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The Effects of Self-Service Web Portals on Online Banking Service Quality: A Theoretical Model

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Abstract

Advances in the capabilities of information technologies and the desire for accelerated business innovations are motivating services firms, such as banks, to reengineer their existing business processes and activities and develop newer business models. The implementation of self-service through a web-based portal is one of the significant business models being implemented by banks. These portals are expected to facilitate improvements in the quality of customer services. Yet, there is a need to develop research models to examine how and why these portals could enhance customer perceptions of quality and satisfaction. This paper draws upon theories and ideas from information systems and services marketing literatures to develop a rich model and proposition linking the features of web portals and customer satisfaction with banking services. These propositions could form the basis for future empirical research and have significant managerial implications.

Keywords: customer satisfaction, theoretical framework, online banking, service quality, portal based e-banking, self-service E-banking

1. Introduction

In today's world of intense competition, one of the keys to competitive advantage lies in delivering high quality services and enhancing customer satisfaction (Ismail, Madi & Francis, 2009; Shemwell, Yavas & Bilgin, 1998). Service quality has been identified as the ultimate goal of service providers (Sureshchandar, Rajendran & Anantharaman, 2002). Service quality and customer satisfaction are inarguably two core concepts at the crux of the marketing theory and practice (Spreng & Mackoy, 1996). Today, many financial services organizations are rushing to become more customer focused (Peppard, 2000).

Technological developments particularly in the area of telecommunications and information technology are revolutionizing the banking industry. Aided by technological advances and developments, banks have responded to the challenge of competition from several companies that have entered into financial and banking industry by adopting online banking strategy that focuses on attempting to build customer satisfaction (Al-Somali, Gholami & Clegg, 2009) through providing better products and services and at the same time to reduce operating costs (Sadiq Sohail & Shanmugam, 2003). The Internet has expanded horizons for businesses worldwide, especially e-services (Alsajjan & Dennis, 2010). Retailer's websites are an important interface between retailers (banks) and their customers. The findings on various features and elements that banks include their websites play critical role in attracting customers and ensuring their satisfaction with online services (Song, Baker, Lee & Wetherbe, 2012). During the last few years, these findings have led to the development of simple banking web sites into comprehensive e-banking portals offering a great variety of services in addition to traditional bank products and thereby enabling customers to gain financial advice from merely one source (Bauer, Hammerschmidt & Falk, 2004).

One of the significant ways in which Internet technologies provide opportunities for enhancing customer service is through the adoption and implementation of self-service web portals. Web portals play an increasingly specialized role in the online world (Sharma & Gupta, 2005). Portals are gateways enabling viewers to access organisational services via Internet. Portals integrate a variety of services providing them to viewers in a single window (Al-Mudimigh, Ullah & Alsubaie, 2011). These portals provide support for the conduct of banking transactions through the Internet. Examples of the transactions are balance inquiry, transaction history, account

transfer, on-line bill payments, and on-line loan applications (Kim & Prabhakar, 2004). Bank web sites that offer only information on their pages without possibility to do any transactions online are not qualified as self-service portals (Pakkarainen, Pakkarainen, Karjaluoto & Pahnila, 2004). One advantage with portals banking is that no proprietary software has to be installed for accessing the banking service over the Internet. Banking services can be acquired through the public network of the Internet or through private virtual network. Hence, a customer can access to his/her bank account through the Internetor Extranet (Liao, Shao, Wang & Chen, 1999).

The Internet is expected to have an important and positive effect on customer perceptions of service quality in the banking sector (Wang & Wang, 2006). Despite the importance of Internet banking in many financial institutions, fewer studies have focused on customer adoption and customer satisfaction (Musiime & Ramadhan, 2011) in Arab world and particularly in Saudi Arabia (Al-Ghatani, Hubona & Wang, 2007; Al-Somali, Gholami & Clegg 2009; AlSajjan & Dennis, 2010; Al-Mudimigh, Ullah & Alsubaie, 2011) especially using self-service portal based electronic banking services.

Given the salience of these portals, the goal of our research is to examine how the features of these portals could impact customer's perceptions of the quality of banking services. By proposing a new framework for portal implementation, our aim is to address the existing research gap by proposing a new framework for portal implementation. We draw upon theories and research from management information systems and services marketing to develop a set of propositions that answer the following question:

How do features of the web-based portals influence banking customers' perceptions of service quality and satisfaction?

The next section of this paper presents our conceptual model. This model presents a nomological network of effects through which the features of the portal affect customer perceptions of online service quality and customer satisfaction. This model is built through an integration of related literature in information systems and services marketing. The subsequent section discusses the implications of this model and propositions for future research and practice.

