

## TOWARDS DESIGNING A SUSTAINABLE IS-ENABLED SERVICE DELIVERY SYSTEM

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### Abstract

*This paper aims to bring into focus the concept of service sustainability. The normative literature advocates that services by companies, government institutions and service delivery are still posing great challenges to many organizations in this digital age. In highlighting the distinctive feature of service innovation, businesses will be able to maintain competitive advantage. In examining the literature on the service concept, successful companies have the customer at the forefront of their business strategy. As a result, the authors formulate suggestions on the most effective way an organization and the people concerned, can recast strategic thinking. to anticipate and adapt to ever increasing changing service environment.*

*The contribution of the study is an IS-enabled Service Delivery Model (SDM) that places customer and staff as an integral part of the service delivery system with managed interactions and continuous quality control. This intends to support practitioners and researchers which could provide the former useful means of conceptualizing service, and raises an important issue to the latter in revisiting service quality research.*

**Keywords:** Service, Customer, Innovation, Sustainability, Quality.

### 1 INTRODUCTION

The advancement in Information and Communications Technology (ICT) and Internet Technology (IT) has created so many opportunities and considerable challenges for senior management in general, and the service industry in particular. Nowadays, there is a major interest in the service sector especially when government and its associated agencies are moving into the digital domain such as eHealth service, eGovernment service and so on. Hence, services are becoming a key focus in management education as, increasingly, employment and wealth generation in industrialized countries moves from making things towards the provision of services (Hollins and Shinkins, 2006). Furthermore, organizations worldwide are changing rapidly in providing services and new products in various industries which are undergoing a steady growth. Despite this alarming growth, there is still a lack of profound understanding of the natural mechanism of this service industry. Many researchers consider services to be activities, deeds or processes, and interactions (Solomon et al., 1985; Lovelock, 1991; Zeithaml and Bitner, 2003; Vargo and Lusch, 2004).

It is without a doubt that services dominate the economies of the world's most advanced nations as well as other fast-growing and developing nations. As companies and nations recognize and respond to the challenges, we

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believe there will be an increasing push to be competitive through service(s). Another way to think about service innovation is to consider changes in the customer's usage or co-creation roles. Frameworks for understanding customer-focused service innovation are just beginning to develop. Indeed, only recently a study of the implications of the organization of managing service was getting underway (Berry et al., 2006; Bitner and Brown, 2008).

Perhaps a major reason for this neglect is probably due to the fact that the terms 'service', 'service firm', 'service industry', are not well-defined concepts. To many people, services mean personal services such as auto-repair, dental surgery, legal work and consulting. Every discussant of service industries defines the boundaries of service industries (as opposed to manufacturing industries) by using one of a number of classification schemes. Many managers of a service business are aware that the strategic management of service business is different from that of manufacturing businesses. Therefore, understanding the basic nature of the service organization is the key to effectiveness (Thomas, 1978).

Levitt (1960) argues that market definitions of a business are superior to product definitions of a business. Whereby, a business must be viewed as a customer-satisfying process, not a goods producing process. Products are transient, while basic needs and customer groups endure forever. Interestingly, he cites the example that a horse- carriage company that goes out of business as soon as the automobile is invented. However, if the same company defines its business purpose as that of providing transportation, it will be able to switch from making horse carriages to making cars. Therefore, Levitt encouraged companies to shift their business domain definition from a product focus to a market focus and apply the latest studies to advancement of strategies.

Notwithstanding the fact, there are still many people in industry who question the need for theory in any but the scientific areas, disregarding the fact that firms such as International Business Machines (IBM) which deliberately seek out and cultivate new theoretical studies tend to be amongst the most successful of businesses, even when theory is applied only in a rudimentary form. As it is up to the individual managers and decision makers to learn to interpret and understand the theory so that they can apply it to the business as a practical common sense. Needless to say, the authors are aware of the fact that it is difficult to pick out which aspects of theory are particularly applicable to the functions and business situations.

Issues involving strategic information systems and services are complex and there is a need for simple and workable frameworks to aid executives and planners. The work described in this paper discusses the derivation of an IS-enabled sustainability framework that leads to the identification of firm-specific IS opportunities.

The purpose of this paper is to explore the vast array of questions relating to the service concept encounter design, development and deployment of new service technologies. This paper presents both issues and opportunities for research in working towards developing sustainable service system. The paper is developed as follows: first, we introduce the concept of service using molecular approach. We believe that these are essential to understanding the service phenomenon. Then we discuss how the link between the service organization and the customer can be analyzed. Finally, we conclude the paper with reference to opportunities that apply to a sustainable service and the challenge facing organizations in keeping up with customer expectations.

