“Determinants of service quality on service loyalty: the mediating role of customers’ satisfaction and brand equity”

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SECTION 3. General issues in management

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Determinants of service quality on service loyalty: the mediating role of customers' satisfaction and brand equity

Abstract

Customers' satisfaction and customers' loyalty have become a main focus of studies on the banking industry and service sectors. However, literature on the service loyalty in the post office context is relatively new. The appropriate new approach for fostering service innovation for the post offices should be developed to increase knowledge about the service quality. This research, therefore, aims to explore the factors influencing service loyalty in the post office service sectors. In this paper, first the conceptual framework is proposed followed by the constructs: service quality, service innovation, customers' satisfaction, brand equity and service loyalty. The survey questionnaire was used to collect quantitative data. Exploratory and confirmatory factor analyses were performed to test the validity of the measures, and PLS was employed to test the hypotheses. This study could contribute to both management theories and practical applications to the post offices in Asian countries, especially in Malaysia. The findings will help the post offices move towards offering new products and services, such as post office malls, stamps release during the festival seasons, postal e-mails, children savings schemes and post office ATM.

Keywords: service quality, service innovation, customer satisfaction, brand equity, service loyalty.
JEL Classification: M31.

Introduction

There is a rapid growth of studies on the banking industry and service sectors regarding customers' satisfaction and customers' loyalty. However, research on the post office service loyalty is relatively new in the literature. In this regard, Oliver (1999) developed a customers' loyalty model which was applied in previous research. Similar aspects for Taiwan post offices were investigated in a study by Ltifi and Ghardi (2012). In fact, the development of information and communication technology (ICT) leads to a service innovation and rapid technological evolutions (Huarng & Yu, 2011). These new technologies compete with each other to meet consumers' needs which could bring about new service innovation management challenges for service providers (Danaher et al., 2001). They provide customers with high-quality and personalized services.

The technology acceptance model (TAM) emphasizes initial customers' adoption decision and subsequent use (Venkatesh et al., 2003). Services evolve rapidly over time, and companies shift their attention from technology to service innovation (Bitner & Brown, 2006). It is, therefore, necessary to gain deep insights about the strategic impacts of service innovation in consumers' decision making (Okada, 2006). Although a few studies on service technologies have been conducted before (Venkatesh & Brown, 2001), service adoption and use are considered the main issues which need to be taken into consideration. Moreover, marketing has been discussed in the literature on customers' loyalty for ages (Oliver, 1980). Nevertheless, the way that service innovation influences customers' loyalty has remained relatively unknown (Parasuraman & Grewal, 2000). Thus, understanding the impact of service innovation on service loyalty towards service providers is the main motivation for the present study.

Service quality and customers' satisfaction are evaluation variables that are related to customers' judgments about a product or service (Ograjensek et al., 2012). Based on the service profit chain by Heskett and Schlesinger (1994), an increased service quality and customers' satisfaction can improve profitability through increased customers' loyalty, which is a multidimensional construct comprised of behavioral and attitudinal dimensions (Velazquez et al., 2011). This study starts by delineating the concept of service loyalty and proceeds to distinguish between service quality and customers' satisfaction.

A mediative model that links service quality to service loyalty via customers' satisfaction was proposed (Caruana, 2002). The results indicated that customers' satisfaction plays a mediating role in the effect of service quality on service loyalty. Crew and Kleindorfer (1991) commented that the thoughtful analysis of the British Post office results in the establishment of the first inexpensive universal systems for communications available to all members of the society. Therefore, a planned strategy has several advantages over emergent strategies that the post office is adopted for Information Technology

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(IT) (Fuller-Love & Cooper, 2000). With the substantial automation, one can perform well both at the boxes and counter sections of Nigerian Postal Service (NIPOST) (Aweh & Ademola, 2009).

1. Problem statement and research gaps

The main aim of this study is to explore the factors influencing service loyalty in the post office service sectors. Previous studies (Masoumi Mayni, 2012; Mosahab, Mahamad & Ramayah, 2010) have shown positive effect associated with the availability of service quality, innovation and customers' loyalty benefits. Nevertheless, there is very little empirical research conducted to evaluate how the availability of specific components benefits packages in the post office. Thus, it is important to explore service quality applicable to the post office products and services.

Moreover, this study aims to provide information about the users' attitude towards service quality in the post office. This helps to identify specific components of the dynamic business model which works effectively in this sector. Ltifi and Ghardi (2012) constructed a conceptual model and created a path relationship between perceived quality of postal services, customers' satisfaction and customers' loyalty (Oliver, 1999) for Tunisian postal services. However, the service loyalty in post office services have been in the declining trend over the past two decades after the rapid growth in the information technology and communication systems throughout the globe. It is, therefore, necessary to investigate the service innovation and service loyalty.

The post offices are also facing an increasing competition from the globalization of postal services, the liberalization of postal services and from technological innovations, especially the Internet and e-mails offered by the giant service providers like Google, Yahoo, Facebook and Twitter. For example, the Postal Services Bill (2000) implemented by the government White Paper (1999) recommended that the post office should have a greater commercial freedom to face the competitive forces. With regards to its IT strategy, the Horizon project has clearly had an adverse effect on the business. A study was carried out to investigate the service quality characteristics of post offices to its customers (Azizzadeh, Khalili & Soltani, 2013). The technology-based service scenario with different interfaces and technologies that are suitable for post office products and services was also explored (Theotokis et al., 2008).