2. Conceptual Model

Figure 1 presents our conceptual model. According to Oserwalder et al. (2005), any business model definition should follow three level representations. In the present paper the level-2 is being attempted to represent while the level-1 was presented as a strategy for service quality model representation (AlSudairi, 2012). It is hoped to bring the level-3 representations in future research studies. We argue that features of the self-service web portal will impact customers' perceptions about the gap between their expectations about service and the actual levels of service delivered to them. In turn, this gap will impact their perceptions about online service quality and their levels of customer satisfaction. Each one of these elements of the model is described below.

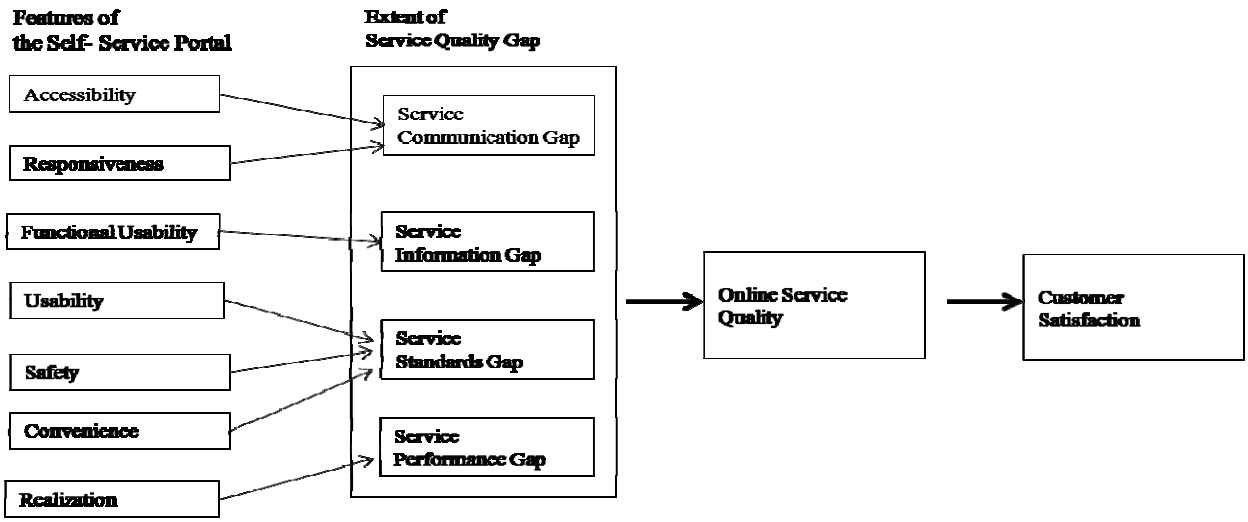

Figure 1. Self-Service web portal model for online service quality

2.1 Features of the Web-Based Portal

As defined earlier, web-based portals include mechanisms for providing information, facilitating transactions, and offering support for communication with the banks. We draw upon existing literature to identify seven significant features of web-based portals.

a. *Accessibility*

It refers to the ability to communicate with the service provider (Gerrad & Cunningham, 2005) through place, time and technology facilities (Sahut & Kucerova, 2003). Accessibility includes not only the actual network accessibility to various web resources such as web pages, databases and other tangible resources, but also the presence of intangible resources that help the customer in contacting and interacting necessary resource persons and processes to meet their expectations operationally and functionally. The convenience of using a portal cannot be achieved without accessibility; accessibility includes the availability of web-based services all the time (7x12) with the capabilities of speedy log-on, access, search and web downloads (Yang et al., 2005). Pilioura et al. (2003) infer that anytime access to data or service can be possible by having the communication capability of using web services. Therefore online communication channels such as chat rooms and bulletin boards facilitate sharing of knowledge and experience (Yang & Jun, 2002).

b. Responsiveness

It refers to the speed and effectiveness with which the portal provides the necessary information or transaction support to the customers. One of the components of responsiveness is the speed with which the content is made available to users (Kuo et al., 2005). Response time is the time it takes for the Web page to load in a user's browser and also the time required to complete subsequent transactions (Zeithaml et al., 2002). Zeithaml et al. (2002) found quick response; assurance and follow-up of services are the key factors for the web site success with consumers. In the context of web site response to web page loading speed continues to vex users; even as broadband adoption continues to increase (Kuo et al., 2005). Some studies concluded that web server performance in terms of response time should be allowed to grow not more than 2 seconds while other studies caution on page loading delays time for 12 seconds or more. Research studies show that consumers waiting times affect their retrospective evaluation of Internet web sites (Kuo et al., 2005). These studies showed the result that waiting can, but not always negatively affect evaluations of web sites. Results also show that potential negative effects can be neutralized by managing waiting experiences (by providing progressive bars, intermediate useful visuals etc.).

