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Comparison of Service Quality Models Impact on Customers' Satisfactions of Internet Banking Services in Egypt

Abstract

Purpose –The purpose of this paper is to compare the impact of different service quality models from customers' perspective in the Egyptian internet banking services. Two models are used which are; e-service quality model (Santos, 2003) and internet banking model (Broderick and Vachira pornpuk, 2002).

Design/methodology/approach –This study is based on a questionnaire survey conducted in Egypt. Based on an extensive review of literature, the paper uses empirical research to analyze service quality of banking services provided by banks in Egypt using two different models of service quality .This is an analytical study based mainly on the primary data collected through a scientifically developed questionnaire. The questionnaire has been personally administered on a sample size of 600 user of internet banking in different Egyptian banks.

Findings – Results based on a regression analysis identify some factors that influence users' evaluation of service quality of banking services in each model. Regarding the first model, these factors are reliability, efficiency, support and security, while the second model includes the factors; reputation, service settings and customer participation. In general, the first model was found to be affecting the perceived service quality higher than the latter one.

Practical implications–The findings are important to enable bank managers to have a better understanding of customers' perception of service quality of banking and consequently of how to improve their satisfaction with respect to aspects of service quality.

Keywords - services quality, Customer satisfaction, Banking, Egypt

Paper type - Research paper

1. Introduction

Banks play an important and active role in the financial and economic development of a country. An effective banking system has a high impact on the growth of a country in various economic sectors. Practitioners in the banking industry face a large number of complex challenges in the global marketplace (Malhotra & Mukherjee, 2004).

Banking sector was functioning in the past in a safe environment as it was controlled by nationalized banks. So, there was no care for satisfaction of customer's needs and service quality matters (Sathiyavalli et al, 2011).

On the other hand, consumers worldwide have become more quality sensible, which enlarged the request of customers for higher quality service. This caused a greater attention of service operations worldwide as it is influenced by this fresh trend of quality consciousness and weight (Lee, 2005). Consequently, service-based companies counting banks started to focus on gaining competitive advantage by offering outstanding services to their customers which will maintain achieving competitive advantage. This transfers banks to being a customer oriented services industry, which means that bank become dependent upon the customers for their existence in the market, where customer is the emphasis and customer service is the distinguishing factors (Guo et al., 2008) and attaining competitive advantage occurs by providing high quality customer service (Naeem & Saif, 2009).

In the competitive banking industry, customer satisfaction is the essence of success. Thus, service providers establishing a high level of service quality are supposed to achieve a high level of customer satisfaction and by that they are able to gain a sustainable competitive advantage. This is very important to organizations in general as it increases company profit, compared to similar organizations that have demonstrated poor customer service (Duncan, 2004).

1.1 Research Problem

Regardless of the criticality of service quality to businesses, measuring service quality postures obstacles to service providers, due to the unique characteristics of services: intangibility, heterogeneity, inseparability and perish ability (Douglas & Connor, 2003). Additionally, services involve a distinctive context for quality measurement. As a result, it becomes difficult to service providers to determine the main factors that they have to consider to gain competitive advantage.

Accordingly, the researcher constructs the current research to study two models of service quality to be capable to describe the best model to describe customer satisfaction factors. The two models used are e-service quality model which have been developed by Santos, 2003 and internet banking model developed by Broderick and Vachirapornpuk, 2002.

1.2 Research Objectives

The financial services, particularly banks, compete in the marketplace with generally undifferentiated products; therefore service quality becomes a primary competitive weapon (Stafford, 1996).The banking industry is highly competitive and banks do not only compete among each other, but also with non-banks and other financial institutions both local and foreign (Kaynak and Kucukemiroglu, 1992). The research aims to understand the main factors that affect customer satisfaction and propose a model that would support decision makers enhance the quality of service through comparing different models used in the internet banking services.

2. Review of Literature

2.1 Definition of Quality

The word ‘quality’ is frequently used to describe products and/or services. It includes different meaning to differ-

ent people and organizations, and therefore lacks universal definition. As a result there have been numerous definitions of quality from literature in an attempt to establish a common understanding. Until recently, the concept of quality was heavily associated with product. Thus, quality issues became prominence in the manufacturing era and that majority of the quality definitions possess product characteristics weapon for developing new markets as well as increasing market share (Davis et al, 2003).

