



**Customers' Perceptions toward Mobile Banking Applications in Limpopo rural
areas**

By

**Rito Chabalala
201806940**

Research proposal submitted in fulfilment of the requirements for the degree

BACHELOR OF SCIENCE HONOURS

in the

Department of Computer Science, School of Science and Technology

At Sefako Makgatho Health Sciences University

Supervisor: Ms NS Mathiba

2022

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1. STUDY PROBLEM

The power of the internet, computers and information and communication technology (ICT) advancements have influenced and transformed our daily lives. Automated Teller Machines (ATMs), ticket machines, and printing machines are just a few examples of computer interfaces that people use daily (Ranganathan and Mangaiyarkkarasi, 2016). There are numerous digital banking options available today such as mobile banking, and internet banking. The use of these digital banking platforms by customers depends on many factors. The study of how humans interact with computers or software systems is known as human-computer interaction (HCI) (Dix, 2022). To produce safe, user-friendly, and efficient interfaces, HCI concepts are applied in the development of software systems such as online banking, ATMs, and mobile banking platforms (Ranganathan and Mangaiyarkkarasi, 2016). These software systems are developed in such a way that they can be accessed from different hardware electronic devices, such as smartphones, notebooks, and personal computers. However, smartphones are the most used devices (Loganathan, Balaji, Ashokc and Parameshwari, 2020).

Customer satisfaction has been used as a measure for determining whether a company's services or goods meet or surpass customers' expectations. Client loyalty and the desire for repeat business are indicators of customer satisfaction (Beard, 2014). Client happiness is viewed as a critical differentiator in today's highly competitive market since it increases customer lifetime value, according to Beard. Since customers are central to all marketing activities, identifying factors that drive customer satisfaction is critical to increasing a company's profits. In today's digital business world, mobile banking is a game changer in the banking industry (Jannat & Ahmed, 2015). As a result, the banking industry is now providing customers with branchless banking services. According to a study by Loganathan et al., (2020), customers of public and commercial banks use mobile banking services regardless of their cell network.

When businesses use technology, they gain access to more customers and thus increase profit and productivity. Although technology raises security concerns, banks continue to invest millions and billions in security systems to resolve threats relevant to current banking situations to protect

customers' data Wodo and Stygar, (2020). Wodo, Stygarand, and Ba'skiewicz (2021) study investigated digital banking security systems and evaluated the usability of the digital banking platforms.

Information security is a priority for all organizations. Kondratyeva, Sviina and Tsvetkov (2021) emphasized the importance of implementing a state-of-the-art security system to create a secure business environment for banks and customers. The authors emphasized how businesses use technological innovations to track threats and risks to customer information and other business assets in real time. Additionally, they reported that information technologies and methods improve business processes and security and enable businesses to withstand external threats.

Though banking systems have evolved over the years, rural areas in South Africa still lack online resources and infrastructure, have a poor network connection, and most people living in rural areas are very old people who are not skilled in using online banking platforms as compared to those people living in urban areas and cities. Additionally, people living in rural areas spend a lot of money to travel to urban areas or cities where banks are located so that they can deposit or withdraw money. Though most young people have invested in smartphones, they use these devices for social media instead of banking purposes. Some people do not use mobile banking platforms or internet banking because they fear revealing their confidential information to unauthorized people (hackers) who may steal their money.

2. LITERATURE REVIEW

Mobile banking has gained a lot of recognition and popularity as mobile usage has grown significantly. Banks are interested in retaining their present value-added services in mobile banking applications while also introducing new features. Recently, mobile banking has become a significant factor in client satisfaction with financial services (Afshan and Sharif, 2016). Murugiah and Akgam (2015) found that customer pleasure was negatively connected with security and positively correlated with customer loyalty and service quality.

