VIRTUAL BANKING BY COMMERCIAL BANKS AND CUSTOMER SATISFACTION IN ZIMBABWE

Nyasha Kaseke*
Amos Charira*
Noel Muzondo*

Abstract: The proliferation of Virtual Banking as a banking model in Zimbabwe has brought a new dimension to the banking industry. It has assisted in offering low cost and convenient banking solutions to the traditionally unbanked lower-end of the market through use of internet technology and Information Communication Technologies (ICTs). Literature has shown that levels of customer satisfaction have changed due to different banking services offered through Virtual Banking. The research used random sampling focusing on commercial banks customers with a sample size of 250. Research findings revealed that customers are satisfied with Virtual Banking. The main factors satisfying the customers were convenience, service points always up, banking solutions are cheap, instant update by banks, money is secure, and confidentiality. The correlation coefficient matrix shows that the majority of factors range from 0.2 to 0.7 and significant factors loadings above 0.33 of the factors using centroid factor analysis indicating that the majority of the factors influence the level of satisfaction. The study concluded that the concept of Virtual Banking has been accepted by customers and customers are satisfied with the banking model. The researchers recommended that there is need to create awareness by commercial banks and improve access to technology for the customers to realise full benefits and improve levels of satisfaction with Virtual Banking.

Keywords: Virtual Banking, Customer satisfaction, Banking services
1. INTRODUCTION

The proliferation of and advances in technology the world over, specifically those related to internet, has lead to fundamental changes in how financial institutions save their customers. Use of electronic banking has become the self-service delivery channel that allows banks to provide banking services to their customer with more convenience. Today, many financial institutions are rushing to become more customer focused with less customer contact through use of internet banking and plastic money.

The main objective of this research is to establish how Virtual Banking by commercial banks has impacted on customer satisfaction in Zimbabwe. A rapid evolution in technology over the past decade has brought unprecedented changes in the Zimbabwean banking industry. The Zimbabwean government in conjunction with the financial sector, as with the case in many other countries, is exploring ways to encourage the use of electronic-banking (Reserve Bank of Zimbabwe, 2010). The country has been turned into a cash economy due to lack of confidence in the banking sector. This is partly a result of high bank charges, low interest rates and historically unfavourable banking systems during the hyperinflationary period.

1.1 Background

1.1.1 Background of Virtual Banking in Zimbabwe

The installation of Automated Teller Machines (ATMs) by Standard Chartered Bank Zimbabwe Ltd and the Central African Building Society (CABS) in the early 1990s signaled the beginning of the use of electronic banking in Zimbabwe (Dube, Chitura & Runyowa, 2009). These were the pioneers in facilitating the use of credit or debit cards as an alternative for cash in making payments for goods and services. Other financial institutions followed suit after realizing the benefits of using plastic money by the clients of these institutions. By 2000 nearly every financial institution was operating an ATM machine. New developments in the banking sector continued to be adopted in Zimbabwe. Forms of electronic innovations that have found their way into Zimbabwean banks are Electronic Funds Transfer Systems (EFTS), telephone banking, personal computer (PC) banking and internet banking. Banks also administer various card based payments across the economic divide.

Presently, the mobile operator led business models of Virtual Banking have taken the centre stage in Zimbabwe. Mobile network providers have supported the mobile banking product.
Products such as Skwama (my wallet) by Telecel, EcoCash by Econet and OneWallet by NetOne are some of the Virtual Banking products by the three network providers.

Customers are the livelihood of the banking sector since all revenue is derived from them. Each bank strives to understand its customers. It strives to offer products and service that match different needs of clients in different segments. The segments catered for are as shown in Figure 1.

![Figure 1: The Key Segments of the Bank's Customer Base in Zimbabwe](source: Bank Survey (2011))

Each bank is aware that its customers are not a homogeneous group, therefore the bank has to cater for different tastes and needs; Crown banking for high net-worth individuals, Corporate division for high net-worth businesses, Small-to-Medium Enterprises (SMEs) division and the general retail banking section were created by most banks. This segmentation was done basing on income and deposits generated by each client. The bank sector has a wide range of products currently being delivered to customers through various channels (Figure 2).