## 2 RELATED LITERATURE REVIEW

The differences between goods and services have for a long time been the subject of heated debates between academics and practitioners. Probably, the most important difference to be identified is the greater intangibility of services (Rushton and Carson, 1985; Zeithaml, V. et al. 2006; Bitner and Brown, 2008). As Cowell (1984) points out, it is "similar to the neglect that industrial marketing once received". Indeed, there is a growing literature so far that can be used by service operators and marketers to enhance their business positioning and compete effectively in a dynamic and challenging market.

Shostack (1977) highlights the differences between "product" (tangible and can be possessed by consumer) and "service" intangible and can only be experienced by the customer. Moreover, the research demonstrated that there are no "pure" products or services, and has accordingly developed the concept of the molecular marketing model as a framework for analysing and designing services (see Figure 1). For services, Shostack's (1982) molecular model clearly meets the stated criteria. Notably, it explains observable phenomena in the marketing of services, for example, a computer system. It also provides a practical means of identifying and examining the elements of a service through the classification of tangible and intangible entities, and distinguishes the function of 'essential evidence'.

In general, services are deeds, processes, and performances (Lau, 2005). However, Gronroos (1990) incorporated other elements into the concept of service when he defined a service as "an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems". The broad definition of a service offered above suggested that intangibility is a key factor in deciding whether an offering is a service (Zeithaml, 2003). And measuring service quality is thus a challenging task—because the concept of service quality is inherently intangible in nature and difficult to define (Kandampully and Menguc, 2000).

Lovelock (1983) in his article, *Classifying Services to Gain Strategic Marketing Insights*, pointed out that developing classification schemes is not enough. If they are to have any managerial value, they must offer strategic insights. This led to conclusion that it is important to develop ways of analyzing services that highlight the characteristics they have in common, and then to examine the implications for implementation and marketing management. Furthermore, it provides a means of converting concepts into operational and replicable reality: for example, through using "blueprinting" technique. Figure 2, for example, shows the essential elements of an Information System as applied to the molecular structure model.

Bowen and Ford (2002) in an extensive literature review identify defensible differences between the management of organizations producing tangible goods and those producing intangible services. These differences relate to measurements used to assess effectiveness and efficiency, the differences in production strategies and the differences in production processes between organizations producing tangible goods and those producing intangible services.