In addition, some studies were conducted to understand the determinants of service innovation of Postal and Courier services on customers' responsiveness points of views in Malaysia (Noordin, Hasnan & Osman, 2012). Ltifi and Ghardi (2012) suggested conducting research on services of post offices, such as postal distribution centers, service agencies and parcel post services agencies, quick post, the impact of information technology and communication, especially the Internet, on the quality of postal services. Thus, the present study attempts to identify exhaustively the model variables connected to the service quality influencing customers' satisfaction and the service loyalty.

In studies by Sureshchandar et al. (2002a, 2002b), the importance of the relationship between service quality and customers' satisfaction in other sectors of the service industry was highlighted. This motivates to take up the current research in the post office service sector. Postal innovation needs to be managed more tightly and with an end-to-end perspective if they are to be successful (Capgemini, 2010). Sund (2008) investigated that the innovation in the postal sector may be achieved through the strategies, barriers and enablers. The long internal decision-making processes, government regulations and difficulties to attract skilled and innovative workers are the major barriers of service innovation in post office.

Service innovation on service loyalty for the Internet and mobile products and services concluded that future research may be applied to other areas of service sectors (Wu, 2014). Service innovation is rarely limited to a change in the characteristics of the service products (Hertog, 2000). For example, the post office can introduce some of the existing products and services of the banking sector, stamp collection, and seasonal invitation cards on festivals, celebrity greeting card, and loyalty card (brand equity) to attract more customers to increase customers' loyalty. Wu (2014) studied Taiwanese digiservices for wireless Internet and mobile customers and suggested that a service provider in service sector should have service innovation in the form of speedy introduction of new technologies. Thus, a business post office service loyalty framework is developed through service quality on customers' satisfaction (Sureshchandar et al. 2002a, 2002b, 2003) and service innovation on brand equity (Wu, 2014).

2. Literature review

2.1. Service quality. Service quality is a multi-dimensional concept. There are differences between objective quality (based on the product) and perceived quality (based on the user) (Boon-lertvanich, 2011). The service quality is derived from customers' cognitive evaluations of a service (Chiou, 2004) and viewed as a transaction-specific level or a global level (Oliver, 1993). The service quality is also the result of comparison between the expected

services and perceived services (Gronroos, 1984), an ability to meet consumers' needs and the technical impeccability of the services (Ayala, Staros & West, 1996). The quality is also assessed by customers' excellence or superiority of overall service (Zeithaml, 1988).

In addition, customers tend to rely on extreme experiential attributes in evaluating the quality of services (Parasuraman et al., 1985). In fact, the quality of services has both technical and functional qualities. To improve the quality of services, the integrated computer application networks should be upgraded (Gronroos, 1990). Post offices must ensure the implementation of services in an instant way to profit citizens (Ltifi & Ghardi, 2012). The service quality as a global judgment or attitude relates to the superiority of a service (Zeithaml & Bitner, 2003). Service quality and customers' value have direct effect on customers' loyalty (Lai, Griffin & Babin, 2009). Providing a high level of service quality is very important for service providers to compete with other peers (Kemp & Rotmans, 2005). Lenka et al. (2009) examined whether the service quality of Indian commercial banks increases customers' satisfaction that fosters customers' loyalty. The present study strives to uncover the critical determinants of service quality, including those dimensions addressed by the existing instruments and subsequently, proposes a conceptual model of service quality as perceived by customers (Sureshchandar et al., 2002a, 2002b, 2003). In the literature, the most common concepts are service quality and customers' satisfaction. According to the definition of both constructs, service quality and customers' satisfaction are measured as a gap, using the gap model. A gap is described as the difference between the expectations (what I want) and the perceptions (what I get).

The conceptualization and measurement of service quality is still a controversial topic in the services marketing literature (Brady & Cronin, 2001). Sureshchandar et al. (2001) identified five critical factors of service quality from the customers' view points, including: 1) core service or service product; 2) human element of service delivery; 3) systematization of service delivery; 4) tangibles of service and 5) social responsibility. Moreover, Sureshchandar et al. (2002a, 2002b) empirically validated the proposed service quality factors in developing a survey instrument consisting of 41 items. This instrument has been developed based on an exhaustive review of the literature (prescriptive, conceptual, empirical, and practitioner) and a pilot survey among bank customers in India. Besides, the instrument was developed to maximally capture all aspects of service quality, and to specifically address the issues of banking industry (Sureshchandar et al., 2003).

SERVQUAL instrument devised by Parasuraman et al. (1988) focuses on issues such as human interaction and intervention in the delivery of a service (Sureshchandar et al., 2002a). Four of SERVQUAL's five dimensions, including reliability, responsiveness, assurance and empathy, correspond to the human element in the service delivery, and only one to the tangibles. Moreover, Sureshchandar et al. (2002b) contended that SERVQUAL does not address other important constituents of service quality, including the service product or core service, systematization and standardization of service delivery, and the social responsibility of the service organization. This study motivates to take up the current research using the underlying model in the post office service sector to validate the framework through empirical study.

