

## Distribution Efficiency of E-services in the Health Insurance Sector : The Case of Botswana

Olumide Olasimbo Jaiyeoba\*, Totwana Tito Chimbise\*\*, Charles Makanyeza\*\*\*, Chux Gervase Iwu\*\*\*\*

Received: December 23, 2017. Revised: January 23, 2018. Accepted: May 15, 2018.

### Abstract

**Purpose** - Nowadays customers have become empowered by information communication technologies. This state of customers has brought enormous pressure to bear on organizations, thus, organizations have to stay relevant, market-oriented and profitable. The insurance sector is one that is constantly challenged by its exposure to ICT and the associated need for e-services by myriad customers. With increasing competition in the health insurance environment, it is necessary for the sector to understand customer expectations and how they perceive the services offered. This study seeks to determine the role played by e-services in relation to customer satisfaction in health insurance industry in Botswana where a substantial investment has been made in the sector.

**Research design, data, and methodology** - This study is conducted using two prominent medical aid schemes in Botswana namely BPOMAS and PULA. Subscribers of these medical schemes were the respondents whose views were sourced using both closed and open ended questionnaires. Systemic sampling technique was used to select the participants, while descriptive statistical techniques were mainly used to analyze socio-demographic data of the samples.

**Results** - The results reveal that the level of usage of the medical insurance firm's website and email service is higher for PULA participants than for BPOMAS participants.

**Conclusions** - The findings of this study have practical implications for managers who should understand customers' value perceptions regarding e-service quality in Botswana.

**Keywords:** Electronic Service Quality, Health Insurance, Botswana, Distribution Efficiency.

**JEL Classifications:** D30, F60, G10, I13, M10.

### 1. Introduction

In today's fast-paced world, most transactions are technology driven (Ankrah, 2013). Information and communication technologies (ICTs) and electronic services (e-services) have become tools of fundamental importance and serve to enhance every aspect of human endeavour (Apampa, 2010; Otiso, Chelangat, & Bonuke, 2012; Vaziri &

Beheshtimia, 2016).

Customers have become increasingly empowered thus demanding global standards from local providers of service (Alabar & Agema, 2014). Therefore, in order to remain relevant, market oriented and profitable, it is vital for service providers to ensure high service quality and customer satisfaction as an integral component of their value proposition (Tripathi, 2014). The insurance services sector is no exception to the utilisation of ICTs and e-services to drive operations, create a competitive edge over rivals and improve service quality and customer satisfaction (Apampa, 2010). This sector is vastly exposed to the effect of ICTs and e-services because it is based on information and not the physical transfer of goods. It is therefore structurally suitable for the digitisation of products, services and processes (Vaziri & Beheshtimia, 2016).

With increasing competition in the health insurance environment, it is necessary for health sector stakeholders to

\* First Author, Botho University Graduate School, Gaborone, Botswana. E-mail: olujaiyeoba@gmail.com

\*\* Co-Author, Associated Funds Administrators, Botswana. E-mail: chimbisett@gmail.com

\*\*\* Co-Author, Chinoyi University of Technology, Zimbabwe. E-mail: cmakanyeza@yahoo.co.uk

\*\*\*\* Corresponding Author, Assistant Dean, Research, Faculty of Business and Management Sciences, Cape Peninsula University of Technology, South Africa. E-mail: iwuc@cput.ac.za

understand firstly what patients' expectations are and secondly how they perceive the services they receive (Vaziri & Beheshtimia, 2016). This is essentially so because patients' needs differ and therefore require constant monitoring in order to meet their varying needs (Atinga, 2011). It is against this backdrop that this study seeks to determine the role played by e-services in relation to customer satisfaction in health insurance industry in Botswana where a substantial investment has been made in the health sector in Botswana.

The objectives of this study are to establish the differences, if any, in the degree of e-service (websites and email) usage, level of customer satisfaction and the differences in the perceived value of health insurance providers in Botswana. The health insurance providers that will be used for this study are PULA and BPOMAS. Pula Medical Aid is a private health insurance initiative, while the Botswana Public Officers Medical Aid Services (BPOMAS) represents the public officers in the medical aid insurance Industry. The PULA medical aid and the BPOMAS medical aid constitute 65% of the medical insurance Sector in Botswana (AFA Customer Service Survey). The two medical insurance firms are administratively managed by Associated Fund Administrators (AFA) of Botswana.

In 2009, AFA introduced a new healthcare system in Botswana for processing claims. This system has enabled the provision of a wide range of value added products and services as well as the extensive use of technology based applications such as short message signal (SMS) and email notifications, web-access, electronic data interchange (EDI), query management in contact baskets and provision of electronic remittance advice (ERA) statements in an XML format. Other e-services used between AFA and customers are Microsoft Outlook email, the telephone system, Facebook and Twitter (AFA Customer Service Survey, 2014). The Associated Fund Administrators is tasked with the mandate of ensuring compliance, regulatory and quality framework in the Health insurance industry in Botswana.

The economy of Botswana has mostly relied on natural resources. The sound management of these coupled with decades of stability and good governance have brought about improved health care systems for its people. Notwithstanding the myriad challenges faced by medical insurance firms in terms of design and implementation of their offerings, they are increasingly viewed with different lenses by different stakeholders. In some instance they are seen as "attractive ... [and] potentially comprehensive strategy for improving health and protecting the poor from the often devastating financial consequences of illness" (Yinusa & Okurut, 2017, p257). In other cases, they are perceived as extortionists who fail to meet the agreement reached with their customers (Doyle, 2017; Weisenthal, 2009). Generally, there is a thin line between the security linked to being insured and the avoidance of costly risk-management strategies which impact on poverty

reduction (Yinusa & Okurut, 2012). It is in this light that this study focused on BPOMAS and PULA medical schemes.

