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E-SERVICE QUALITY STRATEGY: ACHIEVING CUSTOMER SATISFACTION IN ONLINE BANKING

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ABSTRACT

Customer satisfaction is a challenging task in today's competitive world of e-businesses. Among these e-businesses is banking sector business. These businesses are tremendously trying to deploy customer relationship management and improve the connections between the business and customer for their satisfaction. Online banking offers facilities and services to the customers where as the role of IT is very dominant factor for improving the quality of services to achieve customer satisfaction. So the objective of our research study is to build a customer satisfaction strategy and measuring e-service quality by relating it to the web service quality. This requires formulating a strategy of building the framework for web based e-service quality model in internet banking services. This paper will discuss the literature review of different models related to online banking for the customer satisfaction which can lead to build and measure an innovative e-service model that is applicable to evaluate the web based internet banking service quality.
Keywords: *Customer Satisfaction, Satisfaction Strategy, e-Service Quality, e-business.*

1. INTRODUCTION

The rapid spread of technology has made the Internet the best channel for the provision of banking services and products to customers. From a bank's perspective, using the Internet is more efficient than using other distribution media because banks aim at achieving an expanded customer base (Alsajjan et al, 2006). From a customer's perspective, online banking provides direct access to a bank's information system from anywhere where an internet connection is available and thus a user can be involved in various banking transactions such as checking his balance, knowing his transactional history, paying his utility bills, transferring funds between accounts etc… (Pikkarainen et al, 2006). So banks are now considering the internet as part of their strategic plan (Sadeghi and Hanzaee). Having a strategic foresight is important in order to become a leader in both the industrial sector and the consumers' market. Companies are trying to follow a pro-active approach in the form of focusing on Internet-Customer Relationship Management (ICRM) strategy that will pull the customer to switch over to making use of the online services. Banks, consequently, need to focus on the key elements of an effective Internet Strategy (Matheson L, 2006). They need to provide higher quality services and not to compete merely based on prices and costs for the purpose of pursuing corporate as well as retail banking initiatives. In order to build the customer portfolio, Internet Customer Relationship Management (ICRM) relies on Information and Communication Technology tools and techniques for the integration of front-end and back-end processes. This kind of strategy facilitates proliferation and subsequent strengthening of the customer based learning and growth as well as formation of customer perspective (both of which together form the front-office component of the organization) of Balanced Score Card Strategy towards organizational development. However, the implementation of this kind of strategy requires banks to align and match their organizational structure to the strategy by employing both the right management and sincere staff. Only then can their leadership ensure success so critically needed in today's competitive world.

According to the transaction cost economics theory, people will opt for cheaper method to transact when choosing between electronic and traditional services (Lichtenstein & Williamson, 2006; Huang, 2002). Web-based customer relationship software empowers web sites with usable information and wider functionality of business services to offer a number of key advantages at reasonable costs compared to traditional channels (Kobsa, Koenemann, Pohl, 2001). In the USA, substantial cost savings and

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significant process efficiencies in the procurement process have been obtained through the use of internet technology by firms such as DELL, IBM and Cisco Systems, (Mishra, Konana and Barua). A switching cost theory can be found useful and may prove quite efficient for explaining a change of service delivery channels. The switching cost can influence customer retention (Burnham et-al, 2003).

The following table provides a list of Service delivery channels and their associated costs (Peppard J (2000, p. 316; Data Monitor, 1999).

Table I. Transaction Cost Associated with Various Service Delivery Channels Peppard J (2000)

Sl. No.	Service Delivery Channel	Associated Transaction Cost (Pound Sterling)
1.	In-branch Teller	1.20
2.	ATM	0.40
3.	Telephone	0.30
4.	PC Banking	0.20
5.	Internet Banking	0.01

Not only from the cost perspective but also from the relationship perspective, is the Internet Banking Service Quality approach highly adoptable with the following bottom line benefits: Automation of manual intensive work; cheaper transactional cost as compared to that of other channels such as ATM and telephone transactions; greater customer retention as there is a continuously improved relationship with the customer; achievement of customer satisfaction culminating in the creation of added ability of reaching "new customer base" in "new geographical markets"; cross-selling and up-selling of products in the market; revenue growth with the increase in clientele base and decline in costs. So banks will certainly reap the benefits at the bottom line level.

Academic literature and industrial reports have established the importance of customer relations management in marketing activities, specifically in the customer contact centers where, through computerized telephonic integration, fax, email, web chatting etc., the process has helped in accruing and digitalizing staff's knowledge on customers' vital data (Abdullateef, Mokhtar, Yusoff, 2011). An organizations' ability to deliver a superior service quality has been established as a prerequisite for its success and survival in the current world of business and bargains; this success is said to be, directly, dependent on customer satisfaction and, indirectly, an outcome of the quality of service delivered (Zeithaml, 1985, Cronin and Taylor, 1994, Abdullateef, Mokhtar, Yusoff, 2011). If efficiently managed, CRM system has the capacity to assist organizations in handling customer queries and complaints more professionally. It will, however, deliver to its customers both accurate and timely information, increasing its job performance and multiplying its service quality and customer satisfaction (SQM, 2007; 2005).

Customer satisfaction can be considered as the essence of success in today's highly competitive world of business (Jamal and Naser, 2002). IT can help in improving service quality for customer satisfaction (Zhu, Whymer Jr. and Chen, 2002). Finacle (2009) elucidate that banks frequently ally with consultants and technology partners to evaluate new markets and formulate an appropriate competitive strategy.

Despite the availability of web based banking benefits like checking the account balance, transfer money, pay bills, collect receivables and ultimately reduction in transaction cost, (Riyadh, Akter and Islam, 2009) to customers, services management research has not adequately been treated and captured attention while its rapid expansion is done towards e-banking services. Aladwani (2001) cited that the critical challenge facing by management of banks currently is how to lead their organisations through the transformation process in a turbulent business environment? (Scott-Morton, 1991). One of the critical challenges facing by bank managers that warrant further research is to understand the attributes of online banking contributing to customer satisfaction (Aladwani, 2001, p. 224).