![Figure 2: The Banks Product Range and volume of Transactions by Product](source: Banking Survey (2011))
The banks traditional banking solutions are priced in line with industry rates, a situation which portrays the existence of a cartel. A comparison of bank charges for Virtual Banking solutions against the traditional banking system is summarized in Table 1 below:

Table 1: A comparison of Virtual Banking Versus Traditional Products Pricing

<table>
<thead>
<tr>
<th>Charge Type</th>
<th>Virtual Banking</th>
<th>Conventional Products-Personal</th>
<th>Conventional banking- Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service fees</td>
<td>$1.30</td>
<td>$5</td>
<td>$20</td>
</tr>
<tr>
<td>POS Purchase</td>
<td>$0.30 flat fee</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Withdrawal Fee</td>
<td>0.75% max .90c</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Deposit Fee</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
</tr>
<tr>
<td>Transfer fees</td>
<td>$0.15 flat fee</td>
<td>0.5% max $100</td>
<td>0.5% max $200</td>
</tr>
<tr>
<td>Statement fees</td>
<td>$0.03 flat</td>
<td>$0.5 per page</td>
<td>$0.5 per page</td>
</tr>
<tr>
<td>Airtime top-up</td>
<td>Free</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Stop order</td>
<td>$1</td>
<td>$10</td>
<td>$10</td>
</tr>
</tbody>
</table>

Source: Banking Survey (2011)

The current customer touch points used by commercial banks include advertising, retail outlets with Point of Sale (POS) machines, sales teams, customer relationship managers (CRMs), Internet, websites and sponsorships. All this together with the various partner networks creates a business ecosystem for a banking system.

1.1.2 Virtual Banking Services in Zimbabwe

Banking Survey (2011) reveals that Virtual Banking offers a variety of services to customers such as the following:

- Balance checking in the account
- Mini-statements and checking of account history
- PIN provision, Change of PIN and reminder over the Internet
- Alerts on account activity or passing of set thresholds
- Monitoring of term deposits
- Access to card statements
- Status on Cheque, stop payment on Cheque
- Ordering Cheque books
- Mutual funds / equity statements
• Recent transactions
• Due date of payment (functionality for stop, change and deleting of payments)
• Blocking of (lost, stolen) cards
• Insurance policy management
• Pension plan management

2. THEORETICAL REVIEW

Carmel and Scott (2009) define branchless banking as the delivery of financial services outside conventional bank branches using information and communication technologies (ICTs). Hand held gadgets, mobile phones, POS, ATMs, driven by wireless and fibre link riding on internet to form the delivery channels for offering banking solutions everywhere anytime, are the current global trends in recent years (O’Brien and Marakas, 2009).

2.1 Overview of Virtual Banking

The unexpected success story of the past decade has been the speed and extent to which virtual banking usage has spread riding on mobile phones especially in developing countries. More than 80% of the world’s population is now within mobile coverage (UNDP, 2011). In 2009, the Wireless Federation reported more than 4 billion mobile subscription globally, with 80% of new connections in emerging markets and mostly by lower income consumers (Wireless Federation, 2009). These were unbanked, with more than two thirds of them in the developing countries. According to Doherty and Ellis-Chadwick (2010), unless banks change and adopt this innovative technology of taking banking to the doorstep of customers at affordable costs, there will not be traditional retail banking to talk about in 10 years, not only in developing economies but the world over.