Quality can be defined as satisfying or exceeding customer requirements and expectations, and hence to some extent it is the customer who ultimately judges the quality of a product (Shen *et al.*, 2000).

A broad range of literature over the last 25 years has examined the concept of service and identified the intangibility of services as one of the problems associated with measurement (Joseph *et al.*, 2005).Furthermore, in the service sector, where production, delivery and consumption can occur simultaneously, the concept of quality refers to the matching between what customers expect and what they experience. Customers assess service quality by comparing what they want or expect to what they actually get or perceive they are getting (Berry *et al.*, 1988).When it comes to the service sector in banks, it turned out to be that they offer similar kinds of services all over the world (Lim and Tang 2000), quickly matching their competitors' innovations. However, customers can perceive differences in the quality of service. Banks have realized the importance of concentrating on quality of services as a way to increase customer satisfaction and loyalty, and to improve their core competence and business performance (Kunst and Lemmink, 2000).

2.2Service Quality

Service quality was defined as the extent to which services match with customer's needs or expectations (Lewis & Mitchell, 1990). Thus, measuring customer's expectation is the key to being able to serve the customer satisfactorily. Nowadays, with the increased competition, service quality has become a popular area of academic research and has been recognized as a key factor in keeping competitive advantage and supporting satisfying relationships with customers (Zeithmal, 2000).

Service quality is defined as the degree of inconsistency between customers' normative expectations for service and their perceptions of service performance (Parasuraman et al., 1985). Consumers usually shop at specific stores, because they like the service provided and they are assured of certain service privileges; thus, the performance of salespeople stimulates bonding through trust between them and customers, which affects the latter's perception of the store or brand (Lau et al., 2006; Leung & To, 2001). The definition of service quality can be extended to the overall evaluation of a specific service with ten service quality dimensions: tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding/knowing the customer (Parasuraman et al., 1985, 1988). These ten dimensions were generated from a questionnaire with 97 items (Parasuraman et al., 1988).

The ten dimensions was declined to be five by Zeithaml, Parasuraman and Berry (1990) to measure customer's perceived value of service quality, which is known as SERVQUAL. This SERVQUAL adopts the meeting expectations paradigm to measure service against firms (Ladhari, 2009).

Service quality is a concept that has incited considerable interest and debate in research. There are hitches describing and measuring it with no overall agreement developed (Wisniewski, 2001). One definition of service quality is that it is the overall assessment of a service by the customers (Eshghi et al., 2008).

Service quality is defined as customer perception of how well a service meets or exceeds their expectations (Czepiel, 1990). Numerous practitioners define service quality as the difference between customer's expectations for the service encounter and the perceptions of the service received (Munusamy *et al.,* 2010). Customer expectation and perception are the two main components in service quality. Oliver (1980) suggests that customers judge quality as „low" if performance (perception) does not meet their expectation and quality as „high" when performance exceeds expectations.

Perceived quality was defined as a form of attitude, associated but not equal to satisfaction, and results from a consumption of expectations with perceptions of performance (Parasuraman et al,1988). Accordingly, having an enhanced understanding of consumers attitudes will help know how they perceive service quality in banking operations.

2.3 Service Quality in the Banking Sector

Banks today have to be of world-class standard, dedicated to excellence in customer's satisfaction and to show a main role in the growing financial sector (Guo et al., 2008).. Customers have also precisely claimed globally quality services from banks.. Banks have acknowledged the need to meet customer's aims. Accordingly service quality is a critical strength to move the bank up towards the high technology. Banking industry is a demand driven industry, which constitute an important part of the service industry (Newman & Cowling, 1996). Banks have to redefine their corporate image to that highlights service quality since it provides many advantages to a company such as allowing the company to distinguish itself from its competitors by growing sales and market shares, providing opportunities for cross selling, enhancing customer relations thus improving the corporate image, reliability, responsiveness, credibility and communication results in the satisfaction and retention of customers and employee, hence decreasing turnover rate (Newman, 2001).

The reliability of banking sector is of a dominant importance as it is a main component of the Egyptian financial sector, and as efficiency in the consumption of the savings of the depositors and the banking sector assets is necessary to improve the growth rate of the real segments of the economy (Central Bank, 2003). The aim of banking operations should be to enhance the quality of life for the overall society not just the maximization of shareholders' wealth.Hence study of influence of ser-

vice quality on customer satisfaction and customer relationship at banks is essential at any point of time (Somasundaram and Krishnamoorthy, 2008).