Notwithstanding its widespread impact on business and academia, SERVQUAL has received a number of criticisms. The completeness of the 22-item scale proposed by Parasuraman et al. (1988) in addressing the critical dimensions of service quality is a subject of further investigation. In fact, a careful scrutiny of the scale items reveals that most items mainly focus on the human aspects of service delivery and the remaining on the tangibles of service. The importance of the element of human interaction in the service delivery has been recognized and reiterated by other researchers (Stebbing, 1993; Gunnarson et al., 1994; Schneider et al., 1996). Of the five SERVQUAL's dimensions, reliability, responsiveness, assurance and empathy correspond to human elements in the service delivery. These four human elements are applicable to the post office set-up, and a detailed investigation of these elements in Malaysian context is worth while studying. Therefore, in the current study, this factor indicates the cordiality between customers and postal employees' relationships to smoothen the postal services business transactions.

Service delivery processes should be perfectly standardized, streamlined and simplified for customers to receive the services without the hassles. Improvements in information technology play a crucial role in a seamless establishment in service delivery (Zemke & Schaaf, 1990). Indeed, the overall quality of the products or services could be made better by improving the quality of the processes either directly or indirectly (Ahire et al., 1995). Systematization of service delivery is viewed as the processes, procedures, systems and technology that would make a service seamless (Sureshchandar et al., 2002a, 2002b). Therefore, in this work, the systematization of service delivery

involves the linking of all post offices under one umbrella and creating a network of operations with international standards.

The tangibles involve the effect of physical facility, equipment, personnel and communication materials to customers. For example, postal stamps, money orders, postal and courier services are considered tangible. The effects of these services popularly influences customers in numerous ways (Bitner, 1992, as cited in Sureshchandar et al. 2002a). Moreover, Bitner (1992) explained how the employees and customers are influenced by these tangible facets of services in physiological, psychological, sociological, cognitive, and emotional ways. Other authors have also discussed in details the impacts of the service perceptions by customers (Berry & Clark, 1986; Baker, 1986). Hence, in the present study, tangibles of services are characterized as physical, and visible items in post offices, including facilities, man power, materials, machines, methods and metrics.

Social responsibility is characterized as socially responsible companies that encourage ethical behaviour. If the postal employee is not collecting letters on a daily basis from the postal boxes, it violates the social responsibility. This will spoil the organizations' image and may not influence customers' perceptions of service quality. Social responsibility is an important concept, which is probably missing out completely in the quality management literature, though it has repeatedly found due to the recognition and representation in the Malcolm Baldrige model (US Department of Commerce and Technology Administration, 1997, 1998, 1999, 2000).

A study conducted by consumers' reports on customers of non-banking financial (Zemke & Schaaf, 1990) found that one of the predominant consumers' concerns about service quality is "equal treatment tempered by pragmatism, stemming from the belief that everyone, big or small, should be treated the same". They were also concerned about getting good services at a reasonable price, but not at the expense of quality. This subtle aspect helps an organization to lead as a corporate citizen in encouraging ethical behavior. These subtle, but forceful elements send a strong signal towards improving the organization's image and goodwill, which, consequently, influences customers' overall evaluation of service quality and their loyalty to the organization (Sureshchandar et al., 2002a, 2002b). As such, in this research, social responsibility means post offices should provide equal treatment to all customers' needs at appropriate times at the same time without a compromise in the quality of services, rendering services at a cheaper cost for bottom billionaire and realizing moral and ethical values.

2.2. Service innovation. Innovation means people create values and ideas to the customers. It has become a driving force for organizations in the service sectors. One important mechanism via which service innovation influences consumers' loyalty is the formation of brand equity (Farquhar, 1989). Service innovation is a new or significantly improved service product offering and rarely it is limited to a change in the characteristics of the service product itself (Hertog, 2000). The unique integration of the resources and capabilities is the essence of overall service innovation (Kindstrom & Kowalkowski, 2014). Business model innovations are one of the service innovation types (Kindstrom & Kowalkowski, 2014). Service innovation can be equated with the creation of new value propositions by means of developing existing or creating new practices and/or resources (Pedersen & Nysveen, 2010; Skalen et al., 2014).

In post offices, service innovation processes are normally observed compared to service innovation. Pedersen and Nysveen (2010) cited one of the service innovation typology, which is most referred to the one presented by Hertog (2000). Service innovation is also viewed as a change in the role of the customer and the value-creation process (Michel, Brown & Gallan, 2008) and a rich, complex, dynamic field in which new approaches and contributions are constantly emerging (Rubalcaba et al., 2012). Thus, the post office users and non-users feedback is essential to the evaluation of the existing service innovation in Malaysian post office context. Kindstrom and Kowalkowski (2014) also agreed that integrating the resources and capabilities have been identified as the overall service innovation.

Innovation in postal and courier services is essential for their day to day survival. Thus, an integrated development strategy for the postal and courier sector is timely, as digital and physical communications are likely to complement each other. In addition, based on Johannessen, Olaisen, and Olsen (1999) service innovation model, Yong Qiang et al. (2010) suggested some innovation that could be applied in the logistic services, such as postal and courier services. In the study of service innovation for digiservice on loyalty by Wu (2014), Bitner and Brown (2006) reported that as service innovation evolves rapidly over time, and company shifts their attention from technology to service innovation, the need to understand the strategic impacts of digiservice innovation in consumers' decision makes is considerable (Okada, 2006). Therefore, in this study, service innovation is defined through Wu's (2014) model.