In recent years, there has been growing effort and interest in measuring financial inclusion, but there is no globally consistent database that can provide a clear trend of how the changes have been happening over the past decade (World Bank, 2008). However, evidence from countries like Brazil, South Africa, India, and Kenya strongly suggests that there has been an upward trend (World Bank, 2008; Duncombe and Boateng, 2009; FSD Kenya, 2009). In most of the developing countries, sustained economic growth over the past decade has brought new wealth and demand for financial services while liberalization has led to increased competition in retail financial services worldwide resulting in growth in the reach and coverage of the formal financial sector (World Bank, 2009).
2.2 Customer Satisfaction with Virtual Banking

Current research suggest that customers place great importance on the value and convenience offered by banks (Lewis and Soureli, 2006) and that customer satisfaction (which is influenced by service quality perceptions) is a key antecedent of customer loyalty towards banking institutions. Research revealed confusion and gaps in understanding the nature of the e-service quality concept, and how it operates within the banking context as well as lack of specific knowledge as to how the quality of Virtual Banking sites impacts customers’ overall satisfaction with their bank (Carmel and Scott, 2009).

Automated delivery channel quality has the potential to make customers enthusiastic about their bank and inclined to tell other potential customers about its advantages. Thus, automated channel users would be more likely to comment positively about their bank to other people, recommending the bank and encouraging others to do business with it (Joseph and Stone, 2003).

It is now widely recognized that the internet’s power, scope and interactivity provide retailers with the potential to transform customers’ experience, and in so doing, strengthen their own competitive positions (Wolfinbarger and Gilly, 2003; Doherty and Ellis-Chadwick, 2009; Levenburg, 2005).

Past research establishes relationships between service quality and costs, profitability, customer satisfaction and word-of-mouth marketing (Santos, 2003; Caruana, 2002). Over and above that, the level of service quality influences post-purchase behavior and an individual’s future decisions (Jabnoun and Al-Tamimi, 2003).

Studies specific to the traditional retail banking industry confirm the link between service quality, productivity, reduced costs and profitability (Zhu and Chen, 2002). Internet driven services indirectly impact upon a customer’s perceived service quality and satisfaction, while support for service and product quality impact on the reputation of financial institutions (Wang, Wang, Lin and Tang, 2003). Caruana (2002) discover customer satisfaction mediating the relationship between service quality and service loyalty. Al-Hawari, Ward and Newby (2009) provide broad support for the mediating role of customer service between automated (internet, telephone, POS and ATMs) service quality and financial performance, whilst Jabnoun and Al-Tamimi (2003) discover that customers value
the human skills dimension the most. The examination of service quality within the online banking context is therefore less clear.

Other research investigating electronic delivery channels (including internet, POS, ATMs, Telephone banking) confirms banking success and profitability as being dependent upon service quality (Al-Hawari, Ward and Newby, 2009; Col, Joan and Phillip, 2010; Santos, 2003). However, as Al-Hawari, Ward and Newby (2009) indicate, a significant relationship between internet service quality and customer satisfaction is yet to be established, and this gap provides the impetus for an examination of how important attributes of online delivery such as web-site content, information accuracy, security, timeliness of information and web-site aesthetics are to consumers.

Palani and Yasodha (2012) state that no matter attractive Virtual Banking model is the level of customer satisfaction depends on banking agents, i.e., retail or postal outlets that process financial transactions on behalf of telecommunication companies or banks. The banking agent is an important part of the Virtual Banking business model since customer care, customer satisfaction, customer service quality, and cash management will depend on them.

3. RESEARCH METHODOLOGY

The research was conducted using the survey method. Bryman and Bell (2003) point out that a survey enables the researcher to obtain data about practices, situations or views at one point in time through questionnaires. In this study, the population consists of commercial banks customers. A sample size of 250 was found to be representative of the population under study. This was drawn from all the segments of the commercial banking customer base.

In order to gather information about the extent to which Virtual Banking is being implemented by commercial banks, a questionnaire was designed. The administration of the questionnaires to respondents was via the virtual banking platform in the same way e-statements are mailed to them. The advantage of electronic administration is that it is a cheaper way of communication and data is obtained faster. It also minimized costs of travelling throughout the country as the customers are located in all major towns and cities.