PULA and BPOMAS have varying range of benefit options. PULA for instance has five benefit options which range from executive to flexibility, while BPOMAS has four. The difference in the benefits offered by the two medical scheme is in the cost of the options. Management of BPOMAS is in the hands of a 12-member management committee headed by the director-general of the health ministry while PULA is managed by a 10-member board of trustees who are nominated by the various employer groups and appointed by the relevant appointing authorities.

According to the World Bank (2013), Botswana has attained notable heights in its health sector regardless of the spike in non-communicable diseases and the prevalence of HIV. Hence the need for a strategic healthcare plan which BPOMAS and PULA medical schemes seek to address. The BPOMAS serves public sector employees covering 70000 or 55% of these employees and PULA medical aid covers about 30000 employees (30%) in the Private sector (Ministry of Health, 2012).

This study is one of the few conducted in Botswana regarding medial insurance uptake and general perceptions.

## 2. Literature Review

### 2.1. E-service

E-services are often defined according to the channel through which the services are delivered. This channel-oriented definition describes e-services as services provided over electronic channels, which include the internet, mobile and technological devices used to provide service (Rowley, 2006; Changdar, Mahapatra, & Pal, 2015). To elaborate further, e-services are provided through the use of ICTs and they enable the automation, enhancement and integration of business processes of traditional services. This results in the provision of real-time, anyplace, 24/7 accessibility to services as well as high quality value added services at individual, organizational and societal levels (Jing & Yoo, 2013). E-services provide organisations with a unique opportunity to develop new strategies for service designs, new service offerings and new efficiencies (Liu et al., 2003; Chao, Kim, & Kwak, 2016).

### 2.2. E-service quality

The concept of e-service quality was first introduced by Zeithaml, Parasuraman, and Malhotra (2000) who defined it as the evaluation of the efficiency and effectiveness of online shopping, purchasing, and delivery of products and services. In the same vein, Santos (2003) defines e-service quality as the manner in which customers generally evaluate

and judge the superiority, brilliance and quality of e-service offerings in the virtual arena.

A revised form of service quality elements was also put forward by Zeithaml, Parasuraman, and Malhotra (2000) whose study culminated in the concept known as SERVQUAL, which has remained influential in both scholarly and non-scholarly work in the area of customer service. In fact, their definition of service quality is such that compares patients' perceptions against their expectations. Hence e-service quality is the "extent to which a website facilitates efficient and effective shopping, purchasing and delivery" (Parasuraman et al., 2005). Essentially, e-service quality is a function of the different ICTs which enable customer satisfaction, improve repeat purchase, and customer trust.

The need to develop a credible and robust model to describe, monitor and measure service quality in the context of e-services arises from differences in customer experiences due to the fact that customers use a number of criteria to evaluate e-services and service quality through internet-based technologies (Nemati et al., 2012). Moreover, the increase in the adoption of e-services in the business arena has further emphasised the importance of measuring and monitoring e-service quality in the virtual world as Vaziri and Beheshtinia (2016) suggest. They thus posit that it is vital for healthcare service providers to have an accurate and deeper understanding of clients' service quality perceptions and expectations because of increasing competition between public and private healthcare providers.

According to Nketiah-Amponsah and Hiemenz (2009), providing quality services in healthcare organisations is gaining momentum in the extant literature. In fact, there has been a growing body of research over the past few years focussing on the concept, measurement and management of service quality in the electronic setting (Carlson & O'Cass, 2011; Yeh & Chen, 2014). Several researchers have attempted to describe and measure e-service quality and most have identified a range of dimensions that represent the various facets of customer interactions with e-services (Yaya, Marimon, & Fa, 2012; Changdar, Mahapatra, & Pal, 2015). These researchers have underscored the necessity of both electronic and service attributes in measuring e-service quality.

Zeithaml et al. (2002) developed the e-SERVQUAL model through a three stage process involving exploratory focus groups and two phases of data collection and analysis. The researchers identified seven dimensions of e-service quality, namely; efficiency, reliability, fulfillment, privacy, responsiveness, compensation and contact.

Based on the preliminary work of Zeithaml et al. (2002), and advocating that assessment of e-service quality should consider the entire process of the e-service encounter i.e. before, during and after the transaction, Parasuraman et al. (2005) refined and validated the e-SERVQUAL model and developed the E-S-QUAL model. Parasuraman et al. (2005) found it necessary to develop two different scales in order

to capture the true essence of electronic service quality.

Parasuraman et al. (2005) describe efficiency as "the ease and speed of accessing and using the site by customers" and ability to find the required product and service information with minimum effort. Some researchers have suggested that efficiency covers the overall design of the user interface (Kaynama & Black, 2000), ease of navigation (Kaynama & Black, 2000; Zeithaml et al., 2002; Santos, 2003), and overall ease of use (Cox & Dale, 2001; Yeh & Chen, 2014) of the e-service. Other efficiency characteristics described by Vaziri and Beheshtinia (2016) include the overall appearance, layout, structures and content of the e-service offering. Well-designed websites positively affect the interaction perceptions of customers (Zeithaml et al., 2000).

In their study, Jin and Wang (2014) found that factors of the web design are strong predictors of customer e-service quality judgements and satisfaction. According to Zeithaml et al. (2000), a well performing search engine offering fast navigation quality enables customers to manoeuvre smoothly and easily find what they want. Efficiency is an important factor in determining e-service quality and has a significant and positive impact on customer satisfaction (Akinci et al., 2010; Yaya et al., 2012).

