanged/delivered needs to be of value to the receiver thereof (i.e. the customers, clients, partners and society at large). A critical attribute of an offering’s value as perceived by the receiver thereof is the quality of the offering versus the cost thereof [13].

The diagram in figure 2 illustrates how an offering’s perceived quality relates to a customer’s experience and expectation of the offering.

TABLE 1 DIFFERENCE BETWEEN 4PS MARKETING MIX AND SAVE FRAMEWORK (ETTENSON ET AL., 2013)

4Ps	SAVE	DESCRIPTION
Products	Solutions	Shift focus from attributes of a product to solutions offered to consumer
Place	Access	Physical place has become irrelevant in the e-commerce age. Consumers want to access entire service solution at any time
Price	Value	Focus on value provided by solution offered to customer
Promotion	Education	Provide useful information to in marketing content

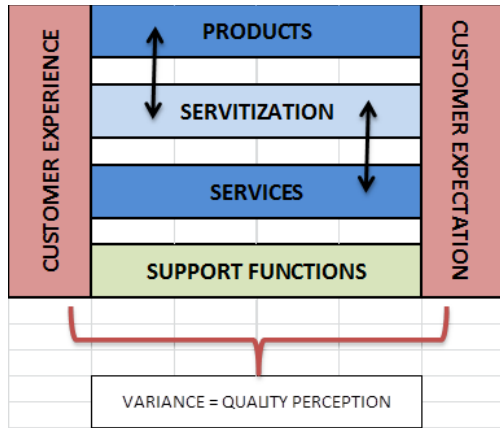


Figure 2 Quality perception and Customer Value Source: Weeks

Figure 2-4 aims to illustrate that a customer has a specific expectation of the product and/or service offering or that will be received/experienced. Once the customer experience or use the service and/or product, the customer formulates a perception of the offering's quality [13].

Research conducted by [18] suggest that customer relationships become increasingly important as a company's activities become more services and less product orientated. With a service-dominant logic in place it can further be reasoned that relationships formed during the service encounter is a key contributor in the customer's perception of a company's value offering.

An overview of services research and the marketing strategies related to services have shown firstly, that the conceptualisation of services has evolved in stages and secondly, that services marketing strategies as a result has developed from different approaches.

Three predominant marketing approaches that are found in literature are:

- i. Separating products from services (Marketing mix approach)
- ii. Service systems creating value
- iii. Relationship marketing

*C. Services Marketing Theory and the Cynefin framework*

The theory of Complex Adaptive Systems (CAS) provides an appropriate perspective for understanding and relating the complex issues emerging from systems and hence the existing body of knowledge related to service marketing. Weeks and Benade [19] contend that Complex Adaptive Systems encompasses more than one theoretical framework and is by nature highly interdisciplinary. It is furthermore argued that CAS theory provides a complementary point of view to the traditional systems view.

The current mental models that exist in engineering services enterprises in South

Africa pertaining to the marketing strategies of services will be assessed by means of a narrative enquiry, Results from this narrative enquiry will be compared to a knowledge

framework describing existing theory pertaining to the marketing of services as studied by means of a CAS theory approach. The Cynefin framework will provide the capability to articulate the potential discrepancies between mental models related to services marketing strategies of engineering enterprises in South Africa and the existing body of knowledge related to the marketing of services. This framework consist of five contexts defined by the nature of the relationship between cause and effect of various issues under discussion (Snowden & Boone, 2007:70). The diagram below depicts the 5 contexts (also referred to as domains) in terms of their respective sense-making and decision making models.



Figure 3 The Cynefin Framework (Snowden & Boone, 2007:70)

The constructs of the Cynefin model's five domains are briefly described below

TABLE 2 THE CYNEFIN FRAMEWORK DOMAINS

DOMAIN NAME:	BRIEF DESCRIPTION
<b>Simple Domain</b>	The relationship between cause and effect is linear and obvious
<b>Complicated Domain</b>	In this domain there is a clear relationship between cause and effect which can be derived by means of research and analysis.
<b>Complex Domain</b>	In this domain cause-and-effect relationships cannot be detected in real time but can rather be discovered in retrospect and is therefore emergent.
<b>Chaotic Domain</b>	The relationship between cause and effect does not follow a pattern and can therefore not be predicted [19].
<b>Disorder Domain</b>	The relationship between cause and effect does not follow a pattern and can therefore not be predicted [19].

The different services marketing approaches discussed above can be placed in a sense-making framework by means of the constructs of the Cynefin model's five domains.

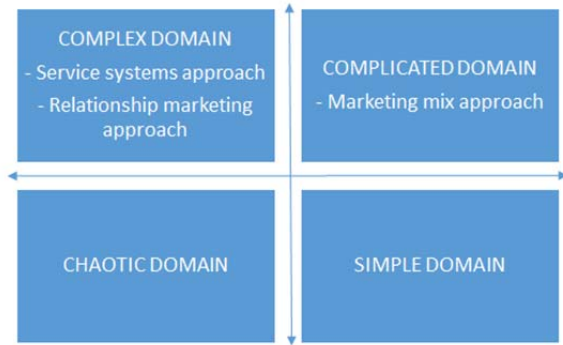


Figure 4 Cynefin Framework of Marketing Strategies

As discussed, a predominant approach to services marketing strategies relies on the presumption that services and products are separate value creating entities.

