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Technology and Service Quality in the Banking Industry in Ghana

Ebenezer Ankrah

Information Technology Department, Central University College, P. O. Box DS 2310, Dansoman, Accra, Ghana, West Africa

E-mail: ebankrah@yahoo.com

Abstract

Globally, retail banks are entering a new era. Setting out a clear strategy is becoming more difficult as regulatory and political intervention changes the market structure, and banks are under enormous pressure to restore public confidence in the role that they play in society. As banks respond to these structural pressures across markets and strive to obtain a competitive advantage, the challenge remains to keep the customer experience and wider brand perceptions central to all strategic thinking; in terms of technology and service quality. This research is aimed at the analysis of technology and service quality in the banking industry in Ghana. The research made use of both primary and secondary data instruments for data gathering; questionnaires were used for gathering primary data and the internet, organization's website, Board minutes and brochures were means for secondary data collection. The population for the study was staff and customers of six Ghanaian Banks and the sample was restricted to 500 respondents. Data was analyzed and presented in tabular and graphical forms; tables, and bar graphs. This research has reinforced that there are few global trends in retail banking, as customer perceptions are driven by a range of things, including many cultural differences, varying levels of overall market maturity and significant differentials in technology and service quality. It is vital to recommend that banks combine their knowledge of the customer base with the technology available to improve their service offerings to ensure quality.

Keywords: Technology, Service quality, and bank

1. Introduction

According to Bitner (2001), retail banking is a regional business directly influenced by local cultural drivers, so global trends are few and far between. It is clear that as banks consider ways to rebuild trust, improve service to meet customer expectations, and reduce attrition; their efforts will need to be carefully tailored to the unique requirements of each domestic and regional market in which they operate. For banks to compete, differentiate and grow in this new customer era, they must swiftly accelerate their innovation around banking products and service offerings with much focus on technology. Those that do so will enrich their brands and protect and increase market share at a time when customer loyalty is no longer guaranteed.

According to Al-Hawari and Ward (2011), the banking industry in mature markets has witnessed a wholesale and ongoing shift in confidence, and never before has loyalty management and personal customer attention been such an issue for the sector. In contrast, the emerging markets now offer huge opportunities for banks looking to expand internationally, as most have felt less of an impact from the credit crisis and instead have a growing middle class of customers looking to diversify their bank relationships. Rebuilding trust is a challenge for individual banks and for the industry as a whole, in particular across mature markets. Negative customer perceptions of the disruption banks have caused to the wider economy, through the under-capitalized and over-leveraged practices that led to the credit crisis continue to prevail.

In recent years, we have seen that being profitable is not enough. The role that banks play in supporting the wider economy has been highlighted, and a wide variety of stakeholders are now demanding a more responsible banking industry if there is to be a restoration of customer confidence. Quality and operations management provides the opportunity for firms to capture and dominate worldwide markets through higher quality, faster response time, better

performance and lower cost. One way for them to achieve that is by investing in information technology.

Technology-based self-service has greatly changed the way that service firms and consumers interact, and are raising a host of research and practice issues relating to the delivery of e-service which has become increasingly important not only in determining the success or failure of electronic commerce, but also in providing consumers with a superior experience with respect to the interactive flow of information. This study examines technology and service quality in the banking industry in Ghana.

Setting out a clear strategy is becoming more difficult as regulatory and political intervention changes the market structure, and banks are under enormous pressure to restore public confidence in the role that they play in society. As banks respond to these structural pressures across markets and strive to obtain a competitive advantage, the challenge remains to keep the customer experience and wider brand perceptions central to all strategic thinking; in terms of technology and service quality. The banking industry has already been depicted as exhibiting little market orientation and fulfilling services with little regard to customer needs as well as including branches dissimilar in efficiency. Long lines, limited time for customer servicing, transaction errors, excessive bureaucracy, and security and network failures have been said to be the most frequent problems using banking services in Ghana. This highly lower customer's perception on the quality of service offered and hence reduces the bank's profitability and credibility. This research aims at improving public understanding of technology and service quality in the banking industry. This research also aims at improving literature on banking industry in Ghana and testing this hypothesis statistically "Improvement in services quality depends heavily on technology; the results of the study would add to the already existing literature.