The Internet Banking Strategy which is currently affecting the economies of both the developing and the developed world is based upon service quality approach in the context of globalization and liberalization. In order to meet new challenges in the form of re-engineering, it is ensured that the following steps be taken (Seth, Deshmuh and Vrat (2005). Some of the changes in the management objectives to be inculcated in the current research study are:

- Horizontal business process should replace vertical functional approach. The functional area gets added as a plug-in.
- Greater sharing of information with all customers and connected links should be ensured.
- Greater emphasis on organizational and procedural flexibility should be placed.
- Necessity for the process coordination across many sites should be stressed.

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- Competitive pressure generation due to the quick introduction of new service products must be ensured. Integrated customer driven processes ought to be initiated.
- Quick response to customer needs must be given.
- Worldwide relationships between various stake holders, trade partners, suppliers etc. is to be established.
- Easily accessible information through internet has to be made available.
- Flexible and efficient service customization and personalization must be introduced.

Research studies (Udo, Bagachi and Kirs, 2010) indicate that web service quality is an antecedent of e-customer satisfaction. Web-based banking systems model provides tool for assessing and comparing the level of e-service maturity (Loffeler and Vintar, 2004). So the objective of our research study is to build an e-customer satisfaction strategy and measuring e-service quality by relating it to the web service quality. This requires formulating a strategy of building the framework for web based e-service quality model in internet banking services.

The aim of this research is to provide rational for the proposed internet banking services quality module by measuring customer satisfaction. The study findings are based on the literature review concludes that the association of Gronroos (1982) Model, Parasuraman et. al., (1985)'s Gap theory model, Spreng and Mackoy (1996)'s Model, Teas (1993) evaluated performance and normalised quality model, Berkley and Gupta (1994)'s IT alignment model and Davis et. al. (1989)'s Technology Acceptance Model and the Technology Acceptance Model (Davis 1989) can lead to build and measure an innovative e-service model that is applicable to evaluate the web based internet banking service quality.

2. LITERATURE REVIEW OF MODELS RELATED TO E-SERVICE QUALITY

Customer Dissatisfaction is clearly the fundamental reason for customer decay (Hill and Alexander, 2002), resistance to change (Laukkanen, P., Laukkanen, T. & Sinkkonen, S., 2008).

The difference between traditional and electronic retail services is the development and replacement of human-to-machine interaction as against human-to-human interaction and therefore, new or modified approaches to conceptualizing and measuring satisfaction may be needed for e-commerce and e-business settings.

A considerable amount of research has been made in this area in the recent years and the outcome is the theory of satisfaction gap. It identifies the prevalent gap in the service quality and stresses on its eradication through bringing about improvement in the quality of services. Perceived Service Quality has been identified key factor in banking for customer satisfaction (Odd Fredriksson, 1993).

Assumption: In this paper, we assume and consider the service gap as a gap between the provider and customer in terms of service quality from the front-office perspective.

To achieve banking customer satisfaction, this service gap can be filled in terms of providing e-banking services and hence E-Service Quality has gained a lot of importance.

The customer dissatisfaction as a gap model by Hill and Alexander (2002) had been expressed in such terms that are more related to psychology. This identified gap of customer dissatisfaction is the sum of five gaps viz., promotional gap, understanding gap, procedural gap, behavioural gap and perception gap. But author's efforts are towards dealing with the front-office approach of service management domain and thus service marketing and its terminology have been considered for expressing the problem statement. As the solution lies in the intervention of information systems and information technology, marketing information systems, marketing information technology and electronic customer relationship management are considered the most appropriate domains for the purpose of both defining and providing solutions to the research problem at hand. This prompted us to select the study of service quality gap theory towards formulating the solution strategy based on the studies of service marketing, management information systems and their related domains.

2.1. History of the Gap Model in Service Marketing

The Gap model of the service quality was first developed by a group of authors viz. Parasuraman, Zeithaml, Berry at Texas A&M and North Carolina Universities, in 1985 (Parasuraman, Zeithaml and Berry). Parasuraman et al (1985). They had proposed a conceptual model of service quality, indicating a consumer's perception toward service quality. They had used their qualitative research techniques and interviewed executives and focus groups in four different service businesses. This conceptual model has proposed four gaps existing

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in an organisation – consumer environment. They further developed in-depth measurement scales for service quality in later years (Parasuraman, Zeithaml and Berry, 1988).

2.2. Theory of the Gaps Model

According to the Parasuraman's gap model, perceived service quality can be defined as the difference between consumers's expectation and perceptions which eventually depends on the size and the direction of the four gaps concerning the delivery of service quality on the company's side. Thus:

Customer Side Gap = f (Gap1, Gap2, Gap3, Gap 4) of the Service Provider Side Gap (derived based on the basic economic principle i.e. Demand = Supply)

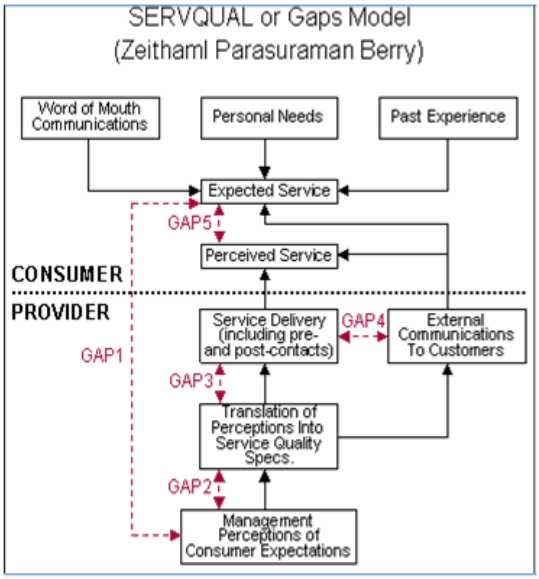

Figure 1. Gap Model by PZB88 (Source: 12manage.cc)

2.3. The magnitude and direction of each gap will affect the service quality

Parasuraman et al., 1985's Service Quality Gap Model appeared in the Journal of Marketing (Bitner et al., 2010) as follows:

Gap 5 = Customer Gap: It means the difference between customer expectations and perceptions

Gap 1 = The Listening Gap: It means not knowing what customers expect.