In view of the increased tendencies to use internet as a delivery channel, research has also focused on quality in such context; traditional service quality dimensions such as cleanliness might not be applicable to e-services in a straightforward way. Zeithaml et al., (2000) proposed the following dimensions of generic e-service quality: responseveness, trust, reliability, efficiency, security, access, flexibility, ease of use, site aesthetics, personalisation and price.

Yang et al., (2004) proposed six key online service quality dimensions: reliability, responsiveness, competence, ease of use, security and product range.
Some service quality dimensions are applicable to both traditional and online delivery, and these include reliability and responsiveness. Lee and Lin (2005) concluded that trust is the most important dimension of e-service quality, followed by reliability, responsiveness, website design and personalisation.

Literature also concentrated more precisely on banking services being obtained in an electronic setting. Joseph et al., (1999) acknowledged the subsequent dimensions in this respect: convenience/accuracy, feedback/complaint management, efficiency, queue management, accessibility and customisation. Jun and Cai (2001) discovered that the dimensions which showed most significant were: responsiveness, reliability, access, ease of use, accuracy and product variety.

Whereas numerous studies studied customer acceptance of IB, less attention was given to the aspects which might prevent customers from using such financial innovations (Bradley and Stewart, 2002). Szmigin and Foxall (1998) recommended three types of resistance to innovation: postponement, opposition and rejection. Postponers are potential users who intend to adopt the innovation within a year; opponents intend to adopt the innovation but are still undecided when to do so; whilst rejecters do not intend to adopt the innovation.

Laukkanen et al., (2008) adopted this classification to the potential adoption of IB services by Finnish customers. Parasuraman (2000) stated discomfort and insecurity as the main inhibitors of adopting technological innovations. In an practical examination among Australian bank customers, Sathye (1999) discovered that the main inhibitors of IB adoption were scepticism about security and unclear prospective benefits. The author well-thought-out the subsequent possible inhibitors:

Insufficient awareness of the service: Consumers may only procure services if they are informed about available products, and how the latter might offer better value for money. Bankers may address this inhibitor by explaining how their offer differs from that of competitors.

Difficulty to use the facility**:** Technological innovations should be simple to use in order to attract sufficient demand from customers who might be IT-averse.

***Security concerns*:** As the social context gets less tangible through reduced face-to-face communication, customers become more prone to mistrust a system (Milne and Boza, 1999).Therefore banks should implement appropriate security features such as encryption, firewalls and virus protection to persuade customers that IB is reasonably safe. Lack of familiarity with the service might also be a related factor, since this tends to intensify perceived risk.

***Unreasonable prices*:** Another deterrent which affects IB adoption is cost, which comprises bank charges and internet connection fees. Technological innovations should therefore be reasonably priced as compared to other alternatives.

***Resistance to change*:** When customers are satisfied with the prevailing offer, it might be difficult for bankers to entice them into adopting alternatives, and this is particularly true in case of more conservative clients. Despite this, one should note that Flavián et. al. (2006) presented findings which potentially run counter to the former hypothesis, in the sense that trust in the traditional delivery channel may inspire confidence in IB services provided by the particular operator, and therefore this may make clients more prone to change.

***Lack of access to internet and personal computers*:** Internet connectivity might be a problem, not only in terms of the related costs but also on the grounds that such pre-requisite excludes a section of customers, particularly IT-illiterate persons.

2.4 E-services Quality

E-service quality is defined as overall customer assessment and judgment of e-service delivery in the virtual marketplace (Santos, 2003). Businesses that have been practiced and effective in proposing e-services are beginning to capture that in addition to website occurrence and low price, the vital success or failure aspects also include the electronic service quality (Yang, 2001; Zeithaml, 2002). One of the causes for the increase significance of e-services quality is that through the Internet, it is easier for customers to compare diverse service offerings than over traditional channels (Santos, 2003). Consequently, customers of online services assume equal or higher levels of service quality than the customers of traditional services (Santos, 2003). The prominence of providing high quality e-services has been acknowledged by several companies, but still there is the problem of how the quality of online services is well-defined, which its factors are and how it can be actually measured. There exist numerous models and methods for measuring the quality of traditional services (Cowling & Newman, 1995; Johnston, 1995; Bahia & Nantel, 2000; Oppewal & Vriens, 2000), however there is not that plentiful research prepared on the quality of services provided over the Internet (Cox & Dale, 2001). Lately, there have been two approaches to studying e-services that can be notable. The first approach proposes the study of e-service quality on the origin of previously exisiting service quality concept (Grönroos, 2000; Zeithaml et Al., 2000).