Fulfillment is described as the extent to which promises made by the site or e-service are fulfilled, such as accuracy of service requirements, availability and delivery of products or services on time, as well as the willingness to correct mistakes that may occur during transactions (Parasuraman et al., 2005). Jin and Wang (2014) emphasize that e-service transactions should be free of errors and that promises made to online customers should be executed and delivered accurately. This is the accurate and correct technical functioning of an e-service, particularly the degree to which it is available and properly functioning at any time when it is needed (Parasuraman et al., 2005). This dimension is called 'system reliability' by some authors (Zeithaml et al., 2000; Luor, Lu, Chien, & Wu, 2015). According to these authors, system reliability is a critical component of e-service quality.

Yang et al. (2004) are of the view that reliability perceptions depend on whether the e-service functionality of the user interface is performing optimally while the outcome aspect relies on how accurate the service promises, billing and product information are. Jin and Wang (2014) thus contended that there is a direct positive relationship between system availability and perceived e-service quality and customer satisfaction. They further advise that business enterprises that want to reap the harvest of perceived e-service quality and satisfaction as well as the associated benefits should focus on this dimension.

This is the level to which customers consider e-service offering to be safeguarded from online intruders thereby providing protection for their confidential information (Parasuraman et al., 2005). Security is the most important factor on customers' intention to visit an organisation's site

to perform online transactions (Rafiq et al., 2012). Privacy incorporates the technical aspects of an e-service level of security, payment processes and methods, adherence to confidentiality procedures as well as the company's reputation.

Confidential information such as user name/identity code, passwords, credit card information, and other personal information can be abused using certain algorithms by hackers (Behjati et al., 2012). In the virtual marketplace, customers take into consideration, with utmost concern, the degrees of privacy and security, and become discouraged when a company's principles about privacy are not clearly defined (Jun & Yang, 2008).

Responsiveness refers to a number of things which include an organisation's capacity to, in the event that a problem occurs, offer correct information to customers; and putting measures in place to deal with such problems, complaints and returns, and arrangements for giving online guarantees where applicable (Parasuraman et al., 2005). Customers associate prompt responses with superior-quality services and more likely perceive the service as convenient; and as a result of the prompt response, they are more likely to have reduced feelings of uncertainty about the e-service (Changdar, Mahapatra, & Pal, 2015). Furthermore, prompt response is a good way for organisations to show customers that they are customer-centric, trustworthy and can act benevolently towards them (Yeh & Chen, 2014). Organisations that want to attain high levels of perceived e-service quality and customer satisfaction should focus on the dimension of responsiveness (Vaziri & Beheshtinia, 2016).

Compensation consists of receiving money back, returning shipments and handling expenditures (Parasuraman et al., 2005). It also means providing some form of reparation for problems created by the e-service or the inability of the firm to honour its promises to customers. Contact is the requirement of customers to speak to a live customer service agent online or telephonically (Chao, Kim, & Kwak, 2016). This dimension also encompasses the provision of contact details on the e-service.

### 3. Research Methodology

The study involved two target populations: BPOMAS and PULA members. These consisted of BPOMAS and PULA members who visited the AFA premises for various customer services such as: general inquiries; claim queries; submission of medical bills; submission of forms to add or remove dependant(s) to or from their medical insurance policies, collection of hampers/ refunds/ forms/ letters and payment of medical insurance subscriptions. The unit of analysis was the individual member of each medical scheme.

Gaborone residents were taken as the representative sample, since the city has the highest number of medical scheme members due to a high population density of working class individuals. Moreover, it has the highest number of health care facilities which serve BPOMAS and PULA members in the country. Gaborone is the pulse of the private health insurance industry in Botswana since most activities and transactions between customers, health care providers and AFA take place there. Systematic sampling technique was used in this study.

The study was based on primary data collected from BPOMAS and PULA members using both closed and open ended questionnaires. These questionnaires were issued by two of the researchers to respective members on arrival at the AFA premises. Before issuing the questionnaires, the initial step was to obtain permission and consent to participate in the study from prospective participants. Questionnaires have been used and identified as reliable instruments for data collection in studies similar to this one. Based on the aforementioned, Cooper and Schindler (2014, 225) concluded that empirical data collected by means of survey using structured self-administered questionnaire is cost and time effective and limit interviewer and researcher bias. Therefore, the questionnaires for this study were carefully prepared to elicit the required data only.

Descriptive statistical techniques were mainly used to analyse socio-demographic data of the samples. Of the 300 questionnaires that were issued to prospective participants, 300 were returned and fully completed. The 300 hundred questionnaires comprised 200 questionnaires for BPOMAS members and 100 questionnaires for PULA members. This represents a response rate of 100% for both groups.

The socio-demographic characteristics of the samples are described in terms of gender, age, and marital status, highest level of education and length of medical scheme membership. <Table 1> below provides a more detailed comparative presentation of the socio-demographic characteristics of the respondents.

The BPOMAS sample had 41% male respondents while 59% were female. For the PULA sample, 46% of the respondents were male while 54% were female. For the BPOMAS sample, 9.5% of the respondents had a certificate with respect to level of education; 18.5% had a Diploma; 13% had a Post-graduate Diploma; 45% had a Bachelor degree; 13% had a Master's degree; 0.5% had a Doctorate and 0.5% categorised their highest level of qualification in the 'Other' category.

The t-test was used to compare the BPOMAS and PULA groups and assess whether the means of the two groups were statistically different from each other. The t-test is a parametric test that assumes a normal distribution, but is more powerful than corresponding two-sample non-parametric tests when its assumptions are met.