Gap 2 = The Design and Standards Gap: It means not having the right service design and standards.

Gap 3 = The Service Performance Gap: It means not delivering up to service standards.

Gap 4 = The Communication Gap: It means performance not matching to promises.

2.4. Application of the Gap Model

The model clearly determines two types of gaps in service marketing, namely the customer gap and the provider gap. Provider Gap is the internal gap with in the service firm. This model reflects the services as a structured integrated model, which connects external customers to internal business services among different functions in a service organisation.

Traditional service quality places focus on highly intangible services. Liljander et al.(2002), commented that the SERVQUAL proposed by Parasuraman et al (1991) mainly captures that interpersonal interactions may not be truly applicable in their original as-it-is form to customer evaluations of e-service quality where the clients have to interact based on the portal technology too. So this comment has urged us to reviews the basics and foundations in terms of the service quality models. Moreover, we believe that it might be of vital importance to find and fill the service gap for the assessment of service quality criteria and satisfaction. These evaluations ought to be based on customer perceptions. This idea took us to rethink and redesign the e-service quality model having a research literature base.

2.5. Gronroos (1984) Model

It proposes to develop a service quality model, based on a test of a group of business executives, which describes how the quality of services is perceived by customers. Gronroos (1984) service quality model consists of three dimensions, technical, functional and image, and that image functions as a filter in service quality perception (Kang and James, 2004). Researchers, while at work, generally adopt one of two conceptualisations, the American or the European. The focus on functional quality attributes is referred to as the American perspective of service quality while the European perspective suggests that service quality considers two more components, technical quality and image (Kang and James, 2004; Brady and Cronin, 2001). However, authors in Saudi Arabia have derived a new innovative model that measures customer satisfaction via service quality. They have designed a new set of service quality attributes. It is an effort at semantically selecting and aligning them with the various models of service quality that are prevailing in the research literature.

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2.6. Parasuraman et al. (1985)'s Gap Model

It is an analytical tool that enables the management to identify systematically service quality gaps between numbers of variables affecting the quality of service offered. The model is externally focused and customer centric. This model reflects the services as a structured integrated model, which connects external customers to internal business services among different functions in a service organisation (Nguyen Phuong). This Gap model of the service quality was first developed by a group of authors, (Parasuraman, Zeithaml, Berry 1985).

Saudi Arabia is a country that believes in unity and integrity (***Wahada***); it's a country that can be viewed as an enterprise. When service quality is subjected to the influence of research study from an entrepreneurial perspective, one technique that strikes the author's mind is the adoption of Gap Analysis technique. Most of the research literature in ERP suggests performing Gap Analysis for Enterprise solutions (Athituv, Neumann and Zviran, 2002; Alshawi, Themistocleous and Almadani, 2004; Gulledge, 2006). Since the nature of Parasuraman et. al. (1985)'s model is a unified or an integrated approach via Gap analysis, it is found much closer to the approach to be followed by the author. Naturally then, it has become an obvious choice for encountering the research issue of measuring Internet Banking Service Quality based on Gap analysis.

We found that Parasuraman et. al. (1985)'s model became insufficient in the current research as it does not clearly and explicitly explain the technique and procedure for measuring the gaps (Seth, Deshmuh and Vrat, 2005) in customer satisfaction arising from deficiency in service quality.

2.7. Spreng and Mackoy (1996)'s Model

It says that desires are one of the key determinant in evaluating service quality and customer satisfaction. Rising expectations will have a positive influence on the customer satisfaction. However the path diagram of achieving customer satisfaction via overall customer service quality has been found useful. Though Spreng and Mackoy (1996) have addressed through a path diagram how to measure service quality via desires congruency, it fails to clarify and explicitly answer queries like, "What the context is? " and "What are the underlying meanings of terminology?" It is, therefore, still found quite insufficient to achieve reliable criteria for the measurement of overall service quality and customer satisfaction.

The point that we would like to highlight here is that within the limitation of the available sources of literature and knowledge, a straight forward equation to measure the overall customer satisfaction based on service quality has not evidently been made available as a single trustworthy source of contact. Thus the customer satisfaction in the currently selected approach of the research problem becomes our main center of attention.

It can be argued that the factors related to the identified gaps (by Parasuraman et al, 1985) will have varying degree of influencing the customer service quality effort and customer satisfaction. Though Parasuraman's model has given equation as the difference between perception and expectation of the sum of these factors or items, yet it has not considered the weighting factors involvement that represents the varying degree of influence.

2.8. Teas (1993)'s evaluated performance and normalised quality model

It has considered the intervention of these weighting factors called importance of attribute as a determinant of perceived quality. Though the equation given by Teas (1993) appears to be one of the important equations that provide measurement of perceived service quality, in the whole lot of literature the procedures and steps were not clear.

We have, therefore, expended our efforts in identifying and providing a semantic combination of all these models together for providing the solution of measuring perceived overall service quality leading to customer satisfaction.

2.9. Technology Acceptance Model (TAM)

Ease of Use and Usefulness are important factors in evaluating online service quality (Rod, Ashill, Shao and Carruthers, 2009).

TAM is a valuable tool in predicting satisfaction (Al-Gahtani and King, 1999); improving customer service (Mathieson, 1991); improving service quality (Dabholkar, 1996).