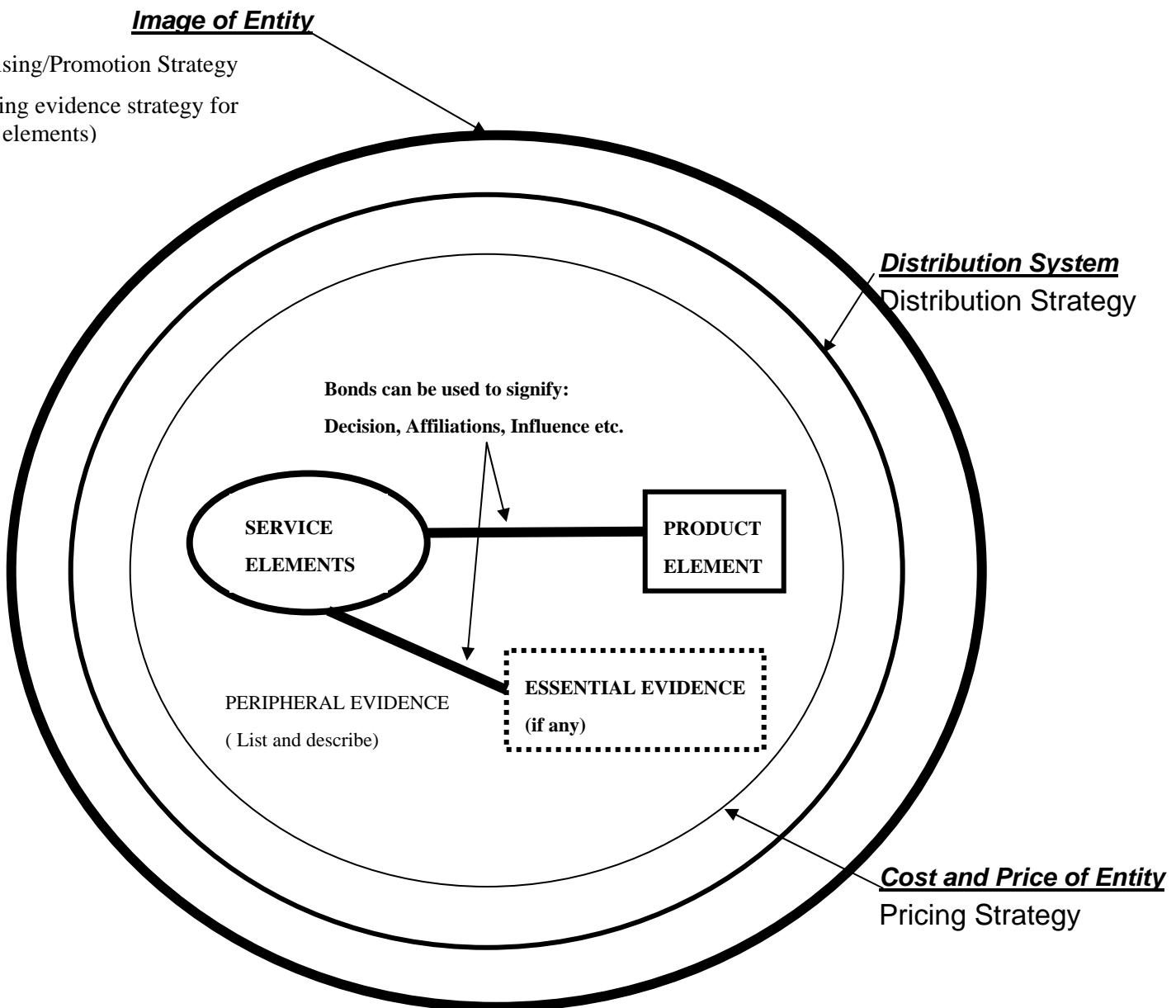


Figure 1. Component of completed Molecular Model, Shostack's (1982)