**<Table 1>** Demographic profile of BPOMAS and PULA respondents

| Variable                      | Category              | BPOMAS    |      | PULA      |      |
|-------------------------------|-----------------------|-----------|------|-----------|------|
|                               |                       | (n = 200) |      | (n = 100) |      |
|                               |                       | f         | %    | F         | %    |
| Gender                        | Male                  | 82        | 41.0 | 46        | 46.0 |
|                               | Female                | 118       | 59.0 | 54        | 54.0 |
| Age in years                  | <25                   | 15        | 7.5  | 3         | 3.0  |
|                               | 25 – 40               | 109       | 54.5 | 70        | 70.0 |
|                               | 41 – 55               | 57        | 28.5 | 26        | 26.0 |
|                               | >55                   | 19        | 9.5  | 1         | 1.0  |
| Marital status                | Single                | 102       | 51.0 | 52        | 52.0 |
|                               | Married               | 87        | 43.5 | 41        | 41.0 |
|                               | Divorced              | 10        | 5.0  | 6         | 6.0  |
|                               | Widowed               | 1         | 0.5  | 1         | 1.0  |
| Highest level of education    | Certificate           | 19        | 9.5  | 12        | 12.0 |
|                               | Diploma               | 37        | 18.5 | 18        | 18.0 |
|                               | Post-graduate Diploma | 26        | 13.0 | 6         | 6.0  |
|                               | Bachelor degree       | 90        | 45.0 | 43        | 43.0 |
|                               | Master's degree       | 26        | 13.0 | 16        | 16.0 |
|                               | Doctorate             | 1         | 0.5  | 3         | 3.0  |
|                               | Post-Doctoral         | 0         | 0.0  | 0         | 0.0  |
|                               | Other                 | 1         | 0.5  | 2         | 2.0  |
| Length of membership in years | 0 – 5                 | 68        | 34.0 | 42        | 42.0 |
|                               | 6 – 10                | 54        | 27.0 | 28        | 28.0 |
|                               | 11 – 15               | 42        | 21.0 | 16        | 16.0 |
|                               | 15 – 20               | 18        | 9.0  | 13        | 13.0 |
|                               | 21 and above          | 18        | 9.0  | 1         | 1.0  |

Note: f = frequency; n = sample size

## 4. Analysis And Results

<Table 2> below provides a detailed overview of the frequency of use of the e-services by BPOMAS and PULA members.

**<Table 2>** Level of usage of e-services by BPOMAS and PULA members

| Category                | Type of e-service | BPOMAS (n = 200) |      | PULA (n = 100) |      |
|-------------------------|-------------------|------------------|------|----------------|------|
|                         |                   | f                | %    | f              | %    |
| 4 times or less a month | Website           | 183              | 91.5 | 54             | 54.0 |
|                         | E-mail            | 180              | 90.0 | 57             | 57.0 |
| 4 times or more a month | Website           | 17               | 8.5  | 46             | 46.0 |
|                         | E-mail            | 20               | 10.0 | 43             | 43.0 |

Note: f = frequency; n = sample size

<Table 2> shows that 91.5% of BPOMAS members reported that they use the website 'four times or less a month' while the remaining 8.5% use it 'four times or more per month.' 54% of PULA members reported that they use the PULA website four times or less per month while the remaining 46% used it 4 times or more per month. From these findings, it can be deduced that the usage of email to

transact with the medical insurance firm is prevalent with PULA members than BPOMAS members.

In addition the itemised perceived value ratings for website for PULA with respect to relevant information and service availability in e-service is (Mean= 7.10; t= -4.407); the overall convenience of using this e-service is (Mean = 7.18; t= -5.128); the extent to which the e-service gives customers the feeling of being in control is (Mean = 6.70; t = -3.883) and the overall value customers get from e-service for money and effort (Mean= 6.75; t = -3.627) are higher than for BPOMAS which are (Mean =6.00; t= -4.282; Mean =5.92; t = -4.845; Mean = 5.71; t = -3.802; Mean = 5.84, t = -3.492) respectively in this study. Consequently the total perceived value for PULA is Mean value = 6.93, while the total perceived value for BPOMAS is Mean value = 5.87 for Website. Also the total perceived value for PULA with respect to Email is Mean value = 6.50 compared with Mean value = 5.55 for BPOMAS.

Also, the itemised perceived value ratings for Email with respect to Mean values of 6.61 for relevant information and service availability in the e-service, Mean value of 6.75 for the overall convenience of using e-service, Mean value of 6.18 for the extent to which the e-service gives the customers the feeling of being in control and Mean value of

6.45 for the overall value for money and effort for PULA medical Aid are higher than for BPOMAS whose Mean values are 5.66, 5.60, 5.35 and 5.58 respectively for the service quality metrics stated above.

<Table 3> below provides a detailed presentation of respondents' opinions and suggestions for the BPOMAS and PULA websites and email services. Their opinions are grouped into 7 categories as depicted below.

As depicted in <Table 4>, the level of satisfaction value for website suggests that PULA members are more satisfied with transacting with PULA via the PULA website ( $M = 3.47$ ,  $SD = 0.831$ ) than BPOMAS members with the BPOMAS website ( $M = 3.24$ ,  $SD = 0.861$ ).

Furthermore, as indicated in <Table 4>, the overall rating for E-S-QUAL with respect to email suggests that PULA members experience higher e-service quality and satisfaction when transacting with PULA via email ( $M = 3.64$ ,  $SD = 0.775$ ) than BPOMAS members with transacting with BPOMAS via email ( $M = 3.41$ ,  $SD = 0.779$ ).