Earlier work on TAM and its extension are done in the application to the Internet or WWW (Lederer et al., 2000; Lin and Lu, 2000; Al-Somali et al., 2009). Riyadh, Akter and Islam (2009), cited that the research work is done on adoption of Internet banking in Taiwan using TAM model (Wang et al., 2003); adoption of Internet Banking in Malaysia using TAM (Razak, 2003; Amin, 2010); as extended TAM (Celik, 2008), Yang and Fang (2004) cited that TAM is employed to examine the impact of online service quality on portal site usage (Lin and Wu, 2002).

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3. EXISTING TECHNOLOGY-BASED SERVICE QUALITY MODELS

The following are some of the existing Technology-based Banking Service Models (Seth Deshmukh and Vrat, 2005):

3.1. Zhu et al., (2002)'s IT-based model

It highlights the importance of IT-based service options by proposing a service quality model that links customer perceived IT-based service options to traditional services, customer experience in using IT based services and IT policies.

3.2. Brodrick and Vachirapornpuk, (2002)'s Internet Banking model

It has proposed customer expectations; image and participation; customer participation; service setting; and service encounter as five key elements that influence perceived service quality.

3.3. Santos (2003)'s E-Service Quality Model

It has been formulated based on the dimensional analysis based on the literature findings.

3.4. Bauer, Hammerschmidt and Falk (2005)'s portal-based banking service quality model

It has been developed based on the nature of the portals, service quality dimensions and their applicability to banking domain.

After reviewing the literature, it has been found by the author that much of the service quality research literature has focused more on service quality dimensions and its adoption based on the basic definitions. No references have been found about the application of underlying theories and the reason for their choice of their service quality attributes. Author has, therefore, exerted considerable efforts in filling this gap of research literature base by developing the current research paper on service quality domain by explaining the rational approach in identifying the dimensions and items of web-based service quality in Internet Banking environment.

It is well evident from the above discussion that the model should satisfy the abovementioned prerequisites which means the model should be based on Gap analysis. Broderick and Vachirapornpuk (2005)'s model is formed not based on Gap analysis technique. So, quite arguably, it cannot be a choice or rather a model that can be adoptable after some adaptations. More over when the strategy was being propounded in a systematic manner, author found that their approach was rational and advancing smoothly. They continued with their work.

The prevailing models did not support and embrace the pre-requisites like fulfilling the gap analysis technique, acquiring an integrated approach, achieving a sound empirical measurement capability and embracing the latest technological modes. These insufficiencies in the system motivated the author to build a new Inter Banking Service Quality Mode from scratch.

4. CUSTOMER EXPECTATIONS AND CUSTOMER SATISFACTION

Customer expectations are partial beliefs or assumptions about products or services that serve as standards or reference points against which a product's/services performance is judged (Keralapura, 2009). These customer expectations are formed on the basis of previous experience, and ideas of what organisation should provide (Parasuraman, Zeithaml, & Berry, 1988; Parasuraman, Zeithaml, & Berry, 1991). Zeithaml, Parasuraman, and Berry (1993) pointed that three levels of expectations can be defined against which quality is assessed: the desired service, which reflects what customers want; the adequate service defined as the standard the customers are willing to accept; and the predicted service- the level of services customers believe is likely to occur."

Fornell C. (1992) has mentioned that Customer Satisfaction = f (expectations, perceived performance).

The model of perceived quality and satisfaction given by Spreng and Mackoy (1996) is a modified version of Oliver's model (1993). This model highlights the effects of expectations, perceived performance, desires, desired congruency and expectations disconfirmation on overall service quality and customer satisfaction (Seth and Deshmukh, 2005).

This model is adopted in order to conceptualize the proposed overall model where the understanding on various terms of the model is:

Expectations: These are a set of dimensions formulated against the research literature findings that are hypothesised and proposed for the purpose of evaluation of portal-based internet banking service quality.

Perceived Performance: These are the results of the analysed customer perceptional data that are collected based on the designed questionnaire involving the expected set of dimensions.

Desired: These are a set of most preferred dimensions elicited from the customer perceptions

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and confirmed based on the frequency and ranking analysis.

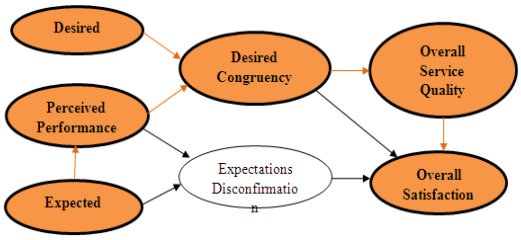

Figure 2. Spreng and Mackoy Model for achieving overall Customer Satisfaction (Source: Seth and Deshmukh, 2005)

Expectations Disconfirmations: It is the result of the data analysis that display the non-compliance of the dimensions that are proposed and are evaluated taking customer data into account.

Desired Congruency: It is the evaluation of the match of result of the data analysis that displays the degree of agreement of dimensions of perceived service quality performance with the previous values of desired confirmations with desired set of dimensions. Thus desired congruency acts as prerequisite technique that confirms the degree of overall service quality and consequently, overall customer satisfaction can be achieved.

Overall Service Quality: Overall service quality is a set of confirmed service quality dimensions that are derived out of desired congruency.

Overall Satisfaction: Overall customer satisfaction is the result of the improved value of each of the overall service quality dimensions.

5. THE IMPACT OF TECHNOLOGY ON THE SERVICE QUALITY GAP MODELS

Technology enables both customers and employees of the organisation to be more effective and productive in receiving, providing and delivering services. Customer Relationship Management, Sales Support and Product Information are some broad categories of technology-based information that can aid frontline to help front office employees provide better service. Technology does not only allow the formation of virtual teams for working closely together irrespective of geographical boundaries but also has the potential to outreach the customers around the globe (Bitner M. J. et al, 2010). Via Internet banking, customers can access their accounts, check balances, apply for loans and take care of any banking need without the assistance of bank employees. By using self-service technologies, customers can now serve themselves more effectively.