The other approach proposes the study of e-service quality through empirical research and the improvement of different classifications of e-services (Szymanski & Hise, 2000). For example, according to Van Riel, Liljander and Jurriens (2001) various researchers have tested the SERVQUAL tool on different e-services as web-based service, internet retail and electronic banking. In spite of that, there are still certain worries between researchers whether the SERVQUAL instrument can be practical for measuring the quality of online services. Parasuraman and Grewal (2000, p. 171) recommend that research is desired on whether "the definitions and relative importance of the five service quality dimensions change when customers interact with technology rather than with service personnel". Since the SERVQUAL tool dimensions and attributes were established for traditional services where direct contact between the employees and the customers arise, numerous researchers consider that the items of the instrument and their content would requisite to be refined before they can be implicitly used in the online service setting.

According to Zeithaml et Al. (2000) further dimensions may also be required in order for the full theory of e-service quality to be taken. Yang (2001) suggested in his research the usage of seven online service quality dimensions which support those of the SERVQUAL scale. These dimensions embrace reliability, responsiveness, access, ease of use, attentiveness, credibility and security. In addition the application of existing models on the e-service quality measurement, several researchers have recently suggested new quality dimensions, particular for the online services. For example, in a fresh study on the quality of online services of 23 travel agencies, Kaynama and Black (2000) have used seven quality dimensions derived from SERVQUAL: responsiveness, content and purpose (derived from reliability), accessibility, navigation, design and presentation (all derived from tangibles), background (assurance), and personalization and customization (derived from empathy).

Moreover, Ziethaml et Al. (2000) prepared research with focus groups involving of people with experience in online shopping. As a consequence of the study they well-defined eleven equality dimensions (the so-called E-SQ instrument): reliability, responsiveness, access, and flexibility, ease of navigation, efficiency, assurance/trust, security/privacy, price knowledge, site aesthetics and customization/personalization. Far ahead in 2002, Zeithaml et Al. studied the E-SQ model and decreased the online service quality dimensions to seven. These dimensions are as follows: efficiency, fulfillment, system availability, privacy, responsiveness, compensation and contact (Parasuraman et Al., 2005). Based on the SERVQUAL scale, Barnes and Vi-dgen (2001) have established the We-bQual Index with 24 measurement it-ems, which is certainly recognized for online service quality measurement. The Index embraces the following seven online service quality dimensions: reliability, competence, responsiveness, access, credibility, communication and understanding the individual. Likewise, Madu and Madu (2002) made a literature review, on the basis of which they proposed 15 dimensions of online service

quality: performance, features, structure, aesthetics, reliability, storage capacity, serviceability, security and system integrity, trust, responsiveness, product differentiation and customization, Web store policies, reputation, assurance and empathy.

2.5 Previous Studies on E-banking Service Quality

The increased significance of information and communication technology for the delivery of financial services has led to the emergent interest of researchers and managers in E-banking quality matters (Jayawardhena, 2004). Diverse readings reflect specific service quality dimensions of simple banking websites. For example, Jun and Cai (2001), by using the critical things techniques in online banking, differentiate three vital quality types, specifically the customer service quality, online systems quality and banking service products quality. Further researchers, Broderick and Vachrapompuk (2002) pursued the usage pattern of members of an internet banking community. They found out that what affected the service evaluation utmost were clues in the service background, key events in the service encounters and the level and nature of customer participation. Appropriately, they were not able to remove from their research a specific measurement of E-banking service quality.

Jayawardhena (2004) prepared a research on the service quality in E-banking by using an adopted version of the SERVQUAL instrument for the Internet setting. The study resulted in 21 items which were compacted to five quality dimensions: access, website interface, trust, attention and credibility. Finally, it is be thought that particular research has been prepared to classify service quality dimensions in E-banking, but so far no model has been established, that can be universally applied as far as E-banking services quality is concerned. Additional research in the area is needed, in order for this to be complete.