2.3. Customer satisfaction. There are a variety of definitions of customers' satisfaction. According to

Zeithmal and Bitner (2003), "satisfaction is the consumers' fulfillment response, a judgment that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment". Satisfaction is a broader concept than service quality. It includes both cognitive and effective evaluations, whereas service quality evaluations are mainly a cognitive procedure (Oliver, 1997). Service quality is a consumer's overall impression of the relative efficiency of the service provider and is significantly related to customers' satisfaction. Service quality is cognitive and it is followed by satisfaction (Oliver, 1999).

The conceptualization of customers' satisfaction as an evaluation of emotion has been consistently used over time. Customers' satisfaction reflects the degree to which a consumer believes that the possession or use of a service evokes positive feelings (Rust & Oliver, 1994). Alternatively, when satisfaction is more likely to depend on factors that occur over repeated transactions, it is conceptualized as a cumulative outcome or overall satisfaction (Shankar et al., 2003). Cronin and Taylor (1992) and Parasuraman et al. (1988) consider the overall satisfaction to be primarily a function of service quality. Customers' satisfaction also refers to 'the psychological reaction of the customers with respect to their prior experience with the comparison between expected and perceived performance" (Barnes et al., 2004; Shankar et al., 2003). Service quality and customers' satisfaction are different constructs, but satisfaction and service quality are highly interrelated (Oliver, 1997; Taylor & Baker, 1994).

Customers' satisfaction is fundamental to the marketing concept (Kurniawan, 2010), a business term which identifies how much customers satisfy with the products or services (Naveed et al., 2012), a positive feeling experienced by an individual after using a good or a service (Delafrooz et al., 2013). In other words, if customers are satisfied with services, they will be loyal to the business. That means, there are higher profits and higher market share for business (Chowdhury, 2014). Thus, in this research, customer satisfaction refers to the need or the demand in the post office context.

2.4. Brand equity. Brand equity is a concept emerged in 1980s and it is closely related to brand loyalty and brand extensions (Chieng Fayrene, 2011). Brand equity is characterized as the difference between the value of the branded products or services and the non-branded counterparts (Aaker, 1991; Farquhar, 1989). Successful marketing activities, such as quality insurance, pricing, and advertising can serve as signals for greater brand equity, which in turn, enhances loyalty (Cobb-Walgren, Ruble & Donthu, 1995). Customization and brand equity are the most important determinants of loyalty in service (Wu, 2014). For practitioners, especially service providers in the consumers' market, it provides strategic implications for managing service innovation. The empirical results confirm the strategic value of active and positive response to service innovation. Accordingly, the service providers can compete by offering better service design with the ease of customization. In this study, brand equity is defined as if another brand is not different from current service provider in any way, it seems smarter to current services. In the post office context, brand equity stands for a habit of collecting stamps, post office insurance, post office savings, post office mails and post office courier services. Hence, the purpose of the present study is to determine whether the service innovation in Malaysian post offices influences the brand equity.

2.5. Service loyalty. Customers' loyalty is a feeling of attachment to or affection for people, products, or services of the company (Jones & Sasser, 1995), an attitudinal construct that refers to the degree to which a consumer's disposition towards a service is favourably inclined (Azjen & Fishbein, 1980). Based on a favourable attitude towards a service provider, customers may develop preference loyalty. In addition to attitude, loyalty may also be based on cognition (Oliver, 1996). Pearson (1996) also defined customers' loyalty as a mindset of customers who hold favorable attitudes towards a company, commit to repurchase the company's products/services, and recommend the products/services to others. Moreover, Oliver Richard (1997) described loyalty as "a deeply held commitment to re-buy or re-patronize a preferred product or service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior".

Lenka et al. (2009) stated that the cost of attracting new customers is more than the cost of retaining old customers. Loyal customers have an emotional attachment with products or services, and they cannot be attracted by any other brands that offer even a better deal. The researchers focused primarily on the behavioral side of loyalty (Bodet, 2008), completely ignoring what was happening in customers' mind (Caruana, 2002). These researchers later emphasized on their attention to other possible components of loyalty. Gremler and Brown (1996) extended the concept of loyalty to intangible products, and their definition of service loyalty incorporates the three specific components of loyalty, namely the purchase, attitude and cognition.

Service loyalty is defined as the degree to which a customer exhibits his or her repeated purchasing behaviour from a service provider, possesses a positive attitudinal disposition towards the provider, and considers using only this provider when a need for this service exists (Gremler & Brown, 1996). Ltifi and Ghardi (2012) stated that the meaning of action loyalty is true through action. Service loyalty has become a great challenge for companies in the current era (Liu & Khalifa, 2003). The immediate competitors for post office are Internet, global information providers including Google, Yahoo, Facebook, Twitter and private courier services. If the post office users switch over to any of the above stated sources partially or fully, they are not so loyal to post office. It is obvious that those who are using off and on the services of post offices may still have faith in the post office and may be loyal. Thus, a customer who is not at all using post office services and has no trust in post office is not considered loyal to the post office.