4. RESEARCH FINDINGS AND ANALYSIS

4.1 Response Rate
Among the surveyed customers (250 participants sampled), 215 completed and returned the questionnaires representing a 86% response rate.

4.2 Working Status

![Working Status of Respondents](image)

Figure 3: Working Status of Respondents

The majority of the respondents (57%) are in full time jobs, 16% are running their own businesses, 11% are students, 7% are in part time jobs and 9% of the respondents are not employed. This implies that the salaried people are pressured to open bank accounts mainly for purposes of receiving their salaries from employers. People running their own businesses find it attractive to open Virtual Banking accounts, they need the convenience to allow them to do their banking in the comfort of their premises while also enjoying low banking costs. The combined percentage of students, part-timers and non-working (27%) implies that the banks strategy to use Virtual Banking system to attract the unbanked is proving to be a success. This category with low spending power is very sensitive to bank charges and ordinarily do not open any bank accounts.

4.3 Combined Household Income

Figure 4 below shows respondents’ combined household income.

![Combined Household Income of Respondents](image)

Figure 4: Combined Household Income of Respondents
Of the surveyed respondents who answered the questionnaires, 40% have a combined household income less than $500, 32% have between $500 and $1,000, 16% have between $1,000 and $1,500, while 11% are above $1,500 per month. This implies that banks had managed to lure customers from the lower-end of the market, an indication that the low cost and convenient Virtual Banking is paying dividends.

4.4 Level of Education Attained

![Figure 5: Standard of Education of Respondents](image)

Figure 5: Standard of Education of Respondents

Out of the surveyed respondents who completed and returned the questionnaires, 21% had secondary education as their highest educational qualification, 24% had professional level qualification, 28% had degree level qualifications and 21% had technical college level qualification. Only 5% of the respondents had high school advanced level qualification, implying that the majority are educated and can fully appreciate banking solutions for their financial needs.

4.4. Age and Marital Status of Respondents

4.4.1 Age of Respondents

The age categories of respondents are as shown in figure 6 below.
Figure 6: Age Categories of Respondents

Three percent of respondents fall under those below 20 years old, 47% between 21-30 years, 32% between 31-40 years, 13% between 41-50 years and 5% of respondents between 51-60 years. This implies that the technologically driven Virtual Banking offered by commercial banks has attracted the young and middle aged whose lives in homes, schools, social and work places is heavily influenced by Information Communication Technology (ICTs). This group has opened Virtual Banking Accounts with commercial banks which appears to be considered as fashionable and moving with trend setters. Virtual Banking is popular among those over the 20-30 years group and the baby boomers (31-40 years), who are always searching for convenience and low cost banking solutions.

4.4.2 Marital Status of Respondents

An analysis of respondents’ marital status was done, results are as shown in Figure 7 below.

Figure 7: Marital Status of Respondents
About 50% of all the respondents are married, 45% are not yet married and 5% are either divorced or windowed. This implies that most customers are looking for a low cost and a convenient banking solution regardless of their marital status since there is a minor variance between the married and not yet married percentages.

### 4.5 Age of Respondent’s Account

Table 3 shows the number of years the respondents have been using banks.

**Table 3: Age of Respondent’s Account**

<table>
<thead>
<tr>
<th>Age of Account</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2</td>
<td>107</td>
<td>49.8%</td>
</tr>
<tr>
<td>2 - 5 Years</td>
<td>55</td>
<td>25.6%</td>
</tr>
<tr>
<td>6-10 Years</td>
<td>34</td>
<td>15.8%</td>
</tr>
<tr>
<td>Above 10Years</td>
<td>19</td>
<td>8.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>215</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Of the surveyed respondents, about 50% indicated that they had less than 2 years banking with their current banks, 26% were between two and five years, 15% had five to ten years and 9% had more than ten years operating bank accounts.

### 4.6. Internet as a means of Accessing Accounts

Respondents were asked whether they had access to internet or not. The results are shown in Figure 8.