Madu and Madu (2002) have recognized 15 dimensions for e-quality or virtual operation based on the analysis of the literature and classifying both the positive and negative features that affect the perceptions of customers of virtual operations, these dimensions are mixture of two main dimensions of quality by Gravin and Berry and Parasuraman models even though they have added unique dimensions that virtual operations customers are concerned with. Additionally, regardless that some of the dimensions stand similar label, their definitions in a virtual operation may differ. These dimensions are Performance, features, structure, aesthetics, reliability, storage capability, serviceability, security, trust, responsiveness, product differentiation, website polices, reputation, assurance and empathy. They have showed that from all of these dimensions; the performance and the security dimension are the utmost important ones from the Web user point of view.

Cox and Dale (2001) have examined the applicability of determinants acknowledged in a physical service setting to consider the service quality dimensions allied to e-commerce. They claimed that the lack of human interaction during the Web site experience means that causes such as competence,

courtesy, cleanliness, comfort and friendliness, helpfulness, care, commitment, flexibility are not particularly relevant in e-commerce. On the other hand they have recognized 11 determinants that can be thought to be vital to both service quality and Web site service quality, if not in exactly the same way these dimensions are Accessibility, responsiveness, communication, credibility, reliability, security, understanding the customer, appearance, availability, functionality and integrity.

Moreover, Chaffey and Williams (2001) have showed a study trying to define the online service quality factors. The study has measured these factors through the contemplation of the dimensions of the SERVQUAL service quality instrument. This assessment was proposed to examin online service quality for marketing of both tangible goods such as books or office equipment and intangible products such as financial or travel services and identifying that any product offer will include a mix of tangible and intangible elements. Meanwhile online service encounters are practiced through an electronic medium, the quality of the delivered product is by definition intangible, this being one of the key features of a service. They emphasized major features of on-line service quality for the dimensions of the SERVQUAL.

In an exploratory study by Malhotra and Singh (2010) for the Indian economy on internet banking, it was found out that the private and foreign Internet banks have performed well in offering a wider range and more advanced services of Internet banking in comparison with public sector banks. This led the private and foreign firms being able to satisfy their customers more than their local counterparts in the public sector.

A study to identify the interrelationships between SERVQUAL, customer satisfaction and customer loyalty in the retail banking sector in Hong Kong (Mei et al., 2013) specify that the five SERVQUAL dimensions (i.e. tangibility, responsibility, reliability, assurance and empathy) have a positive influence on customer satisfaction.Tangibility, responsibility, reliability and assurance were more significant in contributing to customer satisfaction, while empathy was the least significant dimension. A previous study based on customers of several bank in the Saudi capital city of Riyadh, during the fall of 2014 (Ghalib, 2014) originated a positive relationship across assurance, empathy, and responsiveness, however that this relationship had no significant effect on customer satisfaction. Reliability was found to have a negative relationship to customer satisfaction, but no significant effect on the same. Only tangibles were found to have a positive relationship on customer satisfaction. However, the study was limited to the customers from Riyadh city only.

The present study considers the perceptions of the customers of Egypt and tries to examine the effect of each of the SERVQUAL determinants as well as their effect on customer satisfaction

2.6Customer Satisfaction

Customer satisfaction offers a vital link between cumulative purchase and post-purchase occurrences in relation with attitude change, repeat purchase and brand loyalty (Churchill & Surprenant, 1982). Service quality has a

positive effect on customer satisfaction (Yee et al., 2010). Customer satisfaction is well-defined as the attitude resulting from what customers consider should happen (expectations) linked to what they believe did happen (performance perception) (Neal, 1998). Satisfaction strengthens quality perception and energies repeat purchases. Zaim, Bayyurt, and Zaim (2010) originated that tangibility, reliability and empathy are vital for customer satisfaction, nonetheless Mengi (2009) discovered that responsiveness and assurance are more essential. Siddiqi (2010) studied the applicability of service quality of retail banking industry in Bangladesh and found that service quality is positively correlated with customer satisfaction; empathy had the highest positive correlation with customer satisfaction, followed by assurance and tangibility. On the other hand, Lo, Osman, Ramayah and Rahim (2010) stated that empathy and assurance had the utmost influence on customer satisfaction in the Malaysian retail banking industry. Arasli, Smadi and Katircioglu (2005) found that reliability had the highest impact on customer satisfaction. Numerous studies have recognized the dimensions of service quality as the antecedents of customer satisfaction.