Again, with reference to Table 4, the overall score for E-RecS-QUAL with respect to email suggests that PULA members experience slightly higher e-service recovery and

satisfaction when transacting with PULA via email ( $M = 3.29$ ,  $SD = 0.839$ ) than BPOMAS members when transacting with BPOMAS via email ( $M = 3.24$ ,  $SD = 0.823$ ).

The itemised E-S-QUAL Results for website satisfaction for PULA medical aid with respect to efficiency (Mean value = 3.77), system availability (Mean value = 3.43), fulfillment (Mean value = 3.73) and Privacy (Mean value = 3.92) are higher than for BPOMAS with Mean values of 3.35, 3.10, 3.35 and 3.52 respectively for efficiency, system availability, fulfillment and privacy in Botswana medical insurance landscape. It was therefore noted that PULA members consistently rate website services higher than BPOMAS members for all the E-S-QUAL dimensions scale items. Furthermore, the detailed and itemised analysis of the scale items for the PULA email services with respect to E-S-QUAL are higher for efficiency (Mean value = 3.61), system availability (Mean value = 3.54), fulfillment (Mean value = 3.60) and Privacy (Mean value = 3.79). While Mean values for BPOMAS with respect to efficiency, system availability, fulfillment and Privacy are 3.40, 3.35, 3.35, and 3.55 respectively in this study.

**<Table 3>** Advantages derived from using e-services

|                              | Website |      |      |    | Email  |      |      |    |
|------------------------------|---------|------|------|----|--------|------|------|----|
|                              | BPOMAS  |      | PULA |    | BPOMAS |      | PULA |    |
| Customers' Suggestions       | f       | %    | f    | %  | f      | %    | f    | %  |
| Convenient                   | 35      | 17.5 | 18   | 18 | 53     | 26.5 | 19   | 19 |
| Responsive                   | 5       | 2.5  | 2    | 2  | 21     | 10.5 | 30   | 30 |
| Value for time/money/ effort | 18      | 9    | 7    | 7  | 26     | 13   | 7    | 7  |
| Informative                  | 19      | 9.5  | 26   | 26 | 9      | 4.5  | 0    | 0  |
| Accessibility                | 38      | 19   | 12   | 12 | 11     | 5.5  | 15   | 15 |
| Availability                 | 5       | 2.5  | 3    | 3  | 0      | 0    | 1    | 1  |
| User Friendly                | 11      | 5.5  | 8    | 8  | 6      | 3    | 0    | 0  |
| No Comment                   | 68      | 34   | 24   | 24 | 74     | 37   | 28   | 28 |

Note: f = frequency

**<Table 4>** Mean ratings of the E-S-QUAL and E-RecS-QUAL dimensions for BPOMAS and PULA

|                              | Website             |       |                   |       | E-mail              |       |                   |       |
|------------------------------|---------------------|-------|-------------------|-------|---------------------|-------|-------------------|-------|
|                              | BPOMAS<br>(n = 200) |       | PULA<br>(n = 100) |       | BPOMAS<br>(n = 200) |       | PULA<br>(n = 100) |       |
| Dimensions                   | M                   | SD    | M                 | SD    | M                   | SD    | M                 | SD    |
| E-S-QUAL Scale Dimensions    | 3.33                | 0.859 | 3.71              | 0.809 | 3.41                | 0.779 | 3.64              | 0.775 |
| Efficiency                   | 3.35                | 0.873 | 3.77              | 0.829 | 3.40                | 0.761 | 3.61              | 0.765 |
| System Availability          | 3.10                | 0.875 | 3.43              | 0.837 | 3.35                | 0.760 | 3.54              | 0.771 |
| Fulfillment                  | 3.35                | 0.822 | 3.73              | 0.784 | 3.35                | 0.796 | 3.60              | 0.777 |
| Privacy                      | 3.52                | 0.864 | 3.92              | 0.784 | 3.55                | 0.800 | 3.79              | 0.786 |
| E-RecS-QUAL Scale Dimensions | 3.11                | 0.863 | 3.15              | 0.853 | 3.24                | 0.823 | 3.29              | 0.839 |
| Responsiveness               | 3.12                | 0.848 | 3.28              | 0.797 | 3.25                | 0.853 | 3.45              | 0.795 |
| Compensation                 | 2.89                | 0.846 | 2.74              | 0.838 | 3.02                | 0.811 | 2.88              | 0.881 |
| Contact                      | 3.32                | 0.895 | 3.44              | 0.924 | 3.45                | 0.806 | 3.54              | 0.840 |
| LEVEL OF SATISFACTION        | 3.24                | 0.861 | 3.47              | 0.831 | 3.34                | 0.801 | 3.49              | 0.807 |

**<Table 5>** BPOMAS and PULA respondents' suggestions on changes to be made on e-services

|                                        | Website |      |      |    | E-mail |      |      |    |
|----------------------------------------|---------|------|------|----|--------|------|------|----|
|                                        | BPOMAS  |      | PULA |    | BPOMAS |      | PULA |    |
| Customer's Suggestion                  | f       | %    | F    | %  | f      | %    | f    | %  |
| Real-time Communication                | 30      | 15   | 18   | 18 | 1      | 0.5  | 1    | 1  |
| Speed                                  | 34      | 17   | 11   | 11 | 4      | 2    | 2    | 2  |
| Provision of More Relevant Information | 11      | 5.5  | 6    | 6  | 12     | 6    | 8    | 8  |
| Responsiveness                         | 1       | 0.5  | 6    | 6  | 47     | 23.5 | 13   | 13 |
| Availability of e-service              | 11      | 5.5  | 5    | 5  | 13     | 6.5  | 6    | 6  |
| No Comment                             | 113     | 56.5 | 54   | 54 | 123    | 61.5 | 70   | 70 |

<Table 5> below provides a detailed presentation of customer's opinions and suggestions about the changes they would make for better service delivery with respect to the BPOMAS and PULA websites and email services. Their opinions were grouped into 5 categories as depicted below.