In an examination of 100 U. S. retailers, accessibility and responsiveness of the web site were found to be key indicators of the service quality (Zeithaml, Parasuraman & Malhotra, 2002).

c. Functional Usefulness

It is user's belief that a system would enhance job performance (Davis, 1989; Al-Somali, 2009). Ariely (2000) argued that in the portal based web environment, customers should have control on the information in terms of clarity, understanding and management of the information and its flow. Further Zeithaml et al. (2002) proposed that semi-automated and automated features such as search functions, download speed are some of the overall design elements of web usability. Customer perceived usefulness is nothing but functional usefulness (Tan & Teo, 2000, p. 28). Gant and Gant (2002) proposed that customization is one of the key aspects of web portal functionality. All web portals provide generic content and give users the ability to functionally customize the generic content meeting the personal needs of the user. Yang et al. (2005) found that up-to-date information and value added tips on products and services contribute to claim that the content is functionally useful.

d. Usability as against Ease of Use

One of the key aspects of portal functionality is the usability (Gant & Gant, 2002). The definition of Ease of Use has been considered as Usability and is given as a part of ISO 9241 standard (Quesenbery, 2007), where Perceived Ease of Use is the degree of the user belief that the system would be free of effort (Davis, 1989; Al-Somali, 2009). The technology acceptance model (TAM) posits that perceived ease of use and perceived usefulness are the primary determinants of system usage (Davis, 1989). Ease of Use has been often considered as a synonym to Usability though the meaning of usability is beyond the ease of use (Quesenbery, 2007). Thus when the definition of usability is given as "The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use", Author has considered Usability as a service quality attribute to replace Perceived Ease of use. Usability refers to the ease with which users can access information and navigate the web portal (Gant and Gant, 2002). To measure the usability of the state web portals, the features of increased the ease of use of the portal is to be recorded, making

it easy to navigate and find necessary information.

Table 1. Technology acceptance factor for service quality determinants

TAM determinants	Service Quality Context meanings
Perceived Ease of Use	Usability

Usability is a non-functional requirement. It may be thought of as operational requirement that enhances the functional requirement capability. As with other non-functional requirements, usability cannot be directly measured but must be quantified by means of indirect measures or attributes such as, for example, the number of reported problems with ease-of-use of a system (Wiki-Usability, 2011). In the context of web portals, ease of use is related to search facilities, availability of customized search functions and ease of navigation (*Yang et al.* 2005, p582). One possible explanation is that Windows environment is inherently easy to use. Windows GUI, as an ease of use factor contributed to eventual productivity (Zanino, Agarwal & Prasad, 1994). The web interface provides simple, menu-driven access to data and tools for analysis (Macken, Lu, Goodman & Boykin, 2001). Portal environment composed of Grid computing, Java RMI, Strut Framework technologies provide easy to use features (Beeson, Melnikoff, Venugopal & Barnes, 2005). Well-designed portals have pleasant, consistent interfaces that are easy to use (Gant & Gant, 2002). The richness of VRML is due to its interaction and navigation capabilities and also to the fact that VRML objects can be hyperlinked to multimedia (image, text, video, audio) or HTML files, as well as to other VRML objects (Rezayat, 2000).

e. Safety

American Heritage Dictionary meaning of safety mentions that it is the condition of being safe; freedom from danger, risk or injury. In the context of Internet banking, it refers to security and reliability of transactions (Sathye, 1999). In the context of Internet Banking safety refers to security technology and customer's trust of the service (Hwang, Chen & Lee, 2007). Internet security services include access control, authentication, confidentiality, integrity and security measure include digital signatures, digital certificates, security socket layers, secure electronic transactions, firewall access control and virtual private networks (Botha, Bothma & Geldnehuys, 2008). According to Hull, R., Benedikt, M., Christophides, V., & Su, J. (2003), a standard practice in distributed computing is to generate skeletons of implementations from signature. Safety or Security has been considered as a standard in web services based implementations. The consortium of IBM, Microsoft and W3C standards of application of the high performance Deterministic Finite-State Automation (DFA) based SOAP/XML message parser for WS-Security is a standard means of providing safety and can be considered as an implicit standard when implementing Finite State Automata (FSA) based web services, since the WS-Security standard provides transport-level authentication, encryption and digital signatures. WS-Security is based on the XML signature standard and XML encryption standard. More over FSA allows the capturing of a large class of e-services and formally verifies the important properties of e-services such as correctness, safety at each point in the execution of an e-service (Van Engelen Robert A. 2004). Lack of safety on public networks is definitely a stumbling block (Yang & Jun, 2002). Open Internet Standards environment is an open-architecture system for the provision of e-services to home residents for providing safety and security services (Vassilis et al., 2004). Identity checking is one of the essential features of confidential access to subscribed web resources (US patent 4559415, Bernard et al. 1985, December 17). Confidential access to subscribed web resources can be provided by providing the customers with a smart card because a smart card is a means of enciphering the text and data using the session key and it is written from the issuer's computer to the customer smart card (US Patent 5534857, Simon & Mathew 1996). Collaborative environments use PKI for subscriber authentication for accessing web resources. Digital certificates express the attribution of a subscriber. As per digital certificates, subscriber must have in order to get specific rights to a resource usage, who is trusted to create use-condition statements and who can attest to a subscriber's attributes. Resource Gatekeeper or Policy Enforcement Point (PEP) verifies the subscriber access rights to the resource usage with a trusted party or a Policy Decision Point (PDP). The stake holders express access constraints in the form of digital certificates on the resources usage to protect against their misuse by subscribers (Thompson, Essiari & Mudumbai 2003). Tsai and Chang (2006) proposed the feasibility of authenticating the subscribers on WLAN, based on GPR/GSM based subscription mechanism using SIM cards. Visitors can also access web resources that are within their company's intranet from their host's wireless network via a secured web tunnel that encrypts traffic and authenticate users all over HTTP links with SIM cards. Online safety includes protected access in terms of attack against viruses, unwanted