6. THE IMPACT OF TECHNOLOGY ON THE CUSTOMER GAP

Technology advances have significantly influenced the customer gap. It has redefined the nature of the service itself. Self-service technology can automatically put customers in a co-productive role, changing the nature of service delivery dramatically. This shift results in customers having expectations and perceptions related to their own abilities and performance that will influence their overall assessment of service performance beyond the capabilities of the service provider. So these technology advances that have resulted and that will result into myriads of yet more sophisticated advances could not have been imagined a decade ago (Bitner et al, 2010). So what customers expect from these new innovative, technology-driven services does not necessarily fit the mould of early models of service expectations (Parasuraman et al, 2005).

As Customer Gap has been expressed as f (Gap 1...Gap 4 of Service Provider Gap), enabling strategies for closing these four gaps can form a solution to provide better service quality. The strategies for closing these service provider gaps (Bitner et al, 2010) have been discussed in the next section.

Internet Technology is transforming and revolutionizing the service quality management within the domain of knowledge-based economy. Knowledge -based economy has the potential of furnishing service providers with the facility to supply new genres of services through e-service networks through direct contact with their clients (Plumb Ion and Zamfir Andrea, 2009). The study on service quality gap has been done by Parasuraman, Berry and Zeithaml, (1990); Parasuraman, Berry and Zeithaml, (1991); Parasuraman (2002) and Zeithaml et al. (2002). Whereas Zeithaml et al. identified four e-SQ gaps as information, design, communication and fulfillment gaps (2002), Davidson and Cooper simplified the model and reduced further with remaining gaps identified as Information Gap, Design Gap and Fulfillment Gap (2005).

According to the base knowledge of service gap theory given by Parasuraman et al. (1985), the service quality can be understood as the gap and is the difference between customer service expectations and customer service perceptions. From the perspective of enterprise this gap can be

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expressed as a sum of market information gap, service standards gap, service performance gap, and internal communication gap (Parasuraman, 2002) as shown in Table II. In fact the expression of this gap and its mapping according to e-service quality dimension is the driver of the current work.

The nature of customer service expectations is the feeling of range between adequate service and desired service. The improvement is nothing but treating the service gap as the service quality gap and aligning the service quality gap to the customer satisfaction.

E-Service Quality can be measured, evaluated and assessed by identifying and expressing the dimensions of the e-service quality and the application of correlation, regression and other statistical techniques to the customer evaluations gathered in the form of data against a designed survey form.

i. Service Information Gap

Earlier research studies by Laukkanen, Sinkkonen, Laukkanen (2009) show that customer resistance to internet banking is because of customer dissatisfaction with the information and guidance (Service information gap) offered by the service provider and not because of his disdain for innovation.

ii. Service Standards Gap

An Internet portal is an entry point to various information services that provides linkages to different web sites. Attracting large volumes of customers needs a consistent delivery of high level service quality (Liu, Du and Tsai, 2009). Liu et al (2009) further elucidates that the service quality of internet portals, should be differentiated into business and general and should be measured by different instruments as they are used for different purposes. The research findings (of Liu et al, 2009) indicated that the adequacy of information (service information gap) and appearance (lack of GUI design and web page design standards in the form of service standards gap) are significantly associated with the customer satisfaction. However web page appearance has been treated as significant factor for general portals but not for business portals.

iii. Service Performance Gap

The perceived service performance is one indicator of the service quality, building up customer satisfaction (Odd Fredirikkson, 2003). *Service Information Gap, Service Standard Gap, Service Communication Gap and Service Performance Gap are the gaps* indicated by *Service Quality Gap Model* of Parasuraman et al.(1990), Parasurman et al., 1991 and Parasuraman (2002) (Milen and McDonald, 1999)

iv. Service Communication Gap

Innovation imposes change on the consumer and the resistance is a normal response to innovations (Laukkanen, et al, 2009). The service quality gap can be reduced by the communication strategies (service communication gap) to overcome different kinds of resistance to Internet banking (Laukkanen, et al., 2009).

7. STRATEGIES FOR CLOSING THE SERVICE PROVIDER GAPS

i. Strategies for closing marketing information gap:

- Listen to customers in multiple ways through customer research and employee communication.
- Build relationships by understanding and meeting customer needs over time.
- Know and act on what customers expect when they experience a service failure.

ii. Strategies for closing service standards gap:

- Employ well-defined new service development and innovation practices – "services R&D".
- Understand the total customer experience through service blue printing
- Measure service operations via customer-defined rather than company-defined standards.

iii. Strategies for closing service performance gap:

- Align learning and growth practices (of balance score strategy component) around delivering service excellence.
- Define customers' roles and help them to understand and perform effectively
- Integrate technology effectively and appropriately to aid service performance.

iv. Strategies for closing service communication gap:

Table II. Service Quality Gap Considerations by Parasuraman (2002) at the Service provider end.

1. Service Information
2. Service Standards
3. Service Performance
4. Service Communication

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- Employ integrated services marketing communication strategies around everything and everyone that sends a message or signal to the customer.
- Effectively manage customer expectations throughout the service experience

8. RESEARCH METHODOLOGY:

The basis for the theoretical framework has emerged from the considerations and references of the research work of the Gronroos (1982) Model, Parasuraman et al, (1985)'s Gap theory model, Spreng and Mackoy (1996)'s Model, Teas (1993) evaluated performance and normalized quality model, Berkley and Gupta (1994)'s IT alignment model and Davis et al (1989)'s Technology Acceptance Model, and by filling in the necessary gaps through the appropriate usage of the above models in evaluating service quality in achieving customer satisfaction.