2. Literature review

2.1 Technology

Technology has brought about a complete paradigm shift in the functioning of banks and delivery of banking services. Gone are the days when every banking transaction required a visit to the bank branch. Today, most of the transactions can be done from the comfort of one's home and customers need not visit the bank branch for anything. Technology is no longer an enabler, but a business driver. The growth of the internet, mobiles and communication technology has added a different dimension to banking. The information technology (IT) available today is being leveraged in customer acquisitions, driving automation and process efficiency, delivering ease and efficiency to customers.

Contemporary technology in banking comes in the form of computer based application and information technology. From the banking customer's perspective, two of the practical purposes of banking are convenience and accessibility to both funds and account information. Technology in commercial banking comes in the form of automatic/Electronic Networks and Electronic Funds Transfer Systems (EFTs). The basic components of EFTs are Automated Teller Machines (ATM), Point of Sale (POS) Terminals and Automated Clearing Houses (ACHs). The advent of technology has enabled the provision of banking products and services through electronic delivery channels known as Electronic banking. E-Banking comes in the form of Internet banking, Telephone banking and other electronic delivery channel like On-line Virtual Terminals. Internet banking may be explained as banking through the World Wide Web.

Technology has had a remarkable influence on the growth of service delivery options thus when the customer is in direct contact with technology there is greater control such as with Internet banking. However, if there is an absence of direct contact, such as with telephone banking: since the technology itself is not visible to customers who are able only to press numbers on their telephone keypad, it is assumed that there is less control perceived by the customer during this transaction. Bateson, J. (1985), has also conducted a number of studies on the need for consumers to have control over the technology during service encounters. When a consumer freely chooses to use technology as a form of service delivery the impact is high in terms of quality attributes. Some of the quality factors that are highly

important to consumers are efficiency and speed. Gummesson (1991) also stresses that reliability and user-friendliness are important factors in the evaluation of technology-based services.

2.2 Service Quality

Service quality can be seen as the extent to which a service meets customer's needs and expectations. Service quality can thus be defined as the difference between customer expectations of service and perceived service. Parasuraman et al. (1985) also stated that if expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs. Service quality has been recognized as having the potential to deliver strategic benefits, such as improved customer retention rates, whilst also enhancing operational efficiency and profitability. Adrienne et al (2003), suggest that e-service quality is amongst a firm's competitive capabilities that lead to business performance. Al- Hawari and Ward (2006) also demonstrates that service quality impacts on customer satisfaction which in turn affects the financial performance of banks.

2.3 Relationship between Technology and Service Quality

The proliferation of rapid advances in technology-based systems, especially those related to the internet, are leading to fundamental changes in how companies interact with customers; Parasuraman et al, (1985). This trend is well established in the service industry, where service providers are increasingly urged to invest in technology to better secure their future in the electronic age; Bauer et al. (2005). Today's winners are those who overcome consumer cynicism by exceeding expectation and going beyond the point of encounter. These firms are successful because they have invested for the long term through recognizing that service fulfillment not only promotes growth of their customer base but retains customer loyalty. Among the more recent delivery channels introduced is electronic banking: in its simplest form, electronic banking means the provision of information about the bank and its products via a page on the internet. A more developed service, in customers view, is one that provides the customers with the opportunity to gain access to their accounts execute transactions or buy products online or via other electronic means such as TV, telephone or Automated Teller Machines (ATM).

As with most other service providers, banks have moved quickly to invest in technology as a way of controlling costs, attracting new customers, and meeting the convenience and technical innovation expectations of their existing customers. Deming (2001) asserts that quality aims at the needs of the customer, present and future. As perceived service quality portrays a general, overall appraisal of service; a global value judgment on the superiority of the overall service, it is viewed as similar to attitude. Prescriptions of service quality could occur at multiple levels in an organization.

Vandermerwe (1993) suggests that connections between the employee and customer can be made through physical, psychological or electronic means, but some sort of interactivity must be present if a quality service that sustains long term customer satisfaction is to be the result. Quality in the service operation is actually created at the "moment of truth and the "moment of opportunity" where value can be added to the perceived service quality. Vandermerwe (1993) goes further to say that "in services the offering and the employee are inseparable".

Banks have largely implemented service delivery technology as a way of augmenting the services traditionally provided by bank personnel. Implementation results both from the need to reduce the cost of delivering service primarily through personnel, and, the corresponding need to meet the challenge posed by technologically innovative competitors. Changes in the banking industry such as those resulting from deregulation, rapid global networking, and the rise in personal wealth have thus made the implementation of sophisticated delivery systems (e.g. online and telephone banking, remote site automated teller machines, etc.) a strategic necessity in many cases.