3. Underlying theories

This section deals with the conceptualization of the stated variables in Sections 2.1 to 2.5 and identifies the management theory which supports the research framework. In the present study, two paths are: 1) service quality on customers' satisfaction and of service loyalty; and 2) service innovation on brand equity and to service loyalty. The first path is supported by the theory of planned behavior by Azjen (1985, 1991), and the second path is supported by innovation diffusion theory (Rogers, 2003). These two paths have been studied in various applications such as banking service sectors, financial institutions, hospitality and tourism by many researchers. However, in the present study, these two path relationships have been investigated in post office context to identify the challenges and opportunities available in this sector.

The development of TPB is originally based on the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) which is designed to explain almost any human behaviour and has been proven successful in predicting and explaining human behavior across various application contexts (Davis et al., 1989). In broad terms, the theory is found to be well supported by empirical evidences. Customers' loyalty was measured by their behavioural intention in terms of repurchase intention, word-of-mouth and first-in-mind. These measures were proven to be useful in the previous study by Boonlertvanich (2011). Therefore, the theory of planned behavior has been used to support the research framework for understanding the service loyalty.

The theory of planned behavior (TPB) postulates that intention could be the best determinant of an individual behavior. Thus, an individual with a strong intention is likely to engage in the behaviour than the one with a low intention. In this context, the theory of planned behavior posits that the relationship between service quality and service loyalty will be mediated by the customers' satisfaction. Bagozzi (1992) reformulated the attitude theory that was adopted in the service quality on customers' satisfaction and to customers' loyalty. The influence of the degree of value of the relationship between customers' satisfaction and customers' loyalty was investigated. Caruana (2002) conducted a study on service loyalty with regards to the effects of service quality on the mediation role of customers' satisfaction. However, the mentioned study suggested further research need to be conducted related to this area. In this sense, several studies (Lenka et al., 2009; Mosahab et al., 2010) werecarried out on service quality and customers' loyalty with the mediating role of custommers' satisfaction, which used Caruana's (2002) model.

Moreover, in Shi et al. (2014) studies, the link of service quality, customers' satisfaction and loyalty was investigated in the context of six casinos in Macau to provide membership to customers. For instance, the chain effect was investigated in a health setting (Woodside et al., 1989), but conditional in the casino context. Consistent with the theory of planned behavior proposed and tested by Ajzen (1985, 1991), researchers (Ajzen, 2002; Sheppard et al., 1988) found a high correlation of attitudes (satisfaction) and subjection norms to behavioral intention, and subsequently, to behavior (loyalty) which has led researchers to assume the attitude behavior relationship. Indeed, a plethora of studies in service research (Hallowell, 1996; Rust & Zahorik, 1993) have examined the relationship between customers' satisfaction (post-decision attitude) and customers' loyalty (behavior). Therefore, it was suggested that casinos should be focused on the aspects that exert significant influence on their attitudes (satisfaction) and behaviors (loyalty), although it is important to maintain overall quality service.

Furthermore, Ltifi and Ghardi (2012) have done a relevant study in the post office context to investigate the relationship between the service quality of postal services and customers' loyalty with customers' satisfaction as a mediating variable. In other words, the research mentioned above highlights the existence of causal relationships among service quality, satisfaction and loyalty. The current study has used this mentioned model; however, the framework proposed has been considered as the characteristics of service quality.

4. Conceptual research framework

Based on the variables described in section 3.1 to 3.5, the partial conceptual framework has been developed (Figure. 1). The framework has the characteristics of service quality and service innovation as the independent variables (IVs). The customers' satisfaction and brand equity are mediating variables (MVs), and service loyalty is a dependent variable (DV). The framework is used to study the direct effect of the relationships between service quality constructs on service loyalty in the post offices. Furthermore, it determines the indirect effect of customers' satisfaction on the relationship between customers' service quality constructs, service innovation constructs and service loyalty. The unit of analysis for the study is the individual customer (post office user).