9. THEORETICAL FRAMEWORK PROPOSED

9.1. Portal Alignment Model – The Driving Model

Investments in information technology are generally aimed at productivity of efficiency gain with an intention to improve the customer service and the long term customer effectiveness. Author proposes the portal alignment model that relies on Portal strategy and architecture, which encapsulates the extracts of various factors of internet banking service requirements, service quality gap fulfillment strategy and technology acceptance model in order to provide Portal based Internet Banking Service Quality to achieve customer satisfaction.

This model describes in detail where Portals could be used to improve internet banking service quality by proposing service quality dimensions that contain items which strengthen the process of alignment. The outline of the specification of this model has been adapted from Berkley and Gupta (1994)'s IT alignment model.

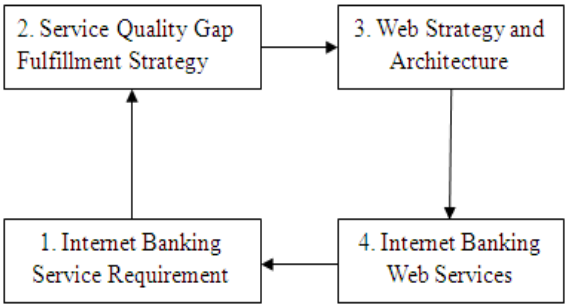

Figure 3. Internet Banking Service Quality Model to achieve customer satisfaction based on Portal Strategy and Architecture

9. 1. Internet Banking Service Requirement

Customers exercising broad range of access and control over their accounts deserve to be provided with action-based account functions. The more the number of action based account functions by Internet banking, the more the level of achievement of customer satisfaction possible (Chanaka Jayawardhena and Paul Foley, 2000).

View Only			Account Control								New Services						Re
Check balances	View statements/account	Historical records	Accounts amendment	Order Cheque books	Transfer funds	Pay bills to third parties	Standing orders/Direct debit	Order print statements	Send messages	Pay credit card bills	Apply for loans	Open current accounts	Open savings accounts	Apply for credit cards	Apply for mortgages	Apply for insurance	Reconciliation integration

Figure 4. Internet Banking Service Requirements *(Source: Jayawardhena and Foley, 2000- Redrawn)*

9. 2. Service Quality Gap Fulfillment Strategy

Parasuraman et al. (1985) proposed and developed a service quality model based on gap theory and analysis. According to this, service quality is a function of the differences between expectations and performance along the quality dimensions. The comprehensive understanding from the gap model suggested by Parasuraman et al. (1985; 1988; 1990; 1992) has resulted from four service gaps. These gaps need to be filled and are as follows:

Gap 1: Service Information Gap
Gap 2: Service Standards Gap
Gap 3: Service Performance Gap
Gap 4: Service Communication Gap

Rod et al. (2009) cited that if one looks to the literature on traditional banking and service quality, work by Johnston (1995) revealed that there are some service quality determinants that are predominantly satisfiers and others that are predominantly dissatisfiers. Johnson et al. (2008)

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also illustrate that in order to maintain and expand their customer base, it is critical for banks to understand the criteria that consumers use to evaluate internet banking services and how these impact on their perceptions of overall internet banking service quality, and satisfaction with e-service and banking overall. This leads to the relationship between service quality and satisfaction.

The focus is give more on the satisfier's approach rather than dissatisfier's approach. This is because the Spreng and Mackoy (1996) model guides and reveals that the satisfiers approach leads to customer satisfaction via service quality where as the dissatisfier's approach leads to customer satisfaction but does not talk about service quality. The dissatisfier's path and approach is basically avoided as it does not deal with the service quality evaluation that leads to customer satisfaction and hence it is not their research interest.

The gap consideration of Parasuraman (2002) has been taken as the basis for mapping the e-service quality attributes.

Table III. Proposed Mapping of E-Service Quality Dimensions to Service Gap Model (considered by Parasuraman (2002)

Service Quality Gap Considerations by Parasuraman (2002)		**Relevant Service Quality Dimension Mapping considered by Author**
SQG1	Service Information (Market oriented)	Functional Usefulness (Ariely, 2000; Davis, 1989; Al-Somali, 2009)
SQG2	Service Standards	Usability (Zeithaml et al., 2002; Gant and Gant, 2002; Quesenbery, 2007) Safety (Security, Trust) (vanEngelen, 2004; Vassilis et al., 2004) Convenience (Zhu, Siegel and Madnick, 2001; Yang et. al. 2003).
SQG3	Service Performance	Responsiveness (Wilcox, 1999; Yang and Jun, 2002; AbdelZaher., Shin and Bhatti, 2002; Balsamo, Narco, Inverardi and Simeoni, 2004), Realization (Pitman, Motwan, Kumar, Cheng, 1995; Papazoglou, 2003; Long and McMellon, 2004; Erradi and Kulkarni, 2006) (Tangible Realization or Visual Encapsulation cum Dissemination)
SQG4	Service Communication	Accessibility (Griffith and Krampf 1998; Cox and Dale, 2001; Yang and Jun, 2002).
Summary of e-Service Quality Factors Proposed(Seven Factors Proposed)		Accessibility, Usability, Functional Usefulness, Safety, Convenience, Responsiveness, Realization.

Measuring Service Quality

According to Parasuraman et al (1985) gap model, the service quality is a function of perceptions and expectations (Seth, Deshmukh and Vrat, 2005, p. 917), which can be expressed as:

$$SQ = \sum_{j=1}^{n} (E_{ij} - P_{ij})$$

Where:

SQ = Overall Service Quality

n = number of expected attributes (dimensions)

P_{ij} = Performance perception of stimulus (item) *i* with respect to attribute (dimension) *j*

E_{ij} = Service Quality expectations for attribute (dimension) *j* that is the relevant norm for stimulus (item) *i* corresponding to the *n* number of ***expected*** attributes.

Thus we propose an innovative strategy of technology-based service quality model with a measurement equation that is applicable to Internet (online) banking as given below. This equation can be built by deriving from basic concepts of Gronroos (1982) Service Quality Model, Spreng Mackoy Model (1996), Tea (1993) Model, Parasuraman et al. (1985) Service Quality Gap Model and Davis et al. (1989) Technology Acceptance Model.