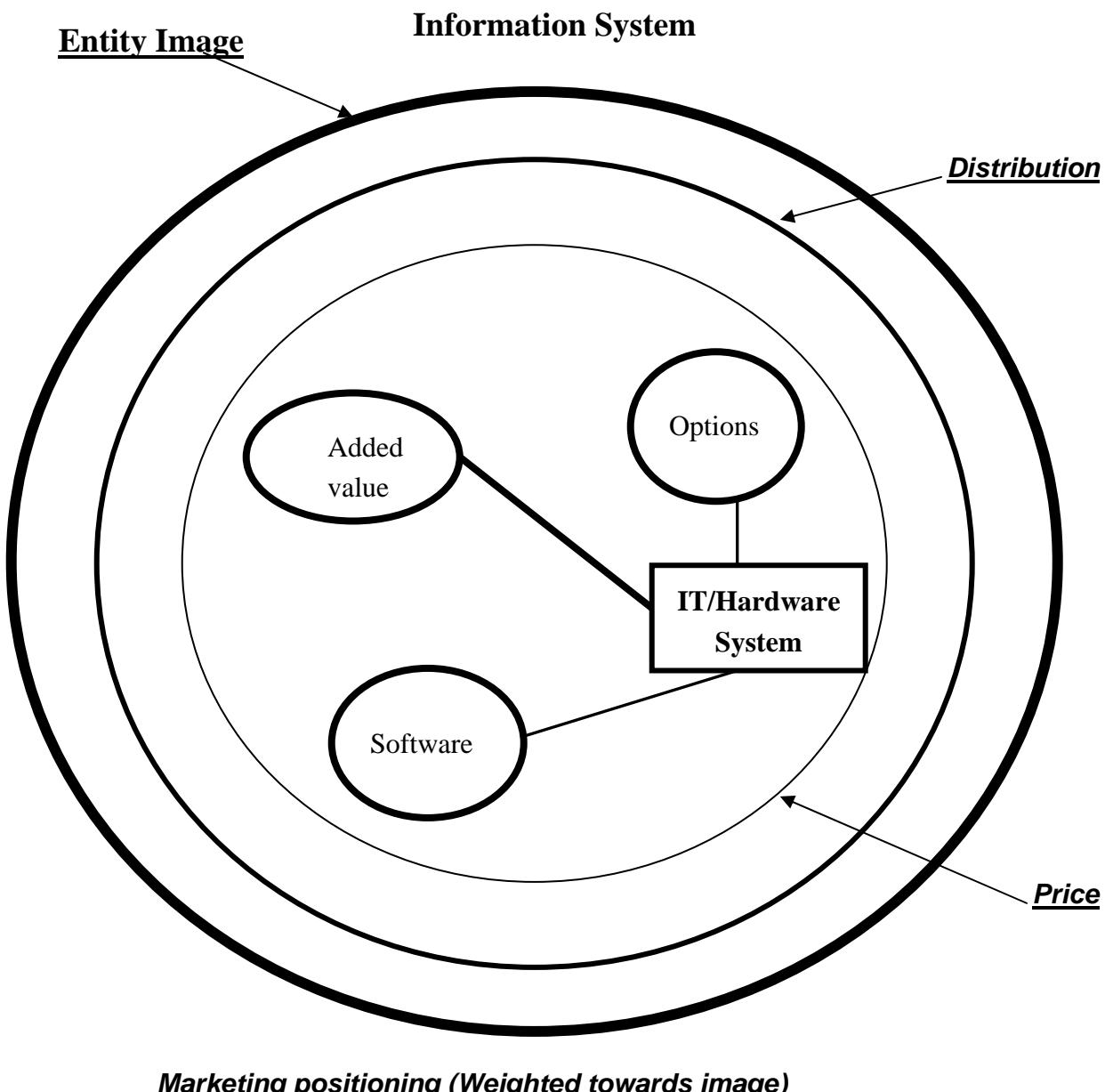


Figure 2. Component of completed Molecular Model, applied to Information system (Adapted from Shostack ,1982)

## 2.1 Service Quality as a Competitive Tool

"Probably the most important management fundamental that is being ignored today is staying close to the customer to satisfy its needs and anticipate customer wants. In many companies, the customer has become a 'bloody nuisance' whose unpredictable behaviour damages carefully made strategic plans, whose activities mess up computer operations, and who stubbornly insists that purchased products should work". (Lew Young, 1982).

Staying close to the customer, the successful companies learn from the people they serve. They provide unparalleled quality service, and reliability - things that will work and last. IBM's marketing vice-president, Francis G. (Buck as known by IBM colleagues) Rodgers, says "It is a shame that, in so many companies, whenever you get good service, it is an exception. Despite all the lip service given to the market orientation nowadays, Lew Young and others are right: the customer is either ignored or considered a nuisance. Hewlett-Packard (HP) and Dell, for example, pride themselves on their closeness to the customer. The authors strongly believe that excellent companies and forward planning organizations really are close to their customers. As other companies talk about it; the excellent companies do it! If we take International Business Machines (IBM) for example, its dominance sets on its commitment to service, especially, after sales service. In his book "A Business and Its Beliefs", Thomas J Watson, Jr., talks about the ideas that helped build the multinational successful company. He makes this point about service: In time, good service became almost a reflex in IBM ... Years ago we ran an advert that said simply and in bold type, "IBM Means Service". I have often thought it was our very best advert ever. It stated clearly just exactly what we stand for. We want to give the best customer service of any company in the world. IBM's contracts have always offered, not machines for rent, but machines services, that is the equipment itself and the continuing advice and counsel of IBM's staff and must be constantly in touch (Peter and Waterman, 1982).

To make sure it is in touch, IBM measures internal and external customer satisfaction on a monthly basis. These measures account for a large share of incentive compensation, especially for senior management. Employee attitude surveys are taken every ninety days, and a check is kept on employee perceptions of the way customer service is being maintained. IBM's total history is one of intense people orientation. Actually, in a service organization everybody tends to be a 'manager'. A recurring theme is that the customer forms a crucial part of the production or delivery system of a service, and to make the customer productive and efficient, it has to be managed. Thus, companies not only have to stay in contact with the customers and interact with them socially; but also have to 'manage' them as part of the production force to maintain the quality, satisfaction and hence business efficiency as well as profit abilities.

## 2.3 Quality Control and Feedback

Because the service offering is not (and often cannot be) easily standardized, the service provider cannot be sure that the service is being delivered in a manner consistent with the way it was originally planned and promoted. Service quality is not like product quality, which can be objectively measured and quantified; rather, service quality is an abstract and somewhat vague concept. The customers' perception of quality has thus been a major focus of studies of service quality (Yeh et al. 2007). Therefore, the manager of the service operation needs to know whether customer expectation that raised through service design, promotion, and pricing are being met by the actual service experience (see the Quality wheel in Figure 4).

Sureshchandar et al. ( 2001) identify critical dimensions of TQS namely: Top management commitment and visionary leadership; Human resource management; Technical system.; Information and analysis system; Benchmarking; Continuous improvement; Customer focus; Employee satisfaction; Union intervention; Social responsibility; Services; Service culture.