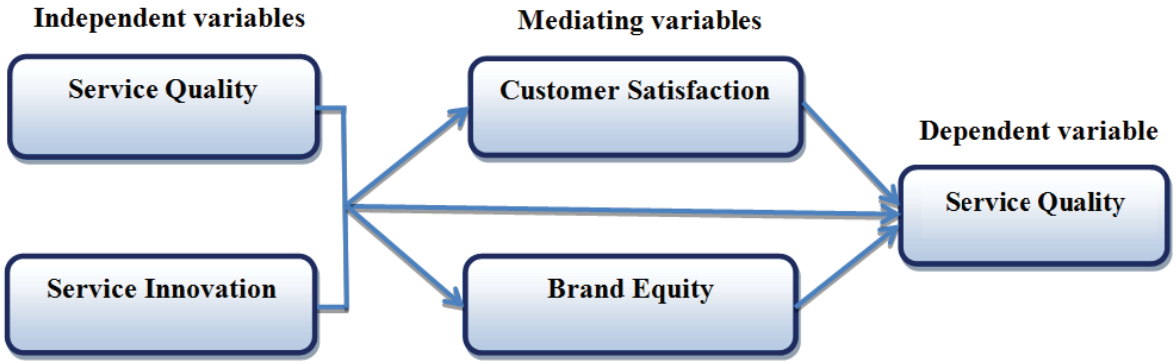

Fig. 1. Conceptual research framework

Conclusions

This study makes major contributions to both management theories and practical applications to the post offices not only in Malaysia but also in Asian associated countries. It is obvious that the theory of planned behavior postulates that intention could be the best determinant of an individual behavior. Thus, an individual (post office user) with a strong intention is likely to engage in the behavior (use post offices) than the one with a low intention. In this study, the theory of planned behavior also connects the relationship between service quality and service loyalty with customers' satisfaction as a mediating variable. The relationship between the characteristics of service quality and customers' satisfaction is also explored in details. It is, therefore, believed that the findings of this study will initiate future studies to focus on individuals' intention in using post offices in Malaysia.

References

1. Aaker, D.A. & Equity, M.B. (1991). The Free Press. New York, p. 206.
2. Aaron Smith (2012). *We're number one, says U.S. Postal Service*, CNN money February 6, 2012.
3. Ajzen, I. (1985). *From intentions to actions: A theory of planned behavior*, Springer.
4. Ajzen, I. (1991). The theory of planned behavior, *Organizational behavior and human decision processes*, 50 (2), pp. 179-211.
5. Ajzen, I. (2002). *Constructing a TPB questionnaire: Conceptual and methodological considerations.*
6. Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior.*
7. Ahire, S.L., Landeros, R. & Golhar, D.Y. (1995). Total quality management: a literature review and an agenda for future research, *Production and Operations Management*, 4 (3), pp. 277-306.
8. Aweh, O. & Ademola, A.O. (2009). Automation of the Box and the Counter Section Services of Nigerian Postal Services (NIPOST): A Case Study of Okada Post Office, *Asian Journal of Information Technology*, 8 (4), pp. 125-133.
9. Ayala, G., Staros, E. & West, J.J. (1996). Marketing quality in the hotel sector. Service Quality in Hospitality Organizations.
10. Azizzadeh, F., Khalili, K. & Soltani, I. (2013). Service Quality Measurement in the Public Sector (Ilam Province Post Office Case Studies), *International Journal*, 2 (1), pp. 114-121.
11. Bagozzi, R.P. (1992). The self-regulation of attitudes, intentions, and behavior, *Social psychology quarterly*, pp. 178-204.
12. Baker, J. (1986). The role of the environment in marketing services: the consumer perspective, *The services challenge: Integrating for competitive advantage*, 1 (1), pp. 79-84.
13. Berry, L. & Clark, T. (1986). Four ways to make services more tangible, *Business*, 36 (4), pp. 53-54.
14. Bitner, M.J. & Brown, S.W. (2006). The evolution and discovery of services science in business schools, *Communications of the ACM*, 49 (7), pp. 73-78.
15. Bodet, G. (2008). Customer satisfaction and loyalty in service: Two concepts, four constructs, several relationships, *Journal of retailing and consumer services*, 15 (3), pp. 156-162.