disclosures and unwanted intrusion on the private cyberspace during the e-service delivery process (LaRose et al. 2005). In online transactions, favourable outcomes and customer satisfaction are initial indicators of Trust (Zhang & Zhang, 2005). Providing non-repudiation service, guarantees safety which can make customers trust Internet banking (Lasheng & Placide, 2009).

f. Convenience

Theoretically, convenience is defined as a value or attitude consumers have to save time and effort (Berry et. al., 2002). It is also defined as an attribute with a product or service. Convenience is defined by expectations, influences of how fast issues can be resolved and is key in building a successful business; convenience is a priority and has an enormous impact on quality of life (Milestone Bank, 2010) and so author proposes to have it as part of service quality. Convenience refers to having self-service capability (Vrey, 2012). "E-Service Aggregation is a service standard that gathers relevant e-services from multiple sources to provide **convenience** and add value by analyzing the aggregated services compensability for achieving specific objectives using Web Technologies" (Zhu, Siegel & Madnick, 2001). This technique is quite useful and can play a significant role in acting as service intermediations. It involves collection, categorization and re-grouping of various services from multiple sources. Convenience saves time and effort (Kuo et al, 2005). Operational Citizen Service Management supports citizen interaction with greater convenience through a variety of channels (Customized version of Brian Caulfield, 2002; my SAP CRM book, 2001). The research work by VassilisKapsalis, Konstantinos Charatsis, Manos Georgoudakis, Efstratios Nikoloutsos, Papadopoulos George (2004) proposed the Open Internet Standards between home users and service providers through an intermediate entity called service aggregator. According Vassilis et al. (2004), "the modular architecture of the Service Aggregator provides the capability of integrating and supporting a great number of heterogeneous e-services from many service providers. The end-to-end communication can be achieved entirely based on the prevailing and emerging Internet standards, ensuring platform, vendor and language independence". The web technologies such as HTTP, XML, SOAP and WSDL guarantee that the system is really open and future proof.

The feature of *Information Aggregation* can facilitate *convenience*. "To implement convenience and to build information aggregators, service model relies on service oriented architecture with which it is possible to integrate readymade but silos of applications into an inter-connected set of services, each accessible through standard interfaces and messaging protocols such as XML, SOAP, WSDL and UDDI" (Papazoglou, 2003). When 'convenience' is understood as the gap between 'facilitate' and 'drive', this gap fulfilment can be obtained by employing and managing the capability of one-to-one, one-to-many and finally many-to-many service relationship outside the boundaries of electronic market places to satisfy the globalization needs. Therefore in the contemporary electronic market place the focus has been shifted towards providing 'complete service' solutions. The capability to aggregate multiple services in order to match a specific service request should be provided as an internal service from electronic market places (Piccinelli, Mokrushin, 2001).

Information aggregation is a service that gathers relevant information from multiple sources to provide convenience and add value by analyzing the aggregated information for specific objectives using Internet technologies. Web portals are information aggregators since they all collect information from multiple sources and disseminate it for convenient consumption at different levels of granularity for specific goals (Zhu, Siegel, Madnick, 2001).