It is the authors understanding and firm believe that quality control can only be ensured through monitoring, observation and feedback. Procedures should be set up to do this on an ongoing basis. A measure of whether customers feel adequately served, that is, a measure of customer satisfaction appears particularly appropriate in terms of justifying the existence of the service business. Additionally, there are other reasons to attach particular importance to customer service satisfaction, of which is the company's corporate image.

The corporate image seems to be very important to a service company, because the customers almost always get in touch with the firm. The image is part of the accessibility and one of the very first things the customers may think about. A favourable image may be vital for the organization's attempts to attract customers, whereas an undesirable image may keep people away from even being interested in noticing other means of competition.

The personal communication and offering tasks performed by the personnel are bearers of the service as well as the resources influencing the accessibility. This is because the performance of the representatives of the firms are also an element of the service offering which brings out the intangible service to the market and can be considered by the customers instead of the service itself. Therefore, and it is the authors firm belief, that in order to maintain high quality of service requires creative workforce supported by innovative approach to service.



Figure 4. How Success Builds High-Contact Quality Services.

### 3 AN IS-ENABLED SUSTAINABLE SERVICE MODEL

The conceptual framework developed by Rushton and Carson (1985) for the position of services marketing proposes that marketing concepts and techniques are in a hierarchy of generalisation level. At the highest level of generalisation, there are general marketing theories, approaches and concepts of universal applicability. At the other extreme, there are situations, specific to marketing of such authors as Lovelock (1983) and Cowell (1984).

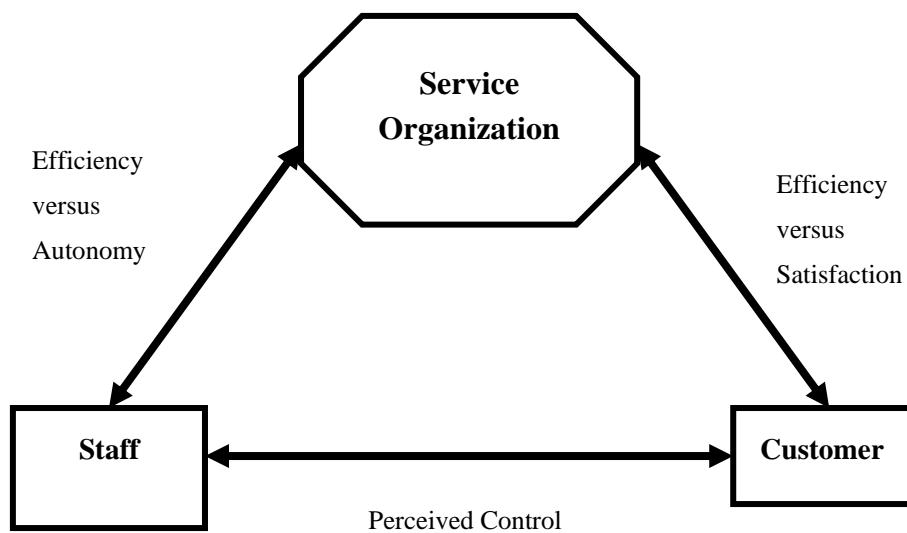
Recognizing the value of the attempt to develop ways of analyzing and developing services that highlight the characteristics they have in common, and then to examine the implications for implementation and service management. Lovelock (1983), for example, developed five classification schemes reflecting their potential for affecting the way service management strategies are developed and implemented. Each represents an attempt to answer one of the following questions:

1. What is the nature of the service act?
2. What type of relationship does the service organisation have with its customers?
3. How much evidence is there for customization and judgement on the part of the service provider?
4. What is the nature of demand and supply for the service?
5. How is the service delivered?

It should now be clear that many services are exceedingly complex phenomena which can be conceptualized in several different ways. It may be difficult to separate the service concept from the components of the management system since generally the customer evaluates everything that he/she experiences of the whole delivery system. For example, equipment repair and maintenance fall into the category of tangible actions; where the service directed at things rather than people and training falls into the category of intangible actions to people's minds. Even though it requires the customer's presence during services delivery, which in turn implies that customer's satisfaction with the service will be influenced by the interactions they have with the service personnel, the nature of the service facilities and by the characteristics of other customers using the same service.