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$$SQ = \sum_{j=1}^{n} w_j (D_{ij} - P_{ij})$$

Where:

SQ = Overall Service Quality

k = number of desired attributes (dimensions) where $k \leq n$

P_{ij} = Performance perception of stimulus (item) i with respect to attribute (dimension) j

D_{ij} = Service Quality desired attribute for attribute (dimension) j that is the relevant norm for stimulus (item) i corresponding to k number of ***desired*** attributes.

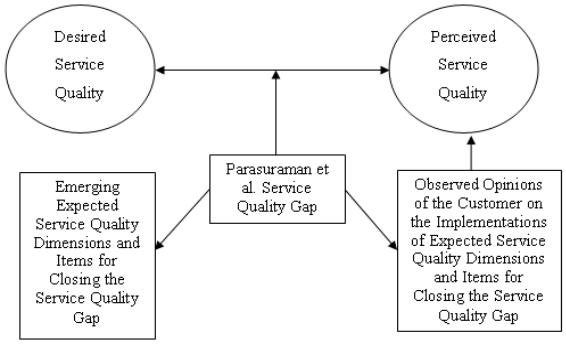

Figure 5. Proposed Technology-based Service Quality Model

The benchmark criterion for filtering the desired attributes out of the expected attributes based on customer perceptions is as follows:

$$AP_n = (P_1+P_2+ \ldots+P_n)/n = \sum_{j=1}^{n}$$

If $P_j \geq AP_n$ Then P_j *becomes* D_j *and n becomes k where* $k \leq n$

Where

AP_n = The average of the perceived values of "n" service quality dimensions

P_j = Perceived values of j^{th} service quality dimension among n dimensions

w_j = Importance of attribute j as a determinant of perceived service quality.

The weighting factor can be calculated based on the distributed percentages of contributions of the each desired service quality dimension evaluated based on the customer perception values.

Optionally as a triangulation technique, the weighting factors can be calculated on 30 literature samples to get a feeling of knowing the weighting factors. However the TRUE value of weighting factor to be considered must be calculated from the customer perception sample.

Achieving Web Customer Satisfaction Strategy

Customer satisfaction can be considered as the essence of success in today's highly competitive world of business. Consequently, customer satisfaction is increasingly becoming a corporate goal and more companies strive for quality in their products and services (Jamal and Naser, 2002, p. 146; Bitner and Hubbert, 1994). Listening to customer voices is the first step in planning for service quality improvement (Jamal and Naser, 2002).

I T can help in improving service quality and customer satisfaction (Zhu, Whymer Jr. and Chen (2002, p. 69). I T based service enhancements include Internet banking systems too. Portal approach can be adopted to satisfy customer needs and meet expectations through enhanced efficiency and effective services. Portal form of web-based banking model provides tool for assessing and comparing the level of e-service maturity (Loffeler and Vintar, 2004, p. 220).

Customer Service has traditionally been delivered through people, either face to face or over the telephone. The well-known "service profit chain" links the behaviour of service employees through to perceived service quality, customer satisfaction, customer retention and profitability. The new media are challenging this. It is increasingly possible to deliver customer service through the internet with little or no human intervention. As the internet provides the opportunity to automate more customer interaction, the focus of business is becoming more service oriented (Voss, 2000).

Currently, the Internet and the World Wide Web have impacts on the way banks are doing business. The traditional brick and mortar banks are moving towards adoption of the click and navigate strategy for providing services through integrated delivery channels (Wonglimpiyarat 2007; Hensmans et al., 2001).

Banks frequently ally with consultants and technology partners to evaluate new markets and formulate an appropriate competitive strategy (Finacle, 2009). Research studies of Udo, Bagachi and Kirs (2010) indicate that web service quality is an antecedent of e-customer satisfaction. Web-based banking systems model provides tool for assessing and comparing the level of e-service maturity (Loffeler and Vintar, 2004, p. 220). In markets where web sites already have established their presence, banking institutions can evaluate their performance by analyzing customer satisfaction, retention and advocacy and benchmark these parameters against those of their biggest

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competitors to gauge their true performance and relative strengths.
Measuring Customer Satisfaction
Customer Satisfaction = (100-SQ %)

9.3. Web Strategy

In order to obtain homogeneous functionality of their systems, companies have to integrate big and independent portions of applications and realize Internet banking advantages through the application of Service Oriented Architecture (SOA). During the provision of Internet Banking Services, SOA has proved to be the optimal architectural solution for a smooth integration between banking services from the front-end to the back-end. SOA offers banks the possibility of connecting older applications to new ones, including the integration of Internet Banking in the current customised system. SOA can be used for a wide range of operating systems, application servers and data bases, according to budget and performance limitations of the beneficiary (from opensource Linux/JBoss/MySql configurations to systems available on clusters (UNIX/Websphere/DB2) (Matei and Silverstru, 2008).