Literature founds to gain market shares, organizations need to overtake competitors by offering high quality product or service to announce satisfaction of customers (Tsoukatos and Rand, 2006). Banks need to understand customers‟ service requests and how it impact on service delivery and customers‟ attitudes (Gerrard and Cunningham, 2001), for a slight increase of customer satisfaction can to customer loyalty and retention (Bowen and Chen, 2001). With improved understanding of customers' perceptions, companies can define the activities needed to encounter the customers' needs. They can identify their own strengths and weaknesses, where they stand in contrast to their competitors, plan out tracks for upcoming improvement and (Magesh, 2010). In the banking industry, a key part of customer satisfaction is the nature of the relationship between the customer and the supplier of the products and services. Consequently, both product and service quality are normally prominent as a serious requirement for satisfying and retaining valued customers (Muslim and Isa, 2005). It is definitely true that delivery of high-service quality to customers compromises firms a chance to differentiate themselves in competitive markets (Karatepe *et al.*, 2005).

2.7Service quality Models

One of the service quality models described quality as being represented in five dimensions: tangibles (appearance of physical facilities, equipment, personnel and written materials), reliability (ability to perform the promised service dependably and accurately), responsiveness (willingness to help customers and provide prompt service), assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence), and empathy (caring and individual attention the firm provides its customers). Reliability is considered the essential core of service quality. Other dimensions will matter to customers only if a service is reliable, because those dimensions cannot compensate for unreliable service delivery (Berry *et al.*, 1994).

Among the models for measuring service quality, the most acknowledged and applied model in variety of industries is the SERVQUAL (service quality) model developed by Parasuraman et al. The SERVQUAL model of Parasuraman et al. (1988) proposed a five dimensional construct of perceived service qualitytangibles, reliability, responsiveness, assurance and empathy as the instruments for measuring service quality (Parasuramanet *el al*., 1988; Zeithamlet*el al.,* 1990).

Reliability depends on handling customers' services problems; performing services right the first time; provide services at the promised time and maintaining error-free record. Furthermore, they stated reliability as the most important factor in conventional service (Parasuraman et al., 1988). As stated by Yang et al. (2004), the meaning of reliability is consisted of accurate order fulfillment; accurate record; accurate quote; accurate in billing; accurate calculation of commissions; keep services promise. He also mentioned that reliability is the most important factor in banking services.

Parasuraman et al.(1985) defined responsiveness as the willingness or readiness of employees to provide service. It involves timeliness of services. It is also involves understanding needs and wants of the customers, convenient operating hours, individual attention given by the staff, attention to problems and customers' safety in their transaction (Kumar *et al.,* 2009).

Parasuraman et al. (1985) defined empathy as the caring and individual attention the firm provides its customers. It involves giving customers individual attention and employees who understand the needs of their customers and convenience business hours. Ananth et al. (2011) referred to empathy in their study on private sector banks as giving individual attention; convenient operating hours; giving personal attention; best interest in heart and understand customer's specific needs.

Parasuraman et al.(1985) defined assurance as knowledge and courtesy of employees and their ability to inspire trust and confidence. According to Sadek et al. (2010), in British banks assurance means the polite and friendly staff, provision of financial advice, interior comfort, eases of access to account information and knowledgeable and experienced management team.

Parasuraman et al. (1985) defined tangibility as the appearance of physical facilities, equipment, personnel, and witten materials. Ananth et al. (2011) refered to tangibility in their study of private sector banks asmodern looking equipment, physical facility, employees are well dressed and materials are visually appealing.

3. Research Methodology

The methodology employed in obtaining information about customer satisfaction in banking via a survey conducted at a sample of the general consumer population. In the questionnaire assigned, the questions were adopted from previous research. It measures service quality by implementing the dimensions of the e-service quality model versus those of the internet banking model. The 5-point Likert -scale is used for all responses with (1 = strongly disagree, 2= disagree, 3= neither agree nor disagree, 4 = agree, 5 = strongly agree).