**Figure 8: Internet Access**
Out of the respondents who returned questionnaires, 72% indicated that they have access to internet while 28% have no access. This implies that the majority of Virtual Banking customers can transact without the need to visit a branch while a smaller percentage still need to visit the branch for accessing banking solutions. The increasing availability and falling cost of connectivity has enabled real-time connections that previously were not viable and customers can easily connect to their banks easily and cheaply.

4.7. Places where Customers Access their Virtual accounts

The questionnaire in this research asked the respondents to indicate where they access their Virtual Banking accounts using internet. The results are as shown in figure 9 below:

![Figure 9: Where Virtual account is accessed](image)

Of the surveyed respondents, 45% access their Virtual Banking accounts using their mobile phones, 25% access using computers at the work place, 20% access from their home computers, 12% access from internet cafes, while 6% from learning institutions.

4.8. Customer Satisfaction with Virtual Banking

Respondents were asked about their level of satisfaction with Virtual Banking, the results that came out are as shown in Figure 10 below:
Figure 10: Level of Virtual Banking Solution Customer Satisfaction

Out of the questionnaires returned by respondents, 25% indicated they are very satisfied with Virtual Banking, 58% indicated they are satisfied, 14% highlighted they are dissatisfied while 3% are very dissatisfied. A combined 83% for those in the positive category against a 17% for those in the negative side gives a good measure for Virtual banking solution as a current banking practice being followed by customers.

4.8.1 Rating of What Really Satisfy Customers

The survey questionnaire asked respondents to indicate their opinion about various dimensions of commercial banks Virtual Banking satisfying dimensions. A list of options was availed, which required each respondent to indicate the ratings on a Five-point Likert scale. Five (5) indicates strongly agree, (4) indicates Agree, (3) is Indifferent, (2) indicates Disagree, while (1) indicates Strongly Disagree to the given dimension of banking services solution.

Table 4 below shows an analysis of what really leads to customer satisfaction with Virtual Banking.

Table 4: Analysis of Virtual Banking Solution Dimensions.

<table>
<thead>
<tr>
<th>No</th>
<th>Ratings of Banking solution</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Queues at the bank are short</td>
<td>55%</td>
<td>20%</td>
<td>11%</td>
<td>5%</td>
<td>9%</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Branchless service points always up</td>
<td>67%</td>
<td>15%</td>
<td>9%</td>
<td>4%</td>
<td>5%</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>Bank reacts fast to requests</td>
<td>27%</td>
<td>24%</td>
<td>15%</td>
<td>18%</td>
<td>16%</td>
<td>100%</td>
</tr>
<tr>
<td>4</td>
<td>Bank employees are ready to assist</td>
<td>16%</td>
<td>9%</td>
<td>4%</td>
<td>22%</td>
<td>49%</td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>Branchless system easy to use</td>
<td>21%</td>
<td>29%</td>
<td>2%</td>
<td>11%</td>
<td>37%</td>
<td>100%</td>
</tr>
<tr>
<td>6</td>
<td>Bank keep us informed instantly</td>
<td>55%</td>
<td>23%</td>
<td>9%</td>
<td>5%</td>
<td>8%</td>
<td>100%</td>
</tr>
<tr>
<td>7</td>
<td>Money is secure on Virtual Banking</td>
<td>64%</td>
<td>13%</td>
<td>7%</td>
<td>11%</td>
<td>5%</td>
<td>100%</td>
</tr>
<tr>
<td>8</td>
<td>Bank adheres to confidentiality</td>
<td>66%</td>
<td>10%</td>
<td>4%</td>
<td>16%</td>
<td>4%</td>
<td>100%</td>
</tr>
<tr>
<td>9</td>
<td>Branchless banking solutions are cheap</td>
<td>59%</td>
<td>22%</td>
<td>2%</td>
<td>10%</td>
<td>7%</td>
<td>100%</td>
</tr>
<tr>
<td>10</td>
<td>Virtual Banking offers convenience</td>
<td>68%</td>
<td>22%</td>
<td>1%</td>
<td>5%</td>
<td>4%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Considering the most important determinants of Virtual banking growth, 68% of the participants indicated convenience as the most important aspect they are enjoying. The second is uptime of branchless service points with 67%, followed by the bank’s confidentiality with 66%, security of the Virtual Banking system at 64% followed closely by affordability of Virtual Banking Solution at 59%. Employees` preparedness to serve clients received the least with 16%.