"While service aggregation may offer direct benefits to the requester, it is a form of service brokering that offers convenience function – all the required services are grouped "under one roof". Service requester could retain the right to select an application service provider based on those that can be discovered from a registry service such as the UDDI. SOA technologies such as UDDI, security and privacy standards such as SAML and WS-Trust introduce another role which addresses these issues called a service broker. *Service brokers are trusted parties* that force service providers to adhere to information practices that comply with privacy laws and regulations. In this way broker-sanctioned service providers are guaranteed to offer services that are in compliance with local regulations and create a more trusted relationship with customers and partners (Papazoglou & Heuvel, 2007). Access to multiple channels and their integration can increase convenience leading to customer satisfaction which has a positive impact on customer acquisition, extension and retention (Goersch, 2002). The convenience of 'accessing to government information through multiple access channels by customers' (citizens and businesses) can be implemented by adopting GovML (Government Markup Language) and ebXML (Kavadias & Tambouris 2003). The impact of *multiple channel* strategies on market-level responses has received much less attention by researchers (Homburg, Hoyer & Fassnacht, 2002). Customers complex needs are more likely to be satisfied with the synergistic combination of service output and applying multiple channel strategies (Wallace, Giese, Johnson, 2004); Responding to customer through multiple channels consistently and meeting their

service level expectations while lowering contact centre costs is the key to maintain customer satisfaction (Oracle Data Sheet, 2005). Rao B, (1999) mentioned how automated search facilitates convenience as follows: "Consumers are getting smarter in using e-taliers and online search engines and search agents for convenience. Automated Search capabilities within e-tail stores replace physical browsing through endless aisles at a traditional retailing especially if the product is hard to find or out-of-stock".

In the context of attributing *customization* and *personalization* as a part of convenience, Gant and Gant (2002) mentioned that high functioning web portals give users the ability to create customized views that provide personalized content organized in a way that meets the direct needs of the user. It means the portal definition itself says that it offers customized information and transaction function to the user through web browser. The terms customization and personalization are often used interchangeably in both academic and non-academic literature. Various authors are given their understandings on these terms. The subtle difference is given by Nielsen's (1998) and Sunadar & Marathe, (2010) is that customization is under the direct control of the user; the user explicitly selects between certain options. Personalization is driven by computers which try to serve individualized pages to users based on some kind of model of their individual needs. Coener (2003) mentioned that in Customization, web site users can actively dictate the information on the site, match of categorized content to profiled users. In personalization, the content is filtered for users by playing more a passive role. Author understanding of personalization is the activity of performing the setting of values based on personal choices; once set it becomes implicit, Where as Customization is understood as the capability of facilitating personalization by performing explicitly. An empirical study of an Internet portal was tied in with extant theories about service quality, customer satisfaction and loyalty. Data collected in an on-line survey by van Riel, Liljander, and Jurriëns, (2001) informs that a strong positive effect of overall satisfaction is the intention to use and continue using the portal was found. Szymanski D M, Hise R T (2000) conducted a study on assessing customer e-satisfaction against the customer perception of having online convenience along with other factors. It is found that convenience is one of the dominant factors in consumer assessment of e-satisfaction. According to Schaupp L C and Belanger F, (2005) customizability is one of the important considerations in e-satisfaction. According to Smith A. D. (2006), "If e-personalization efforts are successful, companies can increase sales and customers can have more satisfying e-commerce experiences". These new channels like Internet offer significant increase in the flexibility for delivering personalized access (Rinses et al., 2006). E-service provide greater convenience by eliminating travel costs and enabling 24x 7 purchases irrespective of geographic location. E-Services are benefiting stakeholders of PPP model in the form of providing 24x7 conveniences so that citizens can make payments over the net through the participating bankers (Forman, Ghose, Goldfarb, 2007). According to Piccinelli and Mokrushin (2001), the electronic market places should at least enable specific service providers as an alternate to sustain aggregation-oriented business effectively. Conveniences provide better customer satisfaction via enabling alternate strategy in the form of providing alternate e-services based on Self-service technologies (Lijander, Riel & Pura, 2002); e-services as alternate service distribution channel (Javalgi, Martin & Todd, 2004); electronic market places as alternative markets (Clemons, Dewan & Kauffman, 2004).

g. Realization

The *service realization* involves choosing from an increasing diversity of different options for services which may be mixed in various combinations (Papazoglou, 2003). The realization of full e-commerce based services (Zhonghua & Erfeng, 2010) can be achieved via third party plug-in. Because third-party plug-in is a value added service for information security on order to improve enterprise management online service for avoiding security threat from hacker and viruses harassment. Self-adaptive component-based architectures facilitate the building of systems that are capable of dynamically adapting to varying execution context (Rouvoy et al., 2009).

The service realization is achieved through the means of adapters and façade to provide web or e-service interfaces exposing the required functionality (Erradi A, Anand S, Kukkarni N, 2006); A semantic web service can extend the capability of a web service by associating semantic concepts to the web service in order to enable better search, discovery, selection, composition and integration (Timmand & Gannod, 2005). Specification of semantic web services facilitates constructs of mapping between the semantic descriptions to concrete service realizations (Timmand & Gannod, 2005).