3.1 Research Population and Sampling

Targeted respondents are the general public who are at the legal age to hold a Savings and/or Current Account in any of the banks in Egypt.

The survey questionnaire is designed and distributed to target respondents randomly. The researcher collected questionnaires from 600 customers who are using e-banking services. The researcher collected the questionnaire in the form of simple random sampling, as the researcher used online survey monkey to collect the data under study.There were no concerns regarding data collected from public or private banking or certain numbers from certain banks due to time limitations.

The questionnaire assigned is considered from the studies considering the models under study after applying a pilot study and measuring the validity and reliability of the statements assigned in the questionnaire. The questionnaire was designed to include statements for all the variables under study, where 4 statements are considered for each variable.

3.2 Research Hypotheses

Literature has been extensively reviewed to assume the following hypotheses:

H_1: There is a significant impact of e-service quality model dimensions on customer's satisfaction.

H1.1: *There is a significant impact of Reliability on customer's satisfaction.*

H1.2: *There is a significant impact of Efficiency on customer's satisfaction.*

H1.3: *There is a significant impact of Support on customer's satisfaction.*

H1.4: *There is a significant impact of Communication on customer's satisfaction.*

H1.5: *There is a significant impact of Security on customer's satisfaction.*

H1.6: *There is a significant impact of Incentive on customer's satisfaction.*

H_2:There is a significant impact of Internet Banking model dimensions on customer's satisfaction.

H2.1: *There is a significant impact of Customer Expectations on customer's satisfaction.*

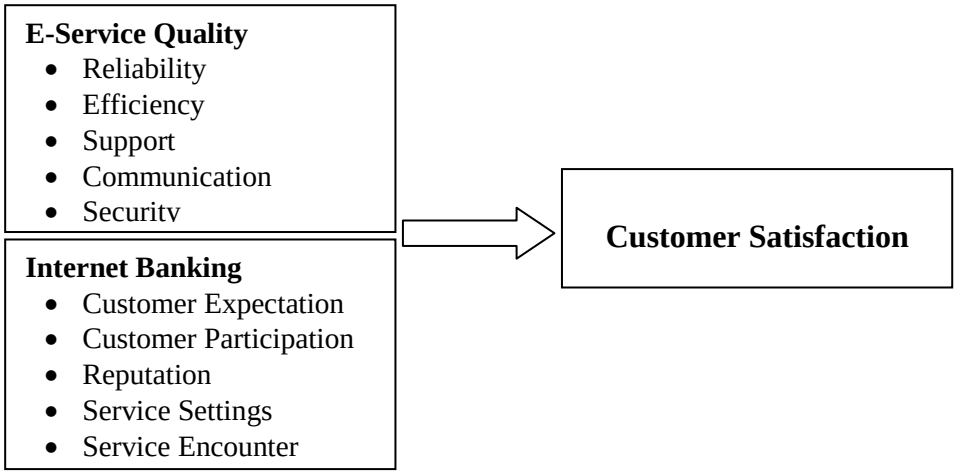
H2.2: *There is a significant impact of Customer Participation on customer's satisfaction.*

H2.3: *There is a significant impact of Reputation on customer's satisfaction.*

H2.4: *There is a significant impact of Service Settings on customer's satisfaction.*

H2.5: *There is a significant impact of Service Encounter on customer's satisfaction.*

3.2 Research Framework



4. Empirical Study

In order to analyze the questionnaire data, statistical analysis was done using the Statistical Package for Social Science (SPSS) software – version 22.
Statistical Inferences used are as follows:

a. Reliability Analysis, used to measure reliability using Cronbach alpha.
b. Regression analysis, used to assess how much do each independent affect Customer Satisfaction (dependent variable). It also gives an indication of the relative contribution of each independent variable.

4.1 Reliability Analysis

Reliability test is an assessment of the degree of consistency between multiple measurements of a variable. Cronbach's alpha is the most widely used measurement tool with a generally agreed lower limit of 0.7.

The following Table provides an overview of the reliability scores. As can be seen from this table, all the alpha coefficients were above the required level of 0.7.