Marketing strategies in this construct is dominated by the marketing mix (4P) model or derivatives thereof (such as 7P and SAVE). From a sense-making perspective it can be contended that this approach to services marketing relies analysing information such as sales data and the customer’s perception of quality [4].

The marketing mix strategies discussed above clearly belong to the complicated domain of the Cynefin framework. In this domain specific effects of causes are not directly known but can be obtained by means of analysis [19].

As discussed earlier, the service systems approach towards services marketing moves away from separating products from services. This approach focuses on “...creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large” [2].

This marketing approach acknowledges the simultaneity of services and the implication that a value offering is created and consumed at the same time. Since cause and effect relationships in this approach to services marketing is emergent and can only be perceived in retrospect after the value offering is created and consumed, it is contended that the service systems approach to services marketing belongs to the complex domain of the Cynefin framework.

Relationship marketing is a third approach towards services marketing and is built on the foundation of Service-Dominant (S-D) Logic. The emphasis of this approach is to establish and sustain customer relationships in order to create value. It can be argued that decision making in this approach to services marketing relies on the response to patterns that emerge. The emergent properties of relationship marketing also places this approach in the complex domain of the Cynefin framework.

*D. Business Models*

In order to understand specific engineering services enterprises and their respective marketing strategies, it is necessary to firstly understand how the enterprise is put together and functions.

Business models will be used as a tool to understand the respective engineering services enterprises that are studied. Various types of business models are described in literature. Magretta [12] argues that all business models essentially describe variations on the generic value chain that underlies all businesses.

Gassman et al [9] propose that the business model of a company needs to describe a holistic view of the business by combining both internal and external factors. The research further contends that a business model needs to describe how the business interact with its environment to create and capture value for stakeholders.

The diagram below depicts the generic definition of a business model.

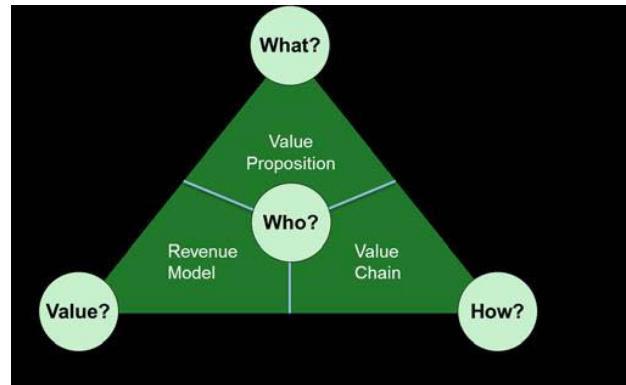


Figure 5 St. Gallen Business Model [9]

V. RESULTS

The narrative inquiry was conducted by means of semi-structured interviews consisting of open ended questions that would facilitate a dialogue through which participants’ experiences and mental models could be collected.

Interview questions were constructed in order to compare existing mental models to the conceptual knowledge framework of services marketing (figure 2.8) derived from literature.

The research questions that form part of the narrative inquiry were designed to test the three elements of the conceptual framework as follows:

**Dimension 1: The business model of service**

This dimension of the contextual knowledge framework was tested by asking descriptive and open-ended questions pertaining to the enterprises’ business model.

**Dimension 2: Context of service definition**

The second dimension of the contextual knowledge framework was tested by exploring how respondents understood and contextualised services.

**Dimension 3: The marketing approach**

The third dimension of the contextual knowledge framework was tested by inquiring what approach is taken towards the marketing strategy of services.

The open-ended research questions posed during the narrative inquiry are related to this study’s objectives as follows:

TABLE 3 RESEARCH QUESTIONS AND SUBSIDIARY OBJECTIVES

Research Questions	Subsidiary Objectives
Question 1 – How would you describe the value offering of your enterprise in terms of its primary activities?	1. How do engineering services enterprises in South Africa articulate their service value offering in terms of a business model
Question 2 – What is your target market and how do you segment your customers?	
Question 3 – How would you describe engineering services in general?	2. How do engineering services enterprises in South Africa understand services in general
Question 4 – Do you have a specific marketing strategy in place and how would you describe it?	3. How do engineering services enterprises in South Africa articulate their marketing strategies?
Question 5 – Do you see the need to adapt your marketing strategy and if so under which circumstances?	
Question 6 – What is the importance of relationships in your marketing strategy?	

The representative role of each respondent and enterprise included in this study is shown in the table below:

TABLE 4 REPRESENTATIVES INTERVIEWED

ENGINEERING ENTERPRISE	RESPONDENT	REPRESENTATIVE ROLE
Enterprise 1	Respondent A	Managing Director and Owner (Engineer)
Enterprise 2	Respondent B	Senior Management (Engineer)
Enterprise 3	Respondent C	Director (Engineer)
Enterprise 3	Respondent D	Professional Engineering Consultant(Engineer)
Enterprise 5	Respondent E	Marketing Communications Leader (Marketing professional)

**Findings: Subsidiary Objective 1**

The way in which respondents describe the building blocks of their business in relation to value proposition, their revenue model and reference made to their value chain will be highlighted.