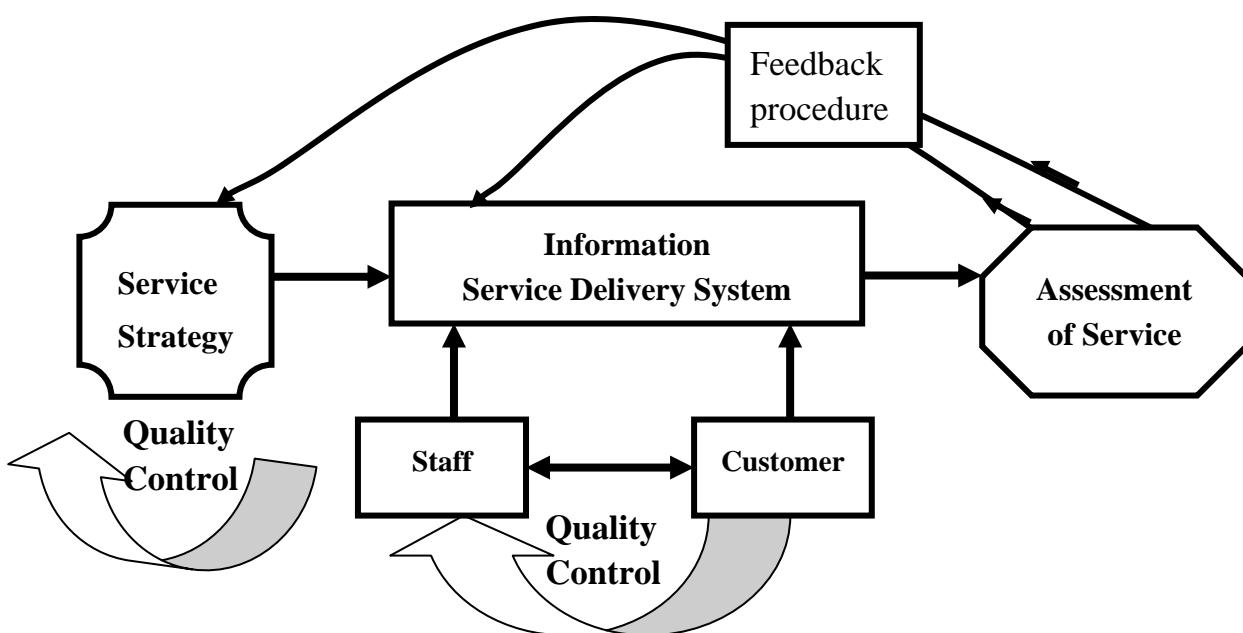
Some of the factors affecting customer's satisfaction may be out of the control of the service provider. Nevertheless, it is not impossible to influence them. However, it is necessary to identify the key determinants of success in a service business and to reflect them in the management, so that a system can first be reproduced and subsequently maintained systematically over a long period of time, without deterioration in quality. Bateson (1985) suggest that the service encounter may be viewed as a triad (see Fig. 5), with the customer and the contact personnel both exercising control over the service process in an environment that is defined by the strategy of the service organization. It is mutually beneficial for the three parties to work together to create an efficient service. It is further stressed that perceptions are the defining element of the service encounter. However, in the context of designing service systems, we often have not fully considered how these perceptions are formed. It is essential to focus on the underlying factors that determine how the service is perceived, and of at least equal importance, remembered. This facilitates the service organization to take control and better manage the customer's encounter. Furthermore, Cook et al. (2002) emphasise the human issues in service design. The importance of the contact personnel and staff in successful service organizations cannot be underestimated.

Ultimately, organizational change cannot take place without employees changing. The success of any customer-focused organization also depends on employees' acceptance of quality climate and culture. Considering the above context the developed triad has important implications for service delivery system design and management. The degree of fit between an organization's competitive priorities and its key decisions regarding service system design provides the key to developing the full potential of service operations as a competitive advantage and for sustained service.



*Fig. 5. The service encounter triad, (Bateson , 1985)*

Despite the debate surrounding the definition of sustainability (Pezzey, 1989; Costanza, 1991; Pearce and Atkinson, 1993); Costanza (1995) asserts that a sustainable system is one which survives or persists. In his conclusion, that what passes as definitions of sustainability are therefore associated with predictions of actions taken that will lead to sustainability. As a result of literature review and experience the authors suggest the following conceptual model which places the customer, along staff, as an integral part of the service delivery system (see Figure 6). The idea of customer satisfaction is really central to the delivery of a service for quality and performance. The business goal of an organization is to satisfy customers in some way, to meet some needs and wants. Moreover, to engage customers effectively this requires a range of iterative and integrated design processes such as: Information and service needs assessment; Technology needs assessment; Usability and functionality.