2.4 Early Banking Operations in Ghana

Before the 1950s, the number of bank accounts in Ghana was very few and what mattered most was the personal

contact between the Bank Manager and his customers. There was hardly any urgent demand for information because of the low volumes of transactions. This made it possible to satisfy customers with manually kept records. Thus the majority of banking services were performed using manual operations and personal contact with customers without much information transfer and handling of customer data.

As commercial activities increased and people developed more banking awareness, the volume of work grew and so did the demands on the bankers' services from the customers. The manual system could no longer cope with the demands from customers. Neither did it meet managements' need for timely and accurate information to cater for the dynamic business environment (Andoh, 1998). For instance, within the banks a lot of mundane and boring jobs like interest rate calculation and long tedious additions were still being done manually by staff. In the early 1950s, however, Electro-mechanical machines were introduced into the banking industry in Ghana. This enabled customers to have their bank statements on time and within the banks tedious jobs like interest rate calculation were taken over by machines, making their jobs more enjoyable and boosting staff morale. Prior to technological development, banks used the manual system for their operations and customers had to travel to banking hall where they opened their account to transact business with that particular bank.

Rose (1999) defines banks as "those financial institutions that offer the widest range of financial services, especially credit, savings and payment services and performs the widest range of financial functions of any business economy". Over the years the banking industry has experience several losses. Banks that had been performing well suddenly announced large losses due to credit exposure that turned sour, interest rate position taken, or derivatives exposures that may or may not have been assume to hedge balance sheet risk. In response to this, banks have almost universally embarked upon an upgrading of their risk management and control systems (Santomero and Mellon, 1996).

The Ghanaian economy has experienced high influx rate of foreign banks in recent times. Banking operations are characterized with complexity and competition. To remain competitive, there is the need for a scientific approach in operations. One such an approach is information systems strategy. There are twenty six banks in Ghana. From bank of Ghana website, there are three categories of banks, namely commercial bank, development bank and merchant banks.

2.5 Theoretical Framework

A theory can be defined as a set of definitions and propositions that specify the relationship among variables. Almost all research studies in social and behavioral science regardless of disciplines or programmes require a rationale or base for conducting research. This rationale or base is often called theoretical framework. A theoretical framework is a conceptual model of how one theorizes or makes logical sense of the relationships among several factors that have been identified as important to the problem.

This study considered some of the variables in the Delone and McLean IS success model which incorporates the following dimensions: systems quality, information quality, and service quality, intention to use, user satisfaction, and net benefits see figure 1.

This model is composed by:

Service quality refers to the support that the users of the system receive from their IT area personnel.

System Quality is of great importance dimension of information system impact and success. System Quality includes ease of use, response time, data accuracy, reliability, completeness, and flexibility.

Information Quality deals with the accuracy, timeliness, reliability, relevance and currency of the information.

Intention to use is a traditional variable in accordance with Technology Acceptance Model approach.

Use is another known measure of information system success. Examples of use include frequency of use, number of functions used, number of records processed, number of hours IT is used and number of computer queries.

User satisfaction refers to the overall satisfaction one gains from the use of an application.

Net benefits include the various impacts such as societal impact, individual impact, and organizational impact. This concept defines net benefits as an idealized comprehensive measure of the sum of all past and expected future benefits, less all past and expected future costs, attributed to the use of an information technology application.

3. Methodology

The population for this was the staff and customers of six Ghanaian Banks. In all five hundred respondents responded to the questionnaire. One hundred of the respondents represent bank staff while the other four hundred represent bank customers. Incidental sampling was used for this survey. Data was presented in tabular and graphical forms, such as frequency tables, and bar graphs to clearly summarize the information gathered in visual form. The hypothesis was also tested statistically at a significance level of 0.05.

4. Findings

In relation to the Opportunities available in the retail banking in Ghana , the entire respondents stated 'Yes' in their responses to opportunities of; Mobile Banking, Personalized Banking (Priority Banking), and Internet Banking. On the Issue of the respondents' degree of satisfaction with the main banking activities, majority of the respondents rated their degree of satisfaction with the main banking activities: ATMs, Internet, and Mobile banking 'averagely' in exception of activities of Branches and Call centre, which received a high and low rating from majority of respondents respectively.