Respondent A described how enterprise 1’s business model in terms of how it delivers a full service to customers by giving the customer specific expertise on civil engineering litigation.

By descriptively analysing the narrative interview with respondent B, it can be concluded that a key value-add of the enterprise is their ability to adapt their service offering to specific customers by using their core capabilities. Respondent B argued that different value propositions are relevant per customer which implies that the emphasis placed

on certain core capabilities varies according to the specific solution provided.

Enterprise 3’s business model was described by Respondents C and D as an integrated service solution built upon their technical capabilities that range across many areas of specialisation. The end result is that their value proposition is to provide customers with an entire solution that address their need for a “one-stop shop”.

Respondent E concluded that the enterprise does not have one single value offering but rather aims to firstly understand each key client’s needs and secondly anticipate what needs the client may have that they are not aware of such as their client’s needs.

**Findings: Subsidiary Objective 2**

Responses to question 3 revealed that the various engineering services enterprises studied generally contextualise services in different ways.

Respondent A clearly distinguished services from products by opposing a physical structure as a product to customer satisfaction as a service. The description of engineering services relayed by respondent B highlights the fact that enterprise 2 follows an integrated approach in developing an engineering service solution.

Enterprise 2 therefore contextualises services from a service systems perspective.

As mentioned the narrative with both respondents from enterprise 3 indicated that services are viewed from a service systems perspective due to the enterprise’s specific focus on providing a service as a solution to a customer’s needs. The complex nature of services is highlighted by respondent 3 which confirms enterprise 3’s position within stage three of services knowledge conceptualisation.

According to respondent D enterprise 4 provide both services and products in an integrated way as a solution to specific customer needs. The enterprise is structured in such a way that a services relationship can purposefully be established with the customer. It can therefore be deduced that enterprise 4 is placed within stage 2 of the services knowledge context namely servitization.

**Findings: Subsidiary Objective 3**

Responses related to enterprise 1’s marketing strategy revealed that the enterprise does not have a specific marketing strategy in place. Respondent A particularly emphasized the great importance of establishing and maintaining professional relationships with customers as well as other enterprises in the industry that may potentially be future collaborators in offering services to customers.

The marketing strategy deployed by enterprise 2 is based on two elements. The first element of the marketing strategy is to continuously promote and explain their unique engineering services offering to the marketplace via the correct forums and by making use of existing relationships in the industry. The second element of enterprise 2’s marketing strategy is to cultivate quality relationships with customers

that are built upon trust and proven capability. Enterprise 2 adapt their marketing strategy according to the unique circumstances of each specific industry that they aim to provide their service to.

The response on marketing strategy from enterprise 3 revealed the fact that the enterprise perceive marketing strategies as a concept related to promoting their brand and service to the general market via media channels such as their website.

Enterprise 3 rather focuses on business development by responding to government tenders and leveraging of existing relationships to generate business.

Enterprise 4 similarly distinguishes marketing management from the selling of their service offering. Marketing management is associated with the broader reputation of the enterprise in the industry whereas selling activities are described as the relationships that are developed with the customer for whom a targeted level of engagement is designed according to set standards.

The critical role that customer relationships play in promoting and selling engineering services were emphasized by all respondents.

## VI. CONCLUSIONS AND RECOMMENDATIONS

Narratives on the business models of enterprises researched revealed that enterprises have different views on what constitutes a business model. This finding is confirmed in literature which highlights that there is often a confusion around the difference between a strategic and business model. In addition to this there is no consensus regarding what the components of a business model is.

Three of the five respondents described their enterprises' business model by relating which service offering they generally provide to customers and what their specific fields of expertise were. None of the respondents related how revenue is captured when describing their business model.

The narrative inquiry indicated that the general understanding of services in engineering enterprises researched are underpinned by a Service-Dominant (SD) Logic to a great extent.

There is a tendency towards promoting a pre-defined value proposition based on a generally perceived customer need. Enterprises seem to assume that all customers want a total end-to-end engineering service solution which may not always be the case. Some customers may prefer to have multiple suppliers of engineering services. Two of the respondents referred indirectly to the goods-services continuum when describing their interpretation of engineering services in general.

The critical need for establishing and sustaining relationships with customers were very clearly described in all narratives. The enterprises researched seem to regard customer relationships as important for different reasons. Respondents from two of the four enterprises placed value on relationships due to the fact that established relationships will

result in customers requesting their service in future. One enterprise have very specific guidelines on what level of engagement and what structure is behind maintaining relationships with existing customers. This eludes to the fact that the enterprise make use of relationships to enhance customer satisfaction which in turn will secure business from the customer in future. The paradigm of customer relationships present in the three enterprises mentioned above does not indicate that a relationship marketing strategy is used to relate to the marketplace

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