Customer satisfaction is key to the company's smooth running and financial success of the company. Most research claims that one key factor affecting the service industry is customer satisfaction. This is a significant differentiator and component of every business strategy. How effectively a product or service matches consumer expectations has a big impact on customer satisfaction (Jannat & Ahmed, 2015). The consumer is not pleased if the product falls short of their expectations. If the product meets or surpasses expectations, the client will be happy, keep using the product, and remain a devoted client of the bank (Khadka et al., 2017).

Aghdaie and Faghani (2012) investigated a quality-of-service model used to determine the relationship between customer satisfaction and mobile banking services. According to their research, credibility, empathy, responsiveness, and concreteness, all have a positive relationship with customer satisfaction, but security does not. In addition, this study focused on factors that affect the quality of service. According to Kahandawa and Wijayanayake (2014), practicality, ease of use, relative advantage, risk awareness, user lifestyles, and current customer needs all influence customer satisfaction with mobile banking services. increase. Studies show that these factors are important and financial institutions need to work to improve them. Jannat and Ahmed (2015), claim that security, trust, convenience, transaction accuracy, ease of use, system availability, responsiveness, transaction speed, and cost-effectiveness are the most crucial variables affecting customer satisfaction.

The quality of the service, site design and content, security and privacy, convenience, and speed are the five variables that (Ling et al., 2016) suggested may influence consumer satisfaction with online banking. Most of the criteria that can influence consumer satisfaction with online banking, according to their survey, are our web design and content, ease, and speed. To examine the link between the quality component of electronic banking and the client's propensity to purchase, (Khatoon et al., 2020) used customer satisfaction as a moderator. According to research, reliability, efficiency, responsiveness, communication, security, and privacy all have a major impact on a customer's purchasing intent. If the customer is satisfied with the level of electronic banking service, they are considerably more likely to make a transaction. Banks use online and mobile banking to expand consumer access to their services. Customers use internet-connected PCs to access online banking services, and wireless devices to access mobile banking services (Al-Khalaf

& Choe, 2020). According to Khraim et al., (2011), customers consider mobility to be the most important component of the mobile banking industry. Mobile banking's main feature is its reliability. Even though web-based banking is the most cost-effective choice, people value it.

3. PURPOSE OF THE STUDY

The study's goal will be to investigate the elements influencing customer satisfaction with mobile banking applications. To fully achieve that, customers' perceptions toward mobile banking applications in Limpopo rural areas will be investigated. Finding out the challenges they have in mobile, and internet banking and the characteristics or attributes of a usable mobile bank application helps to check whether the product meets the customers' requirements.

3.1 Aim of the Study

The research will investigate customers' perceptions of mobile banking applications in Limpopo rural areas.

3.2 The objectives of the Study

This study will address the following objectives to achieve the goal:

1. Investigate factors influencing customer satisfaction in mobile banking applications
2. Determine challenges experienced by customers using mobile banking applications
3. Compare the use of mobile banking applications and internet banking applications.

4. RESEARCH QUESTION

This study will answer the following questions to achieve the goal:

1. What factors influence customer satisfaction in mobile banking applications?
2. What challenges do you experience when using the mobile banking application?
3. What is the difference between using a mobile banking application and an internet banking application?

5. RESEARCH DESIGN

The research design creates a framework for data gathering and analysis. The study design chosen reflects considerations about the value of various parts of the research process (Sileyew, 2020). This study employs a hybrid strategy, employing both quantitative and qualitative research methods to influence customer satisfaction of commercial banks that provide mobile banking applications to their customers, as well as mobile banking apps to investigate customer expectations about new system implementation. Quantitative research, according to Hameed (2020), is a systematic and objective method that employs numerical data from distinct subgroups to generalize outcomes.