On the issue of specific areas which need attention in order for the banks to deliver quality services to its customers; the entire respondents stated 'Yes' in their response to areas of Personalization, Service Quality, price, Ease of Use, Access and Availability, Security, and technology.

The findings also reveals that majority of the respondents agreed that among other things, these key actions are very vital if the banks are to maintain and expand their customer base; product and/ service innovation, brand and reputation, more competitive in sales, distribution and service delivery, more organizational agile to respond faster to market change, and must increase stakeholder confidence to retain access to capital at a low and competitive cost.

4.1 Testing of the Hypothesis

Hypothesis is a specific statement of prediction. It describes in concrete (rather than theoretical) terms what the researcher expect to happen in your study. The chi-squared distribution is used in the common chi-square tests for goodness of fit of an observed distribution to a theoretical one. The chi-square statistic was used to test the hypothesis. The chi square statistic was use to test the hypotheses because the researcher was testing for goodness of fit or better still relationship.

Hypothesis

H_0: Improvement in service quality does not depend on technology.

H_1: Improvement in service quality depends heavily on technology.

Where **H_0** is the null hypothesis and

H_1 is the alternative hypothesis

Test statistic

The test statistic is a chi square, χ^2 with (I-1)*(J-1) degree of freedom.

$$\chi^2 \text{ value} = \sum_{i=1}^{I}\sum_{j=1}^{J}\frac{(O_{ij}-E_{ij})^2}{E_{ij}} \quad \text{with df} = (I-1)*(J-1)$$

Where Oij are the observed values

Eij are the expected values and

df is the degree of freedom

Significance level

The significance level for this test is 0.05

Critical value

From the chi square distribution, a significance level of 0.05 with one degree of freedom gives a critical value of 3.84.

Decision rule

Reject the null hypothesis, H_0, if chi-square calculated is greater than 3.84 and conclude that, Improvement in service quality depends heavily on technology, else, accept the null hypothesis, H_0 and conclude that, improvement in service quality does not depend on technology.

Now the calculate chi-square is as follows from table 2 and table 3;

$$\chi^2 = \frac{(80-76)^2}{76}+\frac{(100-114)^2}{114}+\frac{(200-190)^2}{190}+\frac{(20-24)^2}{24}+\frac{(50-36)^2}{36}+\frac{(50-60)^2}{60}$$
$$= 0.2105+1.7193+0.5263+0.6667+5.4444+1.6667$$
$$= 10.2339$$

The chi-square calculated is equal to 10.2339 and the critical value is equal to 3.84. Since the chi-square calculated is greater than the critical value, the null hypothesis, H0 is rejected and hence the conclusion that Improvement in service quality depends heavily on technology.

5. Conclusion

Banks must deliver quality and timely services coupled with good products, to its immediate market in order to gain a competitive advantage from their strengths. According to Adrienne et al., (2003), commercial banks must be mindful of the personal attention given to their customers and that its effects are enormous and could be either positive or negative. Positively, it helps expand the customer base of the bank, and increase the perceived confident and trust possessed by the bank's customers. Negatively, it gives the bank a bad reputation leading to low patronage of the banks services. The respondents, according to the finding, revealed the low personalized attention received from the banks and their dissatisfaction. The finding supports the relevant literature in this regard and this calls for an immediate attention from the Bank's Official if the banks are to continue as a going concern.

According to Al-Hawari and Ward (2006) it is necessary that banks pay much attention to certain key areas which include: Personalization, Service Quality, price, Ease of Use, Access and Availability, Security, and technology, and certain key actions; product and/ service innovation, brand and reputation, more competitive in sales, distribution and

service delivery, more organizational agile to respond faster to market change, and must increase stakeholder confidence to retain access to capital at a low and competitive cost. The relevant literature is not different from the respondents view and as such, much attention is demanded in these areas coupled with the vital actions mentioned above. The hypothesis tested statistically confirmed the fact that, improvement in customer services depends heavily on technology.