## 5. Discussion

The study investigated e-service quality in the health insurance industry in Gaborone, Botswana - with a focus on BPOMAS and PULA medical schemes. It investigated the level of usage of e-services (websites and e-mail) by the respective medical scheme members as well as the associated customer satisfaction and value perceptions of the e-services between the two groups. The comparative analyses reveal that the PULA group is always a step ahead of the BPOMAS group with regards to different aspects of e-services and e-service quality. The higher level of e-service usage by PULA respondents could be because of the high level of active use of computers and technology in the private sector than the public sector serviced by BPOMAS.

The private sector is generally perceived to be more prolific in terms of adoption and use of technology as a time and human effort saving tool than the public sector. Moreover, the private sector remuneration structure is generally higher than that of the public sector. Therefore, private sector employees can better afford to purchase advanced technologies such as smartphones, tablets, laptops and modems that allow them to access the internet, websites and email at the convenience of their private time. This may also explain the higher level of usage of e-services with PULA members as compared to BPOMAS members. With respect to total perceived value for the website services, PULA members reported a significantly higher level of perceived value than BPOMAS members. Similarly, for the e-mail services, PULA members reported a significantly higher level of perceived value than BPOMAS members. The first research objective sought to establish the level of usage of e-services by BPOMAS and PULA members. The findings of the study indicate that the use of

website is significantly higher with PULA members than with BPOMAS members. Similarly, the use of email is higher with PULA members than with BPOMAS members.

Moreover, the private sector remuneration structure is generally higher than that of the public sector. Therefore, private sector employees can better afford to purchase advanced technologies such as smartphones, tablets, laptops and modems that allow them to access the internet, websites and e-mail at the convenience of their private time. This may also explain the higher level of usage of e-services with PULA members as compared to BPOMAS members.

With respect to total perceived value for the website services, PULA members reported a significantly higher level of perceived value than BPOMAS members. Similarly, for the e-mail services, PULA members reported a significantly higher level of perceived value than BPOMAS members.

The higher level of perceived value for PULA members could be attributed to the high level of e-service (website and e-mail) usage by PULA members as compared to their BPOMAS counterparts. This means that the more one uses the websites and e-mail services, the more one experiences high levels of perceived value and benefit from the e-services; hence the higher level of perceived value and benefits reported by PULA respondents.

The perceived value scale results are further qualified by customer's comments on the open-ended qualitative question about the advantages and benefits they derive from using the e-services. The majority of respondents (BPOMAS and PULA) commented that the websites are informative, convenient and easily accessible. As for the e-mail services, majority of respondents commented that it was responsive and convenient.

The results also indicate that with respect to the website service, the level of satisfaction is slightly higher with PULA members as compared to BPOMAS members. Likewise, the level of satisfaction with email service is slightly higher with PULA members than with BPOMAS members. Respondents were further asked (open-ended qualitative questions) about any aspect of the e-services they would change for better services. Their suggestions can be taken as sources of dissatisfaction that BPOMAS and PULA management need to consider improving. The responses from both samples are

synonymous. Most of the PULA and BPOMAS respondents suggest that they would introduce real-time communication or some form of on-line chatting on the PULA and BPOMAS websites, improve the speed and efficiency of the websites, provide more relevant information and updates on the websites and improve availability of the websites as they are unavailable at times.

These comments are consistent with the need for convenience and provision of relevant information. An interactive website that offers real-time communication is efficient at downloading pages and important documents and continually updates members on medical aid transactions, usage of benefits and funds and any other important information that members would like to experience.

For e-mail service, majority of BPOMAS and PULA respondents suggest that the turnaround time of response to e-mails has to be improved, the medical insurance firm must email them more relevant information and updates on a regular basis and that e-mail service should be made available during weekends and holidays.

The suggestions given by respondents could explain the marginal level of satisfaction. BPOMAS and PULA management should aim to make improvements to their e-service offerings so as to attain a higher level of satisfaction for their clients thereby possibly gaining a competitive edge over rivals. Convenience was mentioned by most respondents as one of the advantages they derive from using websites and e-mail. PULA and BPOMAS management can learn from this feedback and intensify efforts in making the e-services more convenient. Access to information is one of the main reasons why BPOMAS and PULA customers use e-services. BPOMAS and PULA management could improve this area by providing (via e-mail and on the websites) more relevant information, health tips, updates on usage of funds, statements etc. on a regular basis. This can help to keep customers informed and satisfied. Most customers suggest that BPOMAS and PULA should make their websites more interactive by providing real-time communication. This is an area that BPOMAS and PULA management can explore. Online chatting can be a good functionality especially for quick questions that require quick responses. Real-time communication can be used to complement e-mail service and other communication channels.

Respondents suggested that e-mail services should be made available during weekends and holidays. Having a standby employee available 24/7 to assist in crucial matters as they arise during desperate times could be helpful. BPOMAS customers complained that the website was not available at times – management needs to look into this and monitor the availability of the web portal. BPOMAS and PULA management need to instigate measures to improve responsiveness to e-mails and turnaround time to replying to e-mails. They also need to ensure that the email addresses provided in the websites and other media are correct, in use

and that there are officers delegated to attend to them. Most customers complained about websites' speed and efficiency. BPOMAS and PULA management need to ensure that they improve speed of page downloads in their websites, ease of downloading documents and overall efficiency.