4.8.2 Ranking of Factors of Customer Satisfaction with Virtual Banking

Respondents provided answers to the factors that satisfied them in terms use of Virtual Banking. The results for those agreeing (strongly agree and agree) to the factors are summarised in Table 5 below.

Table 5: Ranking of factors of customer satisfaction with Virtual Banking

<table>
<thead>
<tr>
<th>Rank</th>
<th>Percentage of Agreeing (%)</th>
<th>Factor of Customer Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>90%</td>
<td>Virtual Banking offers convenience</td>
</tr>
<tr>
<td>2</td>
<td>82%</td>
<td>Branchless service points always up</td>
</tr>
<tr>
<td>3</td>
<td>81%</td>
<td>Branchless banking solutions are cheap</td>
</tr>
<tr>
<td>4</td>
<td>78%</td>
<td>Bank keep us informed instantly</td>
</tr>
<tr>
<td>5</td>
<td>77%</td>
<td>Money is secure on Virtual Banking</td>
</tr>
<tr>
<td>6</td>
<td>76%</td>
<td>Bank adheres to confidentiality</td>
</tr>
<tr>
<td>7</td>
<td>75%</td>
<td>Queues at the bank are short</td>
</tr>
<tr>
<td>8</td>
<td>51%</td>
<td>Bank reacts fast to requests</td>
</tr>
<tr>
<td>9</td>
<td>50%</td>
<td>Branchless system easy to use</td>
</tr>
<tr>
<td>10</td>
<td>25%</td>
<td>Bank employees are ready to assist</td>
</tr>
</tbody>
</table>

Concerning the most aspect or factor that satisfies customers in terms of virtual banking as agreed by respondents, virtual banking offers convenience (90%), branchless service points always up (82%), branchless banking are cheap (81%) while the least is bank employees are ready to assist (25%).

Mean Scores

The mean scores of each of the aspects or dimensional factors of customer satisfaction based on the Likert Scale ranking of responses with value five (5) strongly agree and one (1) strongly disagree were also calculated.

Table 6: Mean Scores of Customer Satisfaction factors
As can be seen from the Table 6, respondents surveyed consider Virtual Banking offers convenience (4.68) and branchless service points always up (4.56) as the major aspects satisfying customers with Virtual Banking, followed by branchless banking solutions are cheap (4.40), bank keep us informed instantly (4.38), money is secure on Virtual Banking (4.37) and bank adheres to confidentiality (4.34). Respondents attach relatively less importance to branchless system easy to use (3.34) because some still fear losing their money by transacting using Virtual Banking and bank employees are ready to assist (2.52) as this is common with branch banking and when there is a problem with the Virtual Banking system, hence they are not in contact with bank employees always.