16. Boonlertvanich, K. (2011). Effect of customer perceived value on satisfaction and customer loyalty in banking service: The moderating effect of mainbank status, *International Journal of Business Research*, 11 (6), pp. 40-54.
17. Brady, M.K. & Cronin Jr, J.J. (2001). Some new thoughts on conceptualizing perceived service quality: a hierarchical approach, *Journal of Marketing*, 65 (3), pp. 34-49.
18. Capgeminis (2010). Innovation management in the postal industry the key to business transformation, Capgeminis postal innovation study.
19. Caruana, A. (2002). Service loyalty: the effects of service quality and the mediating role of customer satisfaction, *European Journal of Marketing*, 36 (7/8), pp. 811-828.
20. Cobb-Walgren, C.J., Ruble, C.A. & Donthu, N. (1995). Brand equity, brand preference, and purchase intent, *Journal of Advertising*, 24 (3), pp. 25-40.
21. Crew, M.A. & Kleindorfer, P.R. (1991). *Competition and innovation in postal services* (Vol. 8): Springer.
22. Chiou, J.S. (2004). The antecedents of consumers' loyalty toward Internet service providers, *Information & Management*, 41 (6), pp. 685-695.
23. Chieng, F., Ho, P. & Goi, C.L. (2010). East Asian Development Network.
24. Chowdhury, D. (2014). *Spin glasses and other frustrated systems*. Princeton University Press.
25. Cronin Jr, J.J. & Taylor, S.A. (1992). Measuring service quality: a reexamination and extension, *The Journal of Marketing*, pp. 55-68.
26. Danaher, P.J., Hardie, B.G. & Putsis Jr, W.P. (2001). Marketing-mix variables and the diffusion of successive generations of a technological innovation, *Journal of Marketing Research*, 38 (4), pp. 501-514.
27. Delafrooz, N., Taleghani, M., Taghineghad, M. & Nademi, M. (2013). The impact of service innovation on consumer satisfaction, *International Journal of Business and Behavioral Sciences*, 3 (2), pp. 114-129.
28. Farquhar, G.D., Ehleringer, J.R. & Hubick, K.T. (1989). Carbon isotope discrimination and photosynthesis, *Annual Review of Plant Biology*, 40 (1), pp. 503-537.
29. Fishbein, M. & Ajzen, I. (1975). Belief, attitude, intention and behavior: An introduction to theory and research.
30. Fuller-Love, N. & Cooper, J. (2000). Deliberate versus emergent strategies: a case study of information technology in the post office, *International Journal of Information Management*, 20 (3), pp. 209-223.
31. Gremler, D.D. & Brown, S.W. (1996). Service loyalty: its nature, importance, and implications.
32. Gronroos, C. (1984). A service quality model and its marketing implications, *European Journal of Marketing*, 18 (4), pp. 36-44.
33. Gronroos, C. (1990). *Service management and marketing: managing the moments of truth in service competition*: Lexington Books Lexington, MA.
34. Gunnarson, B.K. & Niles-Jolly, K. (1994). Creating the climate and culture of success, *Organizational Dynamics*, 23 (1), pp. 17-29.
35. Hallowell, R. (1996). The relationships of customer satisfaction, customer loyalty, and profitability: an empirical study, *International Journal of Service Industry Management*, 7 (4), pp. 27-42.
36. Hertog, P. d. (2000). Knowledge-intensive business services as co-producers of innovation, *International Journal of Innovation Management*, 4 (4), pp. 491-528.
37. Heskett, J.L. & Schlesinger, L. (1994). Putting the service-profit chain to work, *Harvard Business Review*, 72 (2), pp. 164-174.
38. Huarng, K.-H. & Yu, T.H.-K. (2011). Entrepreneurship, process innovation and value creation by a non-profit SME, *Management Decision*, 49 (2), pp. 284-296.
39. Johannessen, J.-A., Olaisen, J. & Olsen, B. (1999). Strategic use of information technology for increased innovation and performance, *Information management & computer security*, 7 (1), pp. 5-22.
40. Jones, T.O. & Sasser, W.E. (1995). Why satisfied customers defect, *Harvard Business Review*, 73 (6), p. 88.
41. Kemp, R. & Rotmans, J. (2005). The management of the co-evolution of technical, environmental and social systems. In *Towards environmental innovation systems*, Springer Berlin Heidelberg, pp. 33-55.
42. Kindstrom, D. & Kowalkowski, C. (2014). Service innovation in product-centric firms: A multidimensional business model perspective, *Journal of Business & Industrial Marketing*, 29 (2), pp. 96-111.
43. Lai, F., Griffin, M. & Babin, B.J. (2009). How quality, value, image, and satisfaction create loyalty at a Chinese telecom, *Journal of Business Research*, 62 (10), pp. 980-986.
44. Lenka, U., Suar, D. & Mohapatra, P.K. (2009). Service quality, customer satisfaction, and customer loyalty in Indian commercial banks, *Journal of Entrepreneurship*, 18 (1), pp. 47-64.
45. Liu, V. & Khalifa, M. (2003). Determinants of satisfaction at different adoption stages of Internet-based services, *Journal of the Association for Information Systems*, 4 (1), p. 12.
46. Ltifi, M. & Ghardi, J. (2012). Satisfaction and loyalty with the Tunisian postal services, *International Journal of Humanities and Social Science*, 2 (7), pp. 178-189.
47. Masoumi Mayni, S. (2012). The Impact Of Service Quality On Tourist Loyalty In Malaysian Tourism Industry. Multimedia University.
48. Michel, S., Vargo, S.L. & Lusch, R.F. (2008). Reconfiguration of the conceptual landscape: a tribute to the service logic of Richard Normann, *Journal of the Academy of Marketing Science*, 36 (1), pp. 152-155.
49. Mittal, V., Ross Jr, W.T. & Baldasare, P.M. (1998). The asymmetric impact of negative and positive attribute-level performance on overall satisfaction and repurchase intentions, *The Journal of Marketing*, pp. 33-47.