2.2 Effects of Portals features on Service Quality Gap

Traditionally, scholars have offered various definitions of service. Ramaswamy (1996) described service as "the business transactions that take place between service provider and service receiver in order to produce an outcome that satisfies the customer. Zeithaml and Bitner (1996) defined services as "deeds, processes and performances". Gronroos (1990) defined services as an activity or series of activities of more or less intangible

nature that normally, but necessarily, take place in interactions between the customer and service employees and/or systems of the service provider, which are provided as solutions to customer problems. So the system-oriented definition of service definition given by Lakhe and Mohanty (1995) is: "service is a production system where various inputs are processed, transformed and value added to produce some outputs which have utility to the service seekers not merely in an economic sense but from supporting the life of human system in general, even it may be for the sake of pleasure". Yong (2000) reviewed service as a performance that happens between consumers and service providers. According to Parasuraman, Zeithaml and Berry (1985) as well as Zeitham and Bitner (1996) service can be distinguished from goods by identifying the service as an intangible, heterogeneous, simultaneous, simultaneous in production and consumption and perishable.

Despite many studies on service quality, there is no consensus about how to conceptualize service quality (Cronin & Taylor, 1992; Rust & Oliver, 1994). Reeves and Bednar (1994) noted that there is no universal, economical or all-encompassing definition or model of quality. Service Quality is defined by the customer's impression of the service provided to them. It is the degree and direction discrepancy between customer's service perception and expectations (Berry, Parasuraman & Zeithaml, 1988; Parasuraman, Zeithaml & Berry, 1985). Service Quality is the consumer's overall impression of the relative inferiority/superiority of the organisation and its services (Bitner & Hubbert, 1994). Many service companies have research programs designed to measure service quality and/or customer satisfaction. Such programs are designed to manage service provision and relationship building initiatives of service quality with customer satisfaction. Kotler and Armstrong (1996) defined customer satisfaction as the level of a person's felt state resulting from comparing a product's perceived performance or outcome in violation to his/her expectations. So it is defined as "the levels of service quality performance that meets user expectations" (Wang & Shieh, 2006). Oliveira, Roth and Gilland (2002) suggest that companies can achieve capabilities by offering good e-services to customers. Service quality has a strong impact on customer satisfaction and on the performance of companies. Improving e-service quality to satisfy and retain customers is becoming a challenging issue. Prior studies have argued that information quality has had a positive impact on perceived ease of use and perceived usefulness (Chang, Li, Hung & Hwang, 2005; Ahn, Ryu & Han, 2007). Thus, perception of ease of use and usefulness in the context of online retailing has a positive influence on information quality (Ahn, et al., 2007). The operational definition of e-satisfaction is the extent to which the web site has exceeded customer's expectations and requirements, in terms of satisfaction with functional performance of the site as well as with the perceived satisfaction with overall quality of experience e.g., in terms of transacting business on the site. Measuring user satisfaction is often used as an indicator of success (Roy & Butaney, 2010).

The perceived quality of the service depends on the customer's prior experience with the service, the mood and the stress level, the specific nature of the interaction between the service provider and the customer (Ramaswamy, 1996). So efforts of service design must include the heterogeneity of the service encounter and the overall service features.

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; Nitecki, 1995; Keralapura, 2009). 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.

Spreng and Mackoy (1996) provided a perceived quality and satisfaction model (Seth, Deshmukh & Vrat, 2005, p.925). This model is a modified version of Oliver's model (1993), and it highlights the effects of expectations, perceived performance, desires, desired congruency and expectations disconfirmation on overall service quality and customer satisfaction. Thus, our research has been performed based on the guidelines taken from Spreng and Mackoy (1996).

The gap model of Parasuraman (2002; Parasuraman et. al., 1985; Zeithaml et al., 1990) provides an integrated framework for managing service quality and customer-driven service innovation that has a potential to enable online customer satisfaction. It has been used across industries to help companies formulate strategies for delivering quality service, integrate customer focus across functional areas, and provide a strong foundation for service excellence (Bitner et al., 2010). Service gap analysis identifies five areas of gaps for analysis:

Gap5 = Gap1+Gap2+Gap3+Gap4

Where Gap5= Customer Side Service Quality Gap

Gap1= Customer-Oriented Market related Information Gap

Gap2 = Service Performance Gap

Gap3 = Service Standards Gap

Gap4 = Service Communication Gap

The Parasuraman et al. gap model of service quality positions key concepts in services marketing that commences with the consumer and builds organisation's tasks around requirements to close the gap between customer and the company. The central focus of this model is the customer side gap. Organizations need to close this gap in order to enhance customer satisfaction (Maritiz, 2005, 182).

2.2.1 Closing Service Communication Gap

This is the gap between what is communicated to consumers and what is actually delivered (Seth, Deshmukh & Vrat, 2004; Bitner et. al., 2010). Listening to customers in multiple ways, Building relationship with customers by understanding and meeting customer needs over time can help in closing the service communication gap. Internet can be considered as a medium for providing accessibility and responsiveness for the purpose of closing service communication gap (Bitner et. al., 2010, 205-207).