The study will be conducted in Giyani, northeastern Limpopo, South Africa, using a qualitative approach to understand customer perceptions of mobile banking applications in the Giyani region. It served as Mopani's administrative centre and is surrounded by smaller communities. Quantitative data from the survey will be collected online, by email, and directly by phone, as needed. According to Hammarberg, Kirkman, and de Lacey (2015), a quantitative survey method is appropriate when factual data is needed to answer the survey questions. However, if you can link the variables to the hypothesis before collecting the data, and if the question or problem is clear and clear, you need a qualitative research method. Quantitative methods can show, for example, the number of people who support assisted reproductive technology, age, marital status,

geographical location, and other factors, and how they change from survey to study (Kovacs et al., 2012).

6. STUDY POPULATION AND SAMPLE

The subjects of this survey include those who use and do not use mobile banking applications in Giyani village. This survey should include at least 100 participants. This study's potential participants are chosen using convenient sampling procedures. This is a non-probability sampling strategy in which respondents are chosen depending on their accessibility and closeness to the researcher. Google Forms is used to design and develop surveys. Therefore, the online distribution of surveys to participants is used.

7. DATA COLLECTION

Data collection, according to Bhandari (2020), is a systematic method of gathering observations or measurements. This survey's primary data-gathering technique is a questionnaire.

8. DATA ANALYSIS

Data cleansing, transformation, and modelling are all steps in the process of data analysis, according to Johnson (2022), which aims to provide information that may be used to guide business choices. Data analysis is to draw out relevant information from the data so that decisions may be made based on it. Microsoft Excel was used to examine the survey's data. Topics are used to arrange qualitative data.

9. RELIABILITY, VALIDITY AND OBJECTIVITY

The reliability of an instrument refers to the consistency at which the study produces results under similar study conditions. The data collection tool, the questionnaire, will be valid and reliable to ensure that all respondents understand it in the same way. After the pilot test, the questionnaire will be adapted or corrected as needed. The validity of the data will be guaranteed by the fact that the respondents of the study are the people who have experienced the phenomenon under investigation. Customers' perceptions of mobile banking applications in Giyani villages will be studied. Knowing the challenges, they face in mobile and internet banking, as well as the characteristics or attributes of a usable mobile bank application, allows you to determine whether the product meets the needs of your customers.

10. BIAS

Questionnaires will be reviewed to ensure that there is no bias in customer perceptions of Giyani's mobile banking applications. The bias is when not sending out the Questionnaires/surveys and Google forms to other customers/people in other villages; selection bias will be reduced by including all willing to participate in the study.

11. ETHICAL CONSIDERATIONS

Ethical approval is obtained from the School of Science and Technology Sciences Research Committee (SREC) and Research Ethics Committee SMUREC at Sefako Makgatho Health Sciences University.

Informed Consent

Due to the online nature of the study, the data collection tool will include an informed consent section. Participants will need to actively agree on informed consent statements indicating their agreement to participate in the study. The tool will also contain a section before the informed consent process which provides them with information about the study.

Confidentiality and Anonymity

Participants will be informed that their participation is entirely voluntary and anonymous and that no personally identifiable information about them will be requested. The right to participate in the study and the freedom to withdraw at any moment without consequences will be made clear to participants. The rights of participants will be always respected.

Data protection

Electronic data will be kept on the computer with a secure password, and the researcher and supervisor will handle and use the data solely for study purposes before keeping it in a secure location.

12. BUDGET

I'll print and copy the survey questions. I will also require funds for travel as I will be travelling around collecting data. I'll also need money for airtime because I'll be calling people for information. I will also require funds for data to email those who are unavailable

Items	Cost
A4 Paper Print (R1.00) per page	R180.00
A4 Paper Copy (R1.00) per page	R60.00
Travel (R50) per day	R700.00

Airtime	R150.00
Data	R60.00
Other	R180.00
Subtotal	R1,330.00

13. TIME FRAME

	March/April 2022	May/Aug 2022	Sept/Dec 2022	Jan/Jun 2022
Proposal Write-up				
Presentation for research proposals				
Submitted to School Research Committee				
Submitted to SMUREC				
Data Collection				
Data Analysis				
Report Write-up				
Submitted for exam				

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DATA COLLECTION FORM

Customers' Perceptions toward Mobile Banking Applications in Limpopo rural areas

Dear Respondents

I'm a BSc Honours Computer Science and Information Technology student at Sefako Makgatho Health Sciences University (SMU), and I'd like to encourage you to participate in my research. The study's purpose is to determine the factors that influence customer satisfaction with mobile banking applications.