*Figure 6. A proposed high level IS-enabled sustainable service delivery model*

- ◆ Service Strategy: that needs to make changes, over long term, if they are to meet their customers' expectations and undertake improvement strategies to enhance their satisfaction.
- ◆ Interaction between staff and customer that is constantly monitored based on well defined quality procedure that will feed into the service delivery system.
- ◆ Assessment of service needs to adjust both their underestimation of their customers' expectations and their overestimation of their customers' perceptions. Quality control charts to indicate service level.
- ◆ Feedback procedure: on collecting information with a clear plan on how to feed into the service delivery system and the overall strategy of the organization.

### **3.1 Innovation in a Service Business**

Innovations in services have led to the greatest level of growth and dynamism over the past several years in terms of economic activity (de Brentani, 2001; Hollins, 2006). The successful business as a whole has to differentiate and eliminate the confusion between creativity and innovation. The trouble with much of the advice business gets today about the need to be more vigorously creative is that its advocates often fail to distinguish between creativity and innovation. Creativity is thinking up new things; whereas innovation is doing new things. Theodore Levitt (1960) states the case as well as anyone else "where a powerful new idea can kick around unused in a company for years, not because its merits are not recognised, but because no body has assumed the responsibility for converting it from words into action. It is clear that ideas are useless unless are used. The proof of their values is only in their effective implementation. Until then, they are in limbo." Further adding to his argument, in any business there is no shortage of creativity or creative people, but the shortage is of innovators. All too often, people believe that creativity automatically leads to innovation. In actual facts, it does not.

The fact that you can put a dozen or so of inexperienced people in a room and conduct a brainstorming session that may produce exciting new ideas shows how little relative importance ideas themselves have. Idea persons constantly pepper everybody with proposals and memorandums that are just brief enough to get attention, to intrigue and sustain interest - but too short to include any responsible suggestions for implementations. The scarce people are the ones who have the know-how, energy, daring, and staying power to implement ideas. Since business is a 'get-things done' institution, creativity without action oriented follow-through is a barren form of behaviour. In a sense, it is irresponsible behaviour.

The new creative organization must consider the customer as part of its workforce and at the front line of its service operation. This will follow suit that the innovative service company does not only sell services, it also sells knowledge. Oke (2007) in a recent empirical study suggests, therefore, that service companies must recognise the pursuit of incremental innovations formally in their innovation strategies and define formal practices for implementing these types of innovations. Hence the authors advocate that the whole conceptual model of the organization should be built on the customer first and innovation of service. Bitner and Brown (2008) points out that relatively few companies and organizations have research and development infrastructures for services. A major exception is IBM, which is investing heavily in service research and service innovation.

The insistent growth of service(s) is creating an ever increasing challenging platform for nations, companies, and universities to spur them toward service innovation and research. Clearly, there is an underlying feature of the most successful service businesses is focus on the customer. This means that all strategies around innovation, quality, and service improvement take into consideration the customer's perspective and that this customer perspective is integrated across all functions of the organization (Zeithaml et al., 2006).

### 3.2 Is Your Company The Right Way Up?

The view that an industry is a customer satisfying process, not a good-production process, is vital for all business persons to understand. An industry begins with the customer and his needs and wants. Given the customer's needs, the industry develops backwards, first concerning itself with the physical delivery of customer satisfactions. Then it moves back further to creating the services by which these satisfactions are partly achieved. The way how the services are created is a matter of indifference to the customer.

It is important for management to understand the position of their offering and its direction of movement along the service-goods spectrum. How an organization views itself will determine how it presents and position itself, along with the service delivery, to their customers and stakeholders.

The proposed ideas the authors provide are not meant to serve as a specific advice for anyone. But they do suggest that there are radically different approaches to organizing services, especially in this digital age. An 'upside down' organisation chart or is it the other standard 'upside down'. This one's 'right side up', (see Figure 7, upside-down or Right side up?) The 'reverse' chart is a simple depiction of business success; as the customer comes first. Then the first-line people in line functions who support him come next. Below them come first line people in support functions (accounting, personnel, and so on). And finally, management (called 'others' here). The authors do not necessarily suggest adopting some version of this chart. However, it is believed that companies which live for their customers and first-line people (for example IBM, Cisco, Dell) are successful, given that, the chart is a fine confirmation and reinforcement.