In the context of *minimum service guarantee responsiveness*, Pandey, Barnes and Olsson (1998, 248) developed two views of the quality of service: Client-based and server-based. In the client based view, "the HTTP server guarantees specific services to its clients". Examples of such quality of service are a server's guarantees on lower bounds on its throughput (for instance, number of bytes/second) or upper bounds on response times for specific requests. In the server-based view, "the quality of service pertains to implementing a site's view of how it should provide certain services. This includes setting priorities among various requests and limits on server resource usages by various requests". *Minimal service guarantee of l*aunching online banking services require *minimal demand* on the banks existing infrastructure and resources (Jennifer, 2004; Tan & Teo, 2000).

H1: The availability of accessibility and responsiveness in portals will enhance the ability to close the Service Communication Gap.

2.2.2 Closing Service Information Gap

The importance of electronic service quality (e-sq) is highlighted by Zeithaml, Parasuraman and Malhotra (2002) who claim that the elimination of electronic service quality gap will lead to customer satisfaction, Ziethaml et al. (2002) identified Information Gap is one of the e-SQ gaps. Information gap represents the difference between customer's website requirements and managements' beliefs about those requirements (Davidson, 2005). Data gaps are an investable consequence of the ongoing development of markets and institutions. These gaps are highlighted when a lack of timely, accurate information hinders the ability of managers, policy makers and market participants to develop effective responses (IMF & FSB, 2009). Customer oriented relationship marketing programmes can enhance the flow of information between the bank and customers and customers can increase their positive feelings towards their bank (Leverin & Liljander, 2006). This is because the value and beliefs of customer oriented market information lie in: (1) continuous cross-functional learning about customer's expressions and their latent functional needs. (2) Web site capability to enable cross functional coordinated activities to create and exploit the learning (Erdil, Erdil & Keskin, 2004). So *functional usefulness* is considered for proposing it as an online service quality factor as it has the potential to close the information gap.

H2: The functional usefulness of portals will enhance the ability to close the Service Information Gap.

2.2.3 Closing Service Standards Gap

Service Standards Gap is the difference between management's perceptions of consumer's expectations and service quality specifications, i.e. improper service quality standards (Seth, Deshmukh & Vrat, 2004). This gap focuses on translating expectations into actual service designs and developing standards to measure service operations against customer expectations (Bitner et al., 2010). *Usability, Safety and Convenience* is proposed as e-service quality factors and its corresponding items are proposed as a part of online service quality standards.

H3: The Usability, Safety and Convenience features of portals will enhance the ability to close the Service Standards Gap.

2.2.4 Closing Service Performance Gap

Performance gap is the difference between service quality specifications and service actually delivered (Seth, Deshmukh & Vrat, 2004). Closing Service Performance gap involves integrating technology effectively and appropriately to aid service performance. Online Interactivity such as online chat, self-service technology based web services (Bitner et. al., 2010) can promote web sites in *realizing* service performance. Kotov (2001) describes e-services as the *realization* of federated and dynamic e-business components in the Internet environment. Web services are software application and are synonymous to e-services (Kagal, Perich, Chen, Tolia, Zou, Finin, Joshi, Peng, Cost & Nicholas, 2002).

H4: The web service Realization feature of portals will enhance the ability to close the Service Performance Gap.

2.3 Relation between Gap Closing and Online Service Quality Perceptions

In service marketing, services are all about promises. Strategic approach in keeping the promise lies in aligning the services towards gaps model of the service quality. Four challenges are captured by the service quality gap based framework that makeup the expectations/perception or customer gap. A company is likely to have an expectations/perceptions gap if they're failing at any of the four gaps viz. Service Information Gap, Service Standards Gap, Service Performance Gap and Service Communication Gap. Companies can keep their promises to customers only when the gaps are closed. When developing a new service such as portal based service, the gaps model can also help you to determine whether you are truly ready to launch (Bitner, 2007). In other words, gap model provides a better visibility on determining whether the organisation is aligned around what has been promised to the customer based on how best it is filling the customer gap in terms of service gap fulfillment. According to basic service economy principle, service requestor or customer gap can be equal to service provider or supplier gap. The impact of information technology on strategies associated with closing the service provider gap has been mentioned by Bitner et al. (2010) and AlSudairi (2012). Further AlSudairi (2012) concluded that the strategy of his conceptual model has a potential to close online service quality gap in the context of online banking.

H5: Closing portal based service gap from customer perspective will considerably enhance the online service quality.