## 6. Implications of the Study to Theory and Practice

To the researchers' knowledge, this is the first study to examine and demonstrate e-service quality in the health insurance industry in Botswana. The research contributes to marketing and financial services sector literature by demonstrating the applicability of E-S-QUAL model in measuring customer satisfaction and perceived value of customers with respect to electronic services.

This study provides strong empirical evidence on the applicability of the E-S-QUAL model to a culturally different country and different industry. This is in line with the observation of Rafiq et al. (2012) who advised that replicating the E-S-QUAL model in other contexts helps to define its applicability, scope and conditions under which it can be generalized. However, the current study has successfully used it in a purely service-oriented industry that offers health insurance and information services. The results may be useful in improving and developing e-services and e-service quality in the health insurance industry in Botswana.

In this day and age, managers and academics know the importance of satisfaction and value in propelling organisations forward. In order to meet the needs of service quality- and value-conscious customers, managers need to understand what defines e-service quality and value in customer's minds. This study has helped to shed some light into how BPOMAS and PULA customers perceive e-service quality with respect to websites and e-mail services. According to Akinci et al. (2010) insight into how customers evaluate electronic service quality in terms of efficiency, system availability, fulfillment and privacy; and service recovery, in terms of responsiveness, compensation and contact dimensions, can better equip e-service providers to provide differentiated service offerings in order to gain a competitive advantage.

## 7. Directions for Future Research

This study was a cross sectional case survey in which self-administered questionnaires was used to collect data. It is recommended that future research could use a longitudinal approach. Future research may explore online surveys or email questionnaires to prospective respondents.

The study explored e-service quality of BPOMAS and

PULA websites and e-mail services. Future research may focus on extending the study across different e-service categories such as social media (Facebook & Twitter), mobile phones and telephones in order to get a more holistic view of e-service quality.

Considering that this study was carried out to determine e-service quality of medical aid e-services from the members' point of view, future studies could be extended to include health care service providers' stand point (e.g., Doctors, hospitals, pharmacies and other health professionals). Furthermore, our enquiry was limited to BPOMAS and PULA. Another enquiry may focus on other players in the market – their business models, consumer and competitive environments – as this may be useful for players in this sector to answer the all-important question of how to deliver efficient and effective service to customers.

## 8. Conclusion and Limitations

Through existing e-service quality literature and empirical evidence, the study concludes that, with respect to websites and email service, customers are generally satisfied with most of the dimensions of the E-S-QUAL model developed by Parasuraman et al. (2005). However, the level of satisfaction differs between customers from the two health insurance providers. Although the level of satisfaction is typically satisfactory for both groups, it is higher with PULA members than with BPOMAS members. The level of perceived value and benefits derived from using the e-services is also higher with PULA members than with their BPOMAS counterparts. Most respondents from both groups cited the sources of dissatisfaction as 'lack of an interactive website service with no real-time service solutions' and 'poor response to e-mails'.

Customers advised both medical insurance firms to use websites and email to provide them with regular updates pertaining to their medical scheme policies. On a final note, firms operating in the virtual market place need to understand customers' needs and how they evaluate e-service offerings, and maximize on this so as to gain a competitive edge. Providing high quality products and services is no longer a guarantee for success. Satisfying customers' e-service related needs has become increasingly important for today's organizations. Since self-report questionnaires were used, common method bias and response inconsistency may have influenced the results.

Data collection was focused exclusively on members who visited the medical insurance firms' offices in Gaborone for various customer services. Replication of the study in different regions of Botswana would improve the generalizability of the findings of the study.

The respondents of the current study were BPOMAS and PULA customers. This limits the generalizability of the

results to other players in the industry. Replication to customers of other primary healthcare insurance industry in the medical insurance landscape would improve the generalizability of the findings.

## References

- Alabar, T. T., & Agema R. J. (2014). Information and communication technology and customer satisfaction in the Nigerian banking industry. *Journal of Advanced Management Science*, 2(4), 333-338.
- Akinci, S., Atilgan-Inan, E., & Aksoy, S. (2010). Re-assessment of E-S-Qual and E-RecS-Qual in a pure service setting. *Journal of Business Research*, 63(3), 232-240.
- Ankrah, E. (2013). Customer satisfaction of electronic products and services in Ghanaian banks. *Information and Knowledge Management*, 3(1), 7-18.
- Apampa, O. R. (2010). Evaluation of ICT penetration in selected insurance companies: The Lagos experience. *Journal of Emerging Trends in Computing and Information Sciences*, 1(1), 24-30.
- Atinga, R. A. (2011). *A Critique of Quality Healthcare Management in Ghanaian Hospitals*. Saarbrücken: Lambert Academic Publishing.
- Behjati, S., Nahich, M., & Othaman, S. N. (2012). Interrelation between e-service quality and e-satisfaction and loyalty. *European Journal of Business and Management*, 4(9), 75-85.
- Boshoff, C. (2007). A psychometric assessment of E-S-QUAL: A scale to measure electronic service quality. *Journal of Electronic Commerce Research*, 8(1), 101-114.
- Botswana World Development Indicators (2013). <http://data.worldbank.org/country/Botswana>.
- Bpomass Medical Aid Botswana (2016). [www.bpomass.co.bw](http://www.bpomass.co.bw)
- Carlson, J., & O'Cass, A. (2010). Exploring the relationships between e-service quality, satisfaction, attitudes and behaviours in content-driven e-service web sites. *Journal of Services Marketing*, 24(2), 112-127.
- Carlson, J., & O'Cass, A. (2011). Developing a framework for understanding e-service quality, its antecedents, consequences, and mediators. *Managing Service Quality*, 21(3), 264-286.
- Changdar, C., Mahapatra, G., & Pal, R. K. (2015). An improved genetic algorithm based approach to solve constrained knapsack problem in fuzzy environment. *Expert Systems with Applications*, 42(4), 2276-2286.