**Correlation of Factors**

Table 7: Correlation Matrix Showing Correlations among Variables

<table>
<thead>
<tr>
<th>VBC</th>
<th>BSPU</th>
<th>BBSC</th>
<th>BKII</th>
<th>MSVB</th>
<th>BAC</th>
<th>QBS</th>
<th>BRFR</th>
<th>BSEU</th>
<th>BERA</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBC</td>
<td>1.00</td>
<td>0.87</td>
<td>0.76</td>
<td>0.68</td>
<td>0.63</td>
<td>0.71</td>
<td>0.30</td>
<td>0.17</td>
<td>0.71</td>
</tr>
<tr>
<td>BSPU</td>
<td>0.87</td>
<td>1.00</td>
<td>0.61</td>
<td>0.51</td>
<td>0.08</td>
<td>0.06</td>
<td>0.18</td>
<td>0.16</td>
<td>0.59</td>
</tr>
<tr>
<td>BBSC</td>
<td>0.76</td>
<td>0.61</td>
<td>1.00</td>
<td>0.62</td>
<td>0.35</td>
<td>0.56</td>
<td>0.14</td>
<td>0.38</td>
<td>0.62</td>
</tr>
<tr>
<td>BKII</td>
<td>0.68</td>
<td>0.51</td>
<td>0.62</td>
<td>1.00</td>
<td>0.81</td>
<td>0.25</td>
<td>0.40</td>
<td>0.12</td>
<td>0.31</td>
</tr>
<tr>
<td>MSVB</td>
<td>0.63</td>
<td>0.08</td>
<td>0.35</td>
<td>0.81</td>
<td>1.00</td>
<td>0.34</td>
<td>0.72</td>
<td>0.05</td>
<td>0.49</td>
</tr>
<tr>
<td>BAC</td>
<td>0.71</td>
<td>0.06</td>
<td>0.56</td>
<td>0.25</td>
<td>0.34</td>
<td>1.00</td>
<td>0.45</td>
<td>0.32</td>
<td>0.66</td>
</tr>
<tr>
<td>QBS</td>
<td>0.30</td>
<td>0.18</td>
<td>0.14</td>
<td>0.40</td>
<td>0.72</td>
<td>0.45</td>
<td>1.00</td>
<td>0.09</td>
<td>0.37</td>
</tr>
<tr>
<td>BRFR</td>
<td>0.17</td>
<td>0.16</td>
<td>0.38</td>
<td>0.12</td>
<td>0.05</td>
<td>0.32</td>
<td>0.09</td>
<td>1.00</td>
<td>0.67</td>
</tr>
<tr>
<td>BSEU</td>
<td>0.71</td>
<td>0.59</td>
<td>0.62</td>
<td>0.31</td>
<td>0.49</td>
<td>0.66</td>
<td>0.37</td>
<td>0.67</td>
<td>1.00</td>
</tr>
<tr>
<td>BERA</td>
<td>0.12</td>
<td>0.28</td>
<td>0.26</td>
<td>0.33</td>
<td>0.41</td>
<td>0.54</td>
<td>0.19</td>
<td>0.39</td>
<td>0.40</td>
</tr>
</tbody>
</table>

VBC- Virtual Banking offers convenience, BSPU- Branchless service points always up, BBSC- Branchless banking solutions are cheap, BKII- Bank keep us informed instantly, MSVB- Money is secure on Virtual Banking, BAC- Bank adheres to confidentiality, QBS- Queues at the bank are short, BRFR- Bank reacts fast to requests, BSEU- Branchless system easy to use, BERA- Bank employees are ready to assist.

Before applying factor analysis it is good idea to inspect the matrix of correlations coefficients. The first thing to do is to see if any item has very low coefficients with all or
most of other items. From the table the researcher is faced with choice to eliminate some of the factors as they have lower correlation coefficients. The correlation coefficients in the matrix of the 10 items or factors have a range from 0.87 (BSPU and VBC) to 0.05 (BRFR and MSVB). The majority are between 0.2 and 0.7.

**Factor Analysis of Customer Satisfaction Factors**

Using the Centroid method of factor analysis given the correlation matrix (Table 7), the first Centroid factor (A) and second Centroid factor (factor B) can be shown as follows (Table 8)