### “Upside Down” or “Right side up”?



*Figure 7. The “reverse” organisational chart is a simple depiction of business success*

## 4 CONCLUSIONS

As the business environment becomes more competitive in this digital age, customers place an increasing premium on fast, effective delivery and reliable customer service. To this effect, Edvardsson et al. (2005) rightly argue that looking at service as a perspective on value creation through the lens of the customer may add to future understanding of the service approach. Furthermore, they emphasised that the new focus in service research today is not on differences between goods and services, but on differences in how we want to portray value creation with customers (and other stakeholders) where the customer's perspective is emphasized.

The extent to which organizations can orientate itself towards its markets and customers will depend on the nature of its business and the particular characteristics of these markets and customers. Consequently, all company efforts are converted into commercial results, that is to say, profitable sales. Which is why then, organization's business may properly be described as a customer-servicing and customer- problem solving process and not just a goods producing process. In this context, competitive effectiveness means servicing the customer better than one's competitors.

It is worth mentioning, that when speaking in London on February 1989 at a conference on 'The Customer Revolution', Thomas Peters, the author of the book that made his reputation, *In Search of Excellence*, says, "it is often what counts with customers is not the big thing but a hundred little things. Everyone has a part to play in making the small improvements that make a big impression". Further he added to the argument that changing structures or adopting a new corporate strategy, says Peters, is not enough by itself. Organizations also have to involve all staff in the process of giving better customer service. The results of doing that, in his experience, can be 'remarkable'.

Successful services do not necessarily require major cash investments but a flexible and creative customer-oriented approach. Therefore, to develop the most effective strategy, it is necessary to start with the customer first. Having determined what services are required, then the organization will be in a position to decide on a strategy. Technological advances will change the service offering. Hence, the revolution that is taking place in information and communications technology (ICT) will profoundly affect the way in which organizations operate and the methods by which enquiries are received and processed to ensure service quality (Elnaghi, 1989).

There is a need of good internal lines of communication and a planned programme of communication to explain and sell the service concept at every level within the organization. Everybody must be convinced that it can make a vital contribution to serving the customer, this is the organization's *raison d'être* and the only way it can continue to exist on a long-term basis and fulfil its obligations to all its employees and customers. Therefore, personal development and training, the authors advocate, should be an on going process, and not on ad hoc basis.

Training is about knowledge, skill and attitude. Training and development of those involved within service must therefore, be looked on as a continuous process. Training must make a thorough professional effective and efficient, 'doing the right things, and doing things right'. In this case management must think of itself not as producing products but as providing customer-creating value satisfaction. In short, the organization must learn to think of itself not as selling goods or services but as buying customers, as doing the thing that will make people want to do business with it. Therefore, the chief executive has the responsibility for creating this environment. The decision maker must set the company's styles, its direction and its goals. This means the executive has to know precisely where it wants to go, and to make sure the whole organization is enthusiastically aware of where that is. This is a first requisite of leadership, for unless it knows where is going, any road will take it there!

One other important aspect of the service delivery is that procedures should be established for handling complaints. By keeping statistics on the types of complaints, the customer service department can press for the desired changes in quality control and a fast adjustment to the delivery system.

It is less expensive to preserve the goodwill of existing customers than to attract new customers or even harder to win back lost customers! For this reason, a sound service policy must be established and adhered to. The importance of service policy should be well appreciated by most departments. A good service policy well stated and known by all departments' heads and employees will result in excellent service, and consequently this will give rise to repeat sales and organization growth. Lovelock (2004) in particular believe that there is a need for systematic field research in services, employing both qualitative and quantitative methods that go beyond consumer satisfaction studies to include in depth case studies of business practice and customer behaviour.

To conclude this paper, “Once services ‘in the field’ receives the same attention as products ‘in the factory’) a lot of new opportunities become possible” (Theodore Levitt, 1972). In their own review of the future of services management and marketing, Grove et al. (2003) proclaim a call for new directions. Further stating, “In our information age economy, where new business models are constantly emerging and disappearing, the struggle to discover successful new frameworks raises questions regarding existing paradigms. Newer paradigms must evolve”. It is required in the service experience and the service organization’s ability to match capacity and demand for quality not to suffer. (Booms & Bitner, 1981). Issues involving strategic IS are complex and there is a need for frameworks to aid executives and planners. Few organisations achieve competitive advantage through the implementation of information system, and fewer gain sustainable advantage (Griffiths, 2004).

The IS-enabled sustainability model reported on in this paper, although based on a wide-ranging literature review, needs to be validated next using data from public as well as private service sectors. Further research is needed to investigate the relationships in the service customer and the contact personnel both exercising control over the service process in an environment that is defined by the service organization. It is imperative that all three parties work together to create a rewarding service encounter.

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