Your responses will be treated privately, and you will remain anonymous during the study. Participation is voluntary, and you may leave at any time without consequences. By completing this questionnaire, you consent to the use of your replies in the study. No names or other identifying information will be published. The demographic section of the questionnaire is used to help categorize the findings. Paper questionnaires will be kept in a safe place. Furthermore, the password-protected data will be accessible exclusively to the researcher and supervisor. The dataset may be used for future studies under the same conditions of secrecy and anonymity. The findings may be utilized in journal papers and/or conference presentations. On average, it takes around 10 minutes to complete the survey. Your first ideas are generally the greatest when it comes to answering inquiries. You must be as truthful as possible.

Please check the agree box before answering the questions if you agree to participate. If you do not agree to participate, please check the "I do not agree to participate" box and do not complete the questionnaire.

Optional:

Full Name: _____

Tel Number: _____

Mobile: _____

Email Address: _____

If you want more information, please contact the following people:

Researcher: Mr Rito Chabalala

Email: rito.chabalala@gmail.com

Mobile number: 063 247 3287

Supervisor: Ms Ntsoka Mathiba

Email: ntsoka.mathiba@smu.ac.za

Mobile number: 083 310 1185

Highly appreciated.

Yours sincerely,

Rito Chabalala

Participant's Consent *

I agree with the statements above and confirm that I want to participate

I decline to participate

SECTION A: DEMOGRAPHIC INFORMATION

1. What is your age group? *

18-25

26-30

31-35

36-40

41-45

46-50

51 Over

2. What is your gender? *

Male

Female

Other

3. What ethnicity do you belong to? *

African

Indian

White

Coloured

Asian

4. What is your marital status? *

Single

Married

Divorced

Other: _____

5. What is your source of income? * (specify the source of income that applies to you):

Student

Employed

Self-Employed

Inheritance

Savings

Investment

Other: _____

SECTION B: MOBILE BANKING APPLICATION

1. Which mobile bank applications are you using? (Specify all that apply to you)

ABSA

FNB

Standard Bank

Netbank

Capitec

Other: _____

2. How often do you use the mobile bank application(s)?

Every day

Weekly

Monthly

Yearly

3. What do you use the mobile bank application(s) for?

Bill Payments

Investment

Pay Beneficiaries

Money Transfer

Loans

Others: _____

4. What makes you happy with the mobile bank application(s) you are using?

5. What factors influence customer satisfaction in mobile banking applications? (Specify all that apply to you)

Security and Trust/Safety

Convenience accuracy of transaction

Ease of Use/Simplicity

System Availability

Responsiveness

Transaction Speed

Cost-Effectiveness

Time Effectiveness

Others: _____

6. What challenges do you experience when using mobile banking application(s)?

7. Do you prefer using a mobile banking application to internet banking? Yes/No Explain your answer:

SECTION C: RATING

Instructions: The questions in this section will ask you about your feelings and thoughts. Please rate your satisfaction and loyalty to the bank and mobile application you are using in each case.

		Disagree Strongly	Disagree	Neutral	Agree	Agree Strongly
1.	I am satisfied with the current mobile banking application I am using.					
2.	The mobile bank application is user-friendly.					
3.	I am satisfied with the fees of the bank on the application.					
4.	I am satisfied with the speed of the transactions.					

5.	I would like to see the application updated/improved.				
6.	I am satisfied that the application doesn't take long to load.				
7.	I am satisfied that I can use the application any time of the day/month with no disturbance.				
8.	I would never change the mobile bank application that I am using.				
9.	I am satisfied with the mobile bank application and therefore I will recommend others to use it.				