2.4 Relation between Overall Online Service Quality Perceptions and Overall Online Customer Satisfaction

Service quality was not related to customer satisfaction under certain circumstances as per the arguments of some researchers (Jun, Yang & Kim, 2004). For example Parasuraman et al. (1985) found several examples where even though some consumers were satisfied with a particular service they did not think that it was because of high quality. It could be because of offering some attractive interest rates on loans and other price offerings (Strobacka et al., 1994). However other researchers suggested that service quality would lead to customer satisfaction/dissatisfaction (Cronin & Taylor, 1992; Oliver, 1980). Customer satisfaction can be viewed as a cumulative evaluation and a consequence of perceived service quality (Cronis & Taylor, 1992; Parasuraman et al., 1988). Therefore, it is necessary, in the context of online retailing (including in banking sector too), it is important to investigate the question of whether the customer perceived quality is significantly related to their overall satisfaction. Thus the following hypotheses are constructed.

Researchers have paid much attention to the close relationships between service quality and customer satisfaction (Parasuraman et al., 1988, Khan, Mahapatra & Sreekumar, 2009). Service quality is a more specific judgment which can lead to a broad evaluation of customer satisfaction (Oliver, 1993). Regarding the particular service quality dimensions that influence the formation of customer satisfaction, Johnston (1995, 1997) has found that the causes of dissatisfaction and satisfaction are not necessarily the same. Some service quality attributes may not be critical for consumer satisfaction but can significantly lead to dissatisfaction when they are performed poorly. The same author has further classified all dimensions into enhancing (satisfiers), hygiene (dissatisfiers) and dual factors. Enhancing factors are those which will lead to customer satisfaction if they are delivered properly, but will not necessarily cause dissatisfaction if absent. In contrast, hygiene factors will lead to customer dissatisfaction if they fail to deliver, but will not result in satisfaction if they are present. Dual factors are those that will have an impact on both satisfaction and dissatisfaction. Johnston (1995) identified attentiveness, responsiveness, care and friendliness as the main sources of satisfactions (satisfiers) in banking services, and integrity, reliability, availability and functionality as the main sources of dissatisfaction (dis-satisfiers). In the study Khan, Mahapatra and Sreekumar (2009) suggests that larger banks or banks with younger age, private ownership and lower branch intensity possess high probability of adoption of this new technology. Banks with lower market share also perceive i-banking technology as a means to increase the

market share by attracting more and more customers through this new channel of delivery. Self-service technologies i.e. services produced entirely by the customer without any direct involvement or interaction with the firm's employees has also changed the way companies think about closing quality gaps. These technologies have proliferated as companies see the potential cost savings, potential sales growth, efficiency achievement, increased customer satisfaction and competitive advantage (Meuter et al. 2005; Bitner et al. 2010). However, the service quality in i-banking from customers needs thorough analysis to find out the determinants for success and growth of new channel of delivery so that useful guidelines for bankers can be provided.

H6: Improvement in Online Service Quality enhances online customer satisfaction

3. Conclusion

Service quality has been frequently studied in the services-marketing literature, and much of the research has focused on measuring service quality using the SERVQUAL instrument (Parasuraman, Zeithaml, & Berry, 1985; 1988). Research on the instrument is commonly cited in the literature, and it has been widely used in industry. Although this work has improved understanding of the Determination of Internet Banking Service Quality Dimensions and Items, a criticism of SERVQUAL has been that the instrument focuses on the service-delivery process, but excludes service-encounter outcomes (Gronroos, 1990; Kang, 2006).

Theoretically, their study extends the knowledge body of service quality and customer satisfaction by enriching the content of traditional service quality and information systems quality dimensions applicable for Internet-enabled services and identifying multiple new factors. Compared to previous studies, the dimensions and their related items developed in this research comprise a relatively comprehensive pool of measures for assessing online services and can serve as building blocks for further studies in relationship marketing (Yang & Fang, 2004). We further reveal that major drivers of online service satisfaction are still strongly tied to traditional service quality gap factors and can be customized to the context of Internet-related contents.

In practice, subtle differentiation of service quality levels has become a key driving force in enhancing competitive advantages. If online providers understand what dimensions customers utilize to judge quality and form their satisfaction, they will then be in a favorable position to monitor and improve company performance. In this sense, the service quality dimensions and sub-dimensions identified in this study may facilitate firms in detection of the weaknesses and strengths of their online services.

Management can thus devote valuable corporate resources to enhance performance of salient service quality attributes identified by this study.

Thus in this paper author present the previous works related to the concept of Service Quality, Internet Banking Service Quality; it also presents author's re-engineering effort towards a theoretical examination of the magnitude of service quality knowledge considerations.

4. Research Limitations

The research limited to Internet Banking Service Domain offering regular and routine customer banking services. Thus the applicability generalizability can be more limited to financial services. The paper also highlights its limitations on e-service quality literature, particularly on the use of proposed indicators as against other formative approaches who have suggested various other e-service quality factors in the modeling of e-service quality.

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