Table 1 Reliability Analysis for Research Variables

Scale	Number of items	Cronbach's Alpha
Reliability	4	0.721
Efficiency	3	0.736
Support	4	0.798
Communication	4	0.799
Security	3	0.825

Incentive	4	0.876
Customer Expectation	4	0.834
Customer Participation	3	0.711
Reputation	4	0.769
Service Settings	3	0.706
Service Encounter	4	0.797

4.2 Regression Analysis

Regression tests shown in equation: Y = a + b x, where Y is the dependent variable, a is the Y intercept, that is the value of Y when x = 0, b is the regression coefficient which indicates the amount of change in Y given a unit change in x, and finally x is the value for the independent variable. The results were as follows for the first model of e-service quality model:

Table 2 Regression Analysis for Model 1 Dimensions

Model		Unstandardized Coefficients		Standardized Coefficients		P-value
		B	Std. Error	Beta	T	
1	(Constant)	1.974	.085		23.184	.000
	Reliability	.207	.040	.239	5.212	.000
	Efficiency	.097	.043	.119	2.245	.025
	Support	.116	.038	.160	3.026	.003
	Communication	.061	.036	.090	1.697	.090
	Security	.061	.027	.096	2.284	.023
	Incentives	.088	.047	.117	1.854	.064

The above results illustrate the highest impact of the reliability on customer satisfaction, where an increase in reliability by one unit will cause an increase in the customer satisfaction in banking sector by 0.207. Similarly, the customer satisfaction in banks in Egypt is directly affected by Efficiency, Support and Security. On the other hand, there is an insignificant impact of both communication and Incentives on Customer Satisfaction in the presence of other factors, as corresponding P-values are greater than 0.05.

Thus, it could be concluded that the first hypothesis is partially accepted as

$H_{1.1}$, $H_{1.2}$, $H_{1.3}$, and $H_{1.5}$ are supported, while $H_{1.4}$ and $H_{1.6}$ are rejected.

Regarding the second model, table 3 shows that there is a significant impact of Customer Participation, Reputation and Service Settings on Customer Satisfaction, as p-values are less than 0.05. The highest impact was shown for Reputation (β=0.223), then Service settings (β=0.178), while the least important is customer participation (β=0.103).

Thus, it could be concluded that the second hypothesis is partially accepted as, $H_{2.2}$, $H_{2.3}$, and $H_{2.4}$ are supported, while $H_{2.1}$ and $H_{2.5}$ are rejected.

Table 3 Regression Analysis for Model 2 Dimensions

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**T**	**P-value**
1 (Constant)	2.102	.093		22.688	.000
Customer Expectation	.031	.034	.042	.911	.363
Customer Participation	.103	.049	.112	2.111	.035
Reputation	.223	.053	.257	4.220	.000
Service Settings	.178	.038	.223	4.645	.000
Service Encounter	.064	.044	.081	1.443	.149

In general, the first model retrieves an R-squared value of 75.6%, while the second retrieves an R-squared of 66-.2%. This means that the first model was able to explain a greater percentage in the variation of Customer Experience.

5. Conclusion

This study investigated the quality perception of bank customers in Egypt and the differences in relative importance they attach to the various quality dimensions using both; e-service quality and internet banking models. The internet banking model appears to be a more reliable scale to measure banking service quality, and provide a useful diagnostic role to play in assessing and monitoring service quality in banks. The research finds that Customer Satisfaction in the Egyptian banking services is significantly affected by Reliability, Efficiency, Support and Security, while the effect in the internet banking model happens for customer participation, reputation and service setting. In addition, both percentages of R-squared are relatively low, which means that there are other variables that may be able to explain the variation in customer satisfaction.

6. Recommendations and Future Research

The current research examines only two models of service quality, so, it is recommended that future researches could be conducted to compare different models so as to be able to determine the optimum model of service quality.

Also, each model under study retrieved a relatively low percentage of R-squared, which means that each model could accept other variables that could explain the variation in R-squared and they are not currently included. Thus, it is recommended to include other variables in each model so as to increase the R-squared observed.

In addition, future research could merge the significant variables obtained in each model to be included in one new model for Egyptian banks.

7. Research Limitations

The current research, as the case of all researches is exposed to several limitations. One of the limitations is that the data collected was not meant to guarantee the inclusion of all the Egyptian banks. Also, the researcher was not able to ensure equal collection from private and public banks.

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