Table 8: Factor Loading for Customer Satisfaction Factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loadings</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Centroid Factor A</td>
<td>Centroid Factor B</td>
</tr>
<tr>
<td>Virtual Banking offers convenience</td>
<td>0.765 0.493</td>
<td>0.828</td>
</tr>
<tr>
<td>Branchless service points always up</td>
<td>0.634 0.493</td>
<td>0.645</td>
</tr>
<tr>
<td>Branchless banking solutions are cheap</td>
<td>0.774 0.329</td>
<td>0.617</td>
</tr>
<tr>
<td>Bank keep us informed instantly</td>
<td>0.735 0.440</td>
<td>0.734</td>
</tr>
<tr>
<td>Money is secure on Virtual Banking</td>
<td>0.713 0.531</td>
<td>0.790</td>
</tr>
<tr>
<td>Bank adheres to confidentiality</td>
<td>0.714 0.395</td>
<td>0.666</td>
</tr>
<tr>
<td>Queues at the bank are short</td>
<td>0.561 0.555</td>
<td>0.623</td>
</tr>
<tr>
<td>Bank reacts fast to requests</td>
<td>0.489 0.500</td>
<td>0.489</td>
</tr>
<tr>
<td>Branchless system easy to use</td>
<td>0.850 0.401</td>
<td>0.824</td>
</tr>
<tr>
<td>Bank employees are ready to assist</td>
<td>0.573 0.322</td>
<td>0.429</td>
</tr>
</tbody>
</table>

Each communality represents the proportion of variance in the corresponding (row) variable and is accounted for by the two factors (A and B). For instance, 82.8% of the variance in variable one (virtual banking offers convenience) is accounted for by the centroid factor A and B and the remaining 17.2% of the total variance in variable one scores is thought of being made up of two parts: a factor specific to the attribute represented by variable one and a portion due to errors of measurement involved in the assessment of variable one. All variables have a factor loading of above 0.33 in terms of factor A, with only two variables with loading factor less than 0.33 in terms of factor B (bank employees are ready to assist and branchless banking are cheap).

**5. CONCLUSION**

The findings of this study provide evidence that the adoption of Virtual Banking by commercial banks was achieved with varied success levels as seen with different factors considered.
The results show an indication that the concept of Virtual Banking has been accepted by a significant number of the banks customers. Customers are satisfied with the use of Virtual banking. However, frequency of visits to branches is still high with clients on Virtual Banking still visiting branches at least five times in a calendar month. These results show that although the concept is popular with customers, a hybrid model of Virtual Banking with brick and mortar appears to be what the customers are comfortable with.

In terms of level of customer retention for the banks, conclusions can be drawn from the results that Virtual Banking exceeded customer expectations judging by the responses on Virtual Banking service dimensions ratings which scored highly. Customer loyalty increased, with customers indicating their willingness to enjoy more bank products and also indicating their likelihood to refer friends and relatives to Virtual Banking services.

6. RECOMMENDATIONS

The following are recommendations made for the customers to be satisfied with the adoption of Virtual Banking by commercial banks.

6.1 Creating awareness

New Virtual Banking system must be accompanied by appropriate promotional mix to create awareness and ultimately brand loyalty. Huge investments sunk while setting up such facilities require a return through a large customer subscription base. These solutions are meant to bring convenience to customers through low cost products which can only thrive on pushing volumes for an investor to get a return.

6.2 Regulatory Authority

Virtual Banking must be accompanied by appropriate conducive environment which facilitates the implementation of ICT enabled banking solutions which are efficient and convenient in meeting customer banking needs. The regulatory authority must also ensure that such innovation is done within set standards which safeguard the public from bank failures and security threats posed by cybercriminals.

6.3 Access to Technology

The government should facilitate convergence of ICTs between financial institutions and technology companies to avoid duplication of national resources which can be deployed in other critical developmental areas. Government can also speed up the use of internet as a
key enabler of branchless banking by removing duty on all ICT gadgets and also facilitating setting up locally based manufacturing plants for hardware and software.

6.4 Improve partnership with key Stakeholders

In order to maximize the benefits derived from Virtual Banking, the financial sector must improve the networking partnership with key stakeholders. Improved network can assist in reaching all unbanked population in remote areas and improve customer satisfaction.

REFERENCES