- Cho, I. J., Kim, Y. J., & Kwak, C. (2016). Application of SERVQUAL and fuzzy quality function deployment to service improvement in service centres of electronics companies. *Total Quality Management and Business Excellence*, 27(3-4), 368-381.
- Connolly, R., Bannister, F., & Kearney, A. (2010). Government website service quality: A study of the Irish revenue online services. *European Journal of information Systems*, 19(6), 649-667.
- Cooper, D. R., & Schindler, P. S. (2014). *Business Research Methods* (12th Ed.). New York: McGraw-Hill.
- Cox, J., & Dale, B. G. (2001). Service quality and e-commerce: An exploratory analysis. *Managing Service Quality*, 11, ABI/INFORM Complete.
- Doyle, L. (2017). Insurance companies and health care companies are evil. Retrieved January 15, 2018 from <https://www.theodysseyonline.com/insurance-companies-health-care-companies-evil>. Accessed .
- Jing, G., & Yoo, I. S. (2013). An empirical study on the effect of e-service quality to satisfaction. *International Journal of Management Sciences and Business Research*, 2(10), 25-31.
- Jun, M., & Yang, Z. (2008). Consumer perception of e-service quality: From internet purchaser and non-purchaser perspectives. *Journal of Business Strategies*, 25(2), 59-84.
- Jun, M., Yang, Z., & Kim, D. (2004). Customers' perceptions of online retailing service quality and their satisfaction. *International Journal of Quality and Reliability Management*, 21(8), 817-840.
- Kaynama, S., & Black, C. (2000). A proposal to assess the service quality of online travel agencies: An exploratory study. *Journal of Professional Services Marketing*, 21(1), 63-89.
- Li, M., Jin, L., & Wang, J. (2014). A new MCDM method combining QFD with TOPSIS for knowledge management system selection from the user's perspective in intuitionistic fuzzy environment. *Applied Soft Computing*, 21, 28-37.
- Liu, D., Shen, M., & Liao, C. (2003). Designing a composite e-service platform with recommendation function. *Computer Standards and Interfaces*, 25(2), 103-117.
- Luor, T., Lu, H. P., Chien, K. M., & Wu, T. C. (2015). Contribution to quality research: A literature review of Kano's model from 1998 to 2012. *Total Quality Management and Business Excellence*, 26(3-4), 234-247.
- Ministry of Health (2012). Botswana National Health Accounts for Financial Year.
- Nketiah-Amponsah, E., & Heimenz, U. (2009). Determinants of consumer satisfaction of healthcare in Ghana: Does choice of health care provider matter?. *Global Journal of Health Science*, 1(2), 50-61.
- Otiso, K. N., Chelangat, D., & Bonuke, R. N. (2012). Improving the Quality of Customer Service through ICT use in the Kenya Power and Lighting Company. *Journal of Emerging Trends in Economics and Management Sciences*, 3(5), 461-466.
- Parasuraman, A., Zeithmal, V. A., & Malhotra, A. (2005). E-S-Qual: A multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3), 213-33.
- Pula Medical Aid Botswana (2016). [www.pulamed.co.bw](http://www.pulamed.co.bw)
- Rafiq, M., Lu, X., & Fulford, H. (2012). Measuring internet retail service quality using E-S-QUAL. *Journal of Marketing Management*, 28(9-10), 1159-1173.
- Rowley, J. (2006). An analysis of the e-service literature: Towards a research agenda. *Internet Research*, 16(3), 339-359.
- Santos, J. (2003). E-service quality: A model of virtual service quality dimensions. *Managing Service Quality*, 13(3), 233-246.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Harlow: Prentice Hall Financial Times.
- Tripathi, M. N. (2014). Customer satisfaction and engagement - customer retention strategies for brand manager. *XIMB Journal of Management*, 11(1), 123-134.
- Vaziri, J., & Beheshtinia (2016). A holistic fuzzy approach to create competitive advantage via quality management in services industry (case-study: life insurance services). *Management Decision*, 54(8), 2035-2062.
- Weisenthal, J. (2009). How do you know that health insurers are extortionists?. Retrieved January 15, 2018 from <http://www.businessinsider.com/how-do-you-know-that-health-insurers-are-extortionists-2009-9>
- Yaya, L. H. P., Marimon, F., & Fa, M. C. (2012). Assessing e-service quality: The current state of E-S-QUAL. *Total Quality Management and Business Excellence*, 23(11-12), 1363-1378.
- Yeh, T. M., & Chen, S. H. (2014). Integrating refined Kano model, quality function deployment, and grey relational analysis to improve service quality of Nursing Homes. *Human Factors & Ergonomics in Manufacturing and Service Industries*, 24(2), 172-191.
- Yinusa, O. O. Y., & Okurut, F. (2012). Determinants of Demand for Micro Health Insurance in Botswana. *Handbook of Micro Health Insurance in Africa*, 1.
- Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2000). A conceptual framework for understanding

e-service quality: Implications for future research and managerial practice. Working Paper No. 00-115, *Marketing Science Institute*. MA: Cambridge.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4), 358–371.