50. Mosahab, R., Mahamad, O. & Ramayah, T. (2010). Service quality, customer satisfaction and loyalty: a test of mediation, *International Business Research*, 3 (4), p. 72.
51. Noordin, A., Hasnan, N. & Osman, H. (2012). Service Innovation of Postal and Courier Services in Malaysia: Will It Lead to Customer Responsiveness? *International Proceedings of Economics Development & Research*, 42, pp. 205-209.
52. Ograjenšek, I., Gal, I., Kenett, R. & Salini, S. (2012). The concept and assessment of customer satisfaction. Modern analysis of customer surveys: With applications using R, pp. 107-127.
53. Oliver, M. (1996). Understanding disability: From theory to practice. St Martin's Press.
54. Oliver Richard, L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York NY: Irwin-McGraw-Hill.
55. Oliver, R.L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions, *Journal of Marketing Research*, pp. 460-469.
56. Oliver, R.L. & Rust, R.T. (1994). *Service quality: Insights and managerial implication from the frontier*.
57. Oliver, R.L. (1993). A conceptual model of service quality and service satisfaction: compatible goals, different concepts, *Advances in Services Marketing and Management*, 2 (4), pp. 65-85.
58. Oliver, R.L. (1997). *Satisfaction: A behavioral perspective of the customer*. New York.
59. Oliver, R.L. (1999). Whence consumer loyalty? *The Journal of Marketing*, pp. 33-44.
60. Parasuraman, A. & Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: a research agenda, *Journal of the Academy of Marketing Science*, 28 (1), pp. 168-174.
61. Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1985). A conceptual model of service quality and its implications for future research, *The Journal of Marketing*, pp. 41-50.
62. Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1988). Servqual, *Journal of Retailing*, 64 (1), pp. 12-40.
63. Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: implications for further research, *The Journal of Marketing*, pp. 111-124.
64. Pearson, S. (1996). *Building brands directly: creating business value from customer relationships*.
65. Pedersen, P.E. & Nysveen, H. (2010). Service innovation challenges at the policy, industry, and firm level: A qualitative inquiry into the service innovation system.
66. Postal and courier services pocket book of statistics, POS Malaysia Berhad (2013).
67. Postal Services Bill (2000). Postal Services Act, available at: http://www.publications.parliament.uk/pa/cm201011/cmbills/078/11078.124-130.html.
68. Rogers, E.M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press.
69. Rubalcaba, L., Michel, S., Sundbo, J., Brown, S.W. & Reynoso, J. (2012). Shaping, organizing, and rethinking service innovation: a multidimensional framework, *Journal of Service Management*, 23 (5), pp. 696-715.
70. Rust, R.T. & Zahorik, A.J. (1993). Customer satisfaction, customer retention, and market share, *Journal of retailing*, 69 (2), pp. 193-215.
71. Schneider, B., Ashworth, S.D., Higgs, A.C. & Carr, L. (1996). Design, validity, and use of strategically focused employee attitude surveys, *Personnel Psychology*, 49 (3), pp. 695-705.
72. Shankar, V., Smith, A.K. & Rangaswamy, A. (2003). Customer satisfaction and loyalty in online and offline environments, *International Journal of Research in Marketing*, 20 (2), pp. 153-175.
73. Sheppard, B.H., Hartwick, J. & Warshaw, P.R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research, *Journal of Consumer Research*, pp. 325-343.
74. Shi, Y., Prentice, C. & He, W. (2014). Linking service quality, customer satisfaction and loyalty in casinos, does membership matter? *International Journal of Hospitality Management*, 40, pp. 81-91.
75. Skalen, P., Gummerus, J., von Koskull, C. & Magnusson, P.R. (2014). Exploring value propositions and service innovation: a service-dominant logic study, *Journal of the Academy of Marketing Science*, pp. 1-22.
76. Stock Attractiveness at a Glance/POS Malaysia Bhd Finical analysis extracted (2014).
77. Sund, K.J. (2008). Innovation in the Postal Sector: strategies, barriers and enablers.
78. Sureshchandar, G., Rajendran, C. & Anantharaman, R. (2002a). Determinants of customer-perceived service quality: a confirmatory factor analysis approach, *Journal of Services Marketing*, 16 (1), pp. 9-34.
79. Sureshchandar, G., Rajendran, C. & Anantharaman, R. (2003). Customer perceptions of service quality in the banking sector of a developing economy: a critical analysis, *International Journal of Bank Marketing*, 21 (5), pp. 233-242.
80. Sureshchandar, G., Rajendran, C. & Anantharaman, R. (2002b). The relationship between service quality and customer satisfaction–a factor specific approach, *Journal of Services Marketing*, 16 (4), pp. 363-379.
81. Taylor, S.A. & Baker, T.L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions, *Journal of Retailing*, 70 (2), pp. 163-178.
82. Theotokis, A., Vlachos, P.A. & Pramatari, K. (2008). The moderating role of customer-technology contact on attitude towards technology-based services, *European Journal of Information Systems*, 17 (4), pp. 343-351.
83. Velázquez, B.M., Saura, I.G. & Molina, M.E.R. (2011). Conceptualizing and measuring loyalty: Towards a conceptual model of tourist loyalty antecedents, *Journal of Vacation Marketing*, 17 (1), pp. 65-81.
84. Venkatesh, V. & Brown, S.A. (2001). A longitudinal investigation of personal computers in homes: adoption determinants and emerging challenges, *MIS Quarterly*, pp. 71-102.

85. Venkatesh, V., Morris, M.G., Davis, G.B. & Davis, F.D. (2003). User acceptance of information technology: Toward a unified view, *MIS Quarterly*, pp. 425-478.
86. Wu, C.-W. (2014). The study of service innovation for digiservice on loyalty, *Journal of Business Research*, 67 (5), pp. 819-824.
87. Yong Qiang, S., Chongfeng, H., Zhiyong, Z. & Guoyun, S. (2010). Logistics service innovation based on the service innovation model for ILSP. Paper presented in the Supply Chain Management and Information Systems (SCMIS), 2010 8th International Conference on.
88. Zeithaml, V.A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence, *The Journal of Marketing*, pp. 2-22.
89. Zeithaml, V.A., Parasuraman, A. & Berry, L.L. (1985). Problems and strategies in services marketing, *The Journal of Marketing*, pp. 33-46.
90. Zemke, R. and Schaaf, D. (1990). *The Servie Edge*, Penguin Books, New York, NY.