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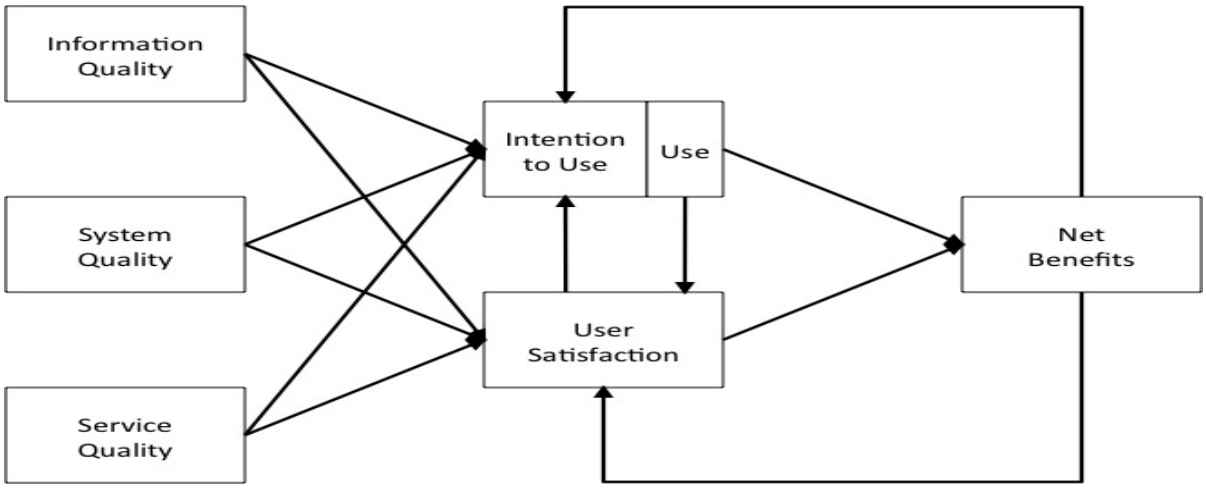

Figure 1: Information Systems Success Model (DeLone & McLean 2002, 2003)

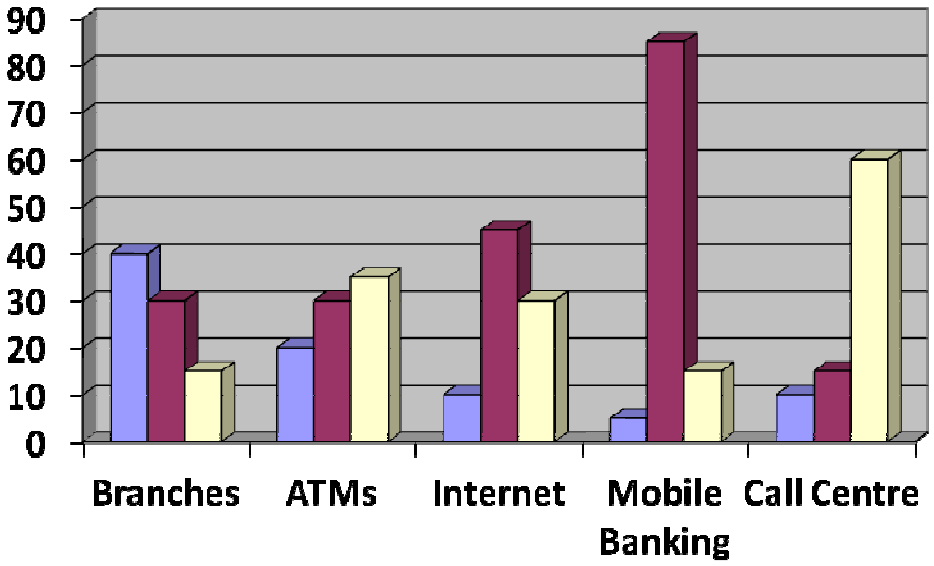

Figure 2: Analysis of the degree of satisfaction with the main banking activities

Table 1: Analysis of the main areas which needs improvements at the banks

Areas Of Delivery Quality Service	Frequency of Response	Percentage%
Service quality	20	23%
Price	14	16%
Ease Of Use	12	14%
Access & Availability	17	20%
Security	22	25%
Total	85	100%

Source: Field Data, 2012

Table 2: Observed Values for Services Quality and Technology

	Are your bank services backed by technology?			
How do you perceive services quality in your bank?		**Yes**	**No**	**Total**
	Low	80	20	100
	Moderate	100	50	150
	High	200	50	250
	Total	380	120	**500**

Table 3: Expected Values for Services Quality and Technology

	Are your bank services backed by technology?		
How do you perceive services quality in your bank?		**Yes**	**No**
	Low	76	24
	Moderate	114	36
	High	190	60

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