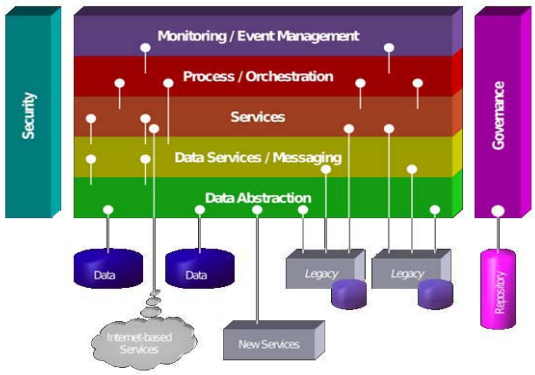

Figure 6. SOA model
(Source: Matei and Silverstru, 2008)

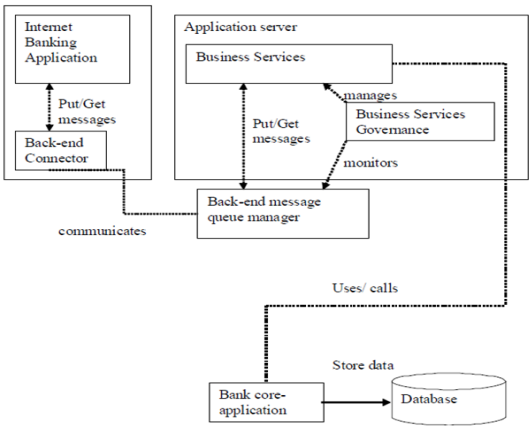

Figure 7. Integration of an Internet Banking application with a back-end
(Source: Matei and Silverstru, 2008)

SOA can be used to interact on Internet or from a workstation to another (using point-to-point protocols for data transfer – EDI, electronic data interchange). SOA is basically built from software services. These services are independent one from the other and they run protected on the working platforms (application servers): .NET or Java. They have the ability to manage the memory, to create the synchronous or asynchronous links between different components and to create the data mapping. The architecture is presenting itself as a summary of services (Matei and Silverstru, 2008).

9.4. Internet Banking Web Services (Customer Realization Perspective and Research from the CRM Business Perspective)

This section describes the performance of Internet Banking Services Development and its impact on the CRM.

Because of their future importance, special attention has to be focused onto e-banking services in this context. Repeat purchase, word of mouth, customer retention, cross buying, customer satisfaction are some of the indicators and features of CRM (Wahab, Al-Momani and Noor, 2010).

10. CONTINUOUS SERVICE IMPROVEMENT (KAIZAN):

Continuous Service Product innovation and knowledge development factors have a significant effect on the success of automated delivery channels (Hway-Boon & Yu 2003). Therefore, it becomes a continuous process of evaluation of customer perceptions for a variety of products/services offered by a bank. They will be considered as another predominant issue which could influence overall customer perceptions of automated service quality.

11. ADDITIONAL DETERMINANTS OF AUTOMATED SERVICE QUALITY

Customer perceptions of variety of services offered by a bank will be considered as one of the significant factors in shaping automated service quality. Service Quality has a positive influence on the financial performance (Ashiqullah. 2006). It is even true in the automated banking context too (Santos, 2003; Ashiqullah. 2006).

"Price is one of the important factors in determining customer perception of automated service quality" (Surjadjaja *et al.* 2003; Iqbal *et al.* 2003) especially in retail banking sector. "From the

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perspective of a customer, price is the most important motivation for engaging customers in online purchases and the most critical element for comparison" (Surjadjaja *et al.* 2003). Furthermore, online consumers are more price sensitive than offline consumers (Iqbal *et al.* 2003). Pricing problems associated with perceptions of unfairness and non-competitiveness, for example fee charges, often contribute to consumer decisions to switch banks (Keaveney 1995, Colgate & Hedge 2001)". Price has been incorporated as an additional factor that could influence the customers" overall perception of automated service quality. In the banking sector, a wide variety of products and services is offered and the prices of service products vary from one bank to another. While conducting research, a customer's judgment about a service price is considered as perceived price. (Al-Hawari et. al., 2005)

Competitive fees or price and explicit declaration of service fee structure to consumer before making the actual transaction is a highly recommended step to build costumer confidence.

12. RESEARCH LIMITATIONS / IMPLICATIONS

To transit from a goods/services divide to a goods/service union (service aggregation), the platform for future service research requires the super ordination of mainstream service management by using service dominant logic (S-D logic) and lexicon and the generation of innovative theory; testing of the innovative theory by comparing its robustness with that of extant theory; conduct of empirical studies through hypotheses-testing and real world, in-depth research; focus on validity and relevance by using the full range of S-D logic compatible methods and metrics; and investigation at both micro and macro levels.

However the real value of the research effort lies in the consideration for and the selection of appropriate models and theories related to service quality and how they have been applied for measuring it and how they have achieved customer satisfaction. It can be realized theoretically that the framework that will deliver various dimensions and items while building the portal-based Internet Banking Service Quality Model can satisfy the Gronroos Model (1984) specifications too. The author has expended considerable effort in filling this gap of research literature base by developing references about the theories and explaining the reason for the choice of the approach of why various theories and models have been chosen in the current research paper on service quality domain.

CONCLUSION

In this strategy, customer relationship management has been given more focus and has been rendered the core component for achieving customer satisfaction through service quality. It is called the front-office approach of evaluating the service quality and customer satisfaction.

The back-office approach called business process management can be yet another approach where the service quality evaluation will have to be based on the price and the financial performance of the organization. In such cases the price or competitive fee and the actual factors that drive financial performance become core service factors for the attainment of solution.

The front office approach-based service quality model has been very confidently suggested to those organizations and enterprises that are being run on socio-economic considerations and have to meet corporate social responsibilities; those which don't harbor much desire for profits. Though price factor has not been taken into consideration here explicitly, it can however be mentioned as an additional factor for consideration. Implicitly organizations will gain price factor advantages of Internet technology at mass scale, and will reap the benefits of low transactional costs as against other channels. This, subsequently, will result in greater volumes of transactions, more profitability, bigger clientele, better corporate image and deeper customer satisfaction.

Thus the derived strategic hypothesis can be as follows: The conceptual models such as Gronroos (1982) Model, Parasuraman et. al (1985)'s Gap Model, Spreng and Mackoy (1996)'s Perceived Quality and Satisfaction Model and Davis (1998)'s Technology Acceptance Model can offer an opportunity to build a new Technology based Service Quality Model particularly the Internet Technology-based design. This new model can contribute significantly to the service quality management domain in the form of measuring the service quality of modern ICT encouraged practice (Babiarz P., Piotrowski M., Wawrzynkiewicz M., 2003) such as web services.

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