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Examining key drivers of consumer experience with financial digital
services in Angola

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Master Thesis

presented as partial requirement for obtaining a Master's Degree in Data-Driven Marketing

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação

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services in Angola

by

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Master Thesis presented as partial requirement for obtaining the Master's degree in Data-Driven Marketing, with a specialization in Digital Marketing and Analytic.

Supervised by

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STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism, any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from the NOVA Information Management School.

Lisbon, 15 July 2024

DEDICATION

To my darling wife Anita Savita and my son Antonio Junior, I dedicate this project. There were many times when I had to sacrifice time with my family to concentrate on my studies. However, their support was crucial in making my life easier and ensuring the success of my studies.

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I would like to thank Professor Marlon Dalmoro for his constant support, professionalism and patience throughout the process. Without his guidance and knowledge, this study would not have reached the level of quality and depth that it did. I am grateful for all his dedication and guidance, which were fundamental to the success of this work.

ABSTRACT

This research examines the key drivers of customer experience with digital financial services in Angola, with a particular focus on the factors of ease of use, perceived usefulness, convenience, social influence and security. The research was conducted using a quantitative analysis methodology, with structural equation modelling employed to examine data from 174 observations derived from a questionnaire survey administered to users of digital financial services in Angola. The results indicate that ease of use is the most significant driver, followed by convenience. While perceived usefulness and social influence have a minor impact, security, despite being a negative factor, does not appear to significantly affect the customer experience. These results indicate that efforts to improve digital financial services in Angola should prioritize ease of use and convenience. Further research should investigate additional factors, such as cultural influences, economic conditions and technological infrastructure. This study contributes to a more comprehensive understanding of the factors associated with customer satisfaction with digital financial services in developing countries and offers insights for financial institutions and policymakers seeking to enhance financial inclusion and consumer satisfaction.

KEYWORDS

Consumer experience; digital financial services; ease of use; security; convenience, Perceive of use, social influence, digital financial experience.

Sustainable Development Goals (SDG):



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LIST OF ABBREVIATIONS AND ACRONYMS

EOU	Ease Of Use
FDX	Financial Digital Experience
SOI	Social Influence
PU	Perceive Of Usefulness
FDS	Financial Digital Service
SEC	Security

1. INTRODUCTION

Digital services in the financial landscape are constantly evolving, digitalization has revolutionized the way people and companies manage their money, make transactions and invest (Zhao & Bacao, 2021). Digital financial services allow consumers to manage their finances, transfer funds, pay bills and access account information via web systems or mobile applications. Mobile banking and payment applications is one of the most prominent technologies that has emerged in recent years, and it has added a lot of value to consumers (Baabdullah et al., 2019; Shaikh et al., 2020). Angola is a developing country with a rapidly growing population. In recent years, the country has experienced significant growth in use of financial digital services. Mobile banking and payment applications are particularly popular in Angola as way for people to access financial services.

There is still a significant gap in financial inclusion in Angola. Millions of people still do not have access to formal financial services. Financial digital services have the potential to help bridge this gap and make financial services more accessible to everyone (Flavián et al., 2020; Mallat, 2007; Zhao & Bacao, 2021). The lack of literature on this subject about Angola constitutes a significant research gap. This gap can be filled with a conceptual model of consumers' experience in using digital financial services from an Angolan perspective perspective (Liu et al., 2021; Pousttchi & Wiedemann, 2007). Current frameworks may not fully capture the essential factors that influence consumer behavior and satisfaction in the context of digital finance. Studying consumer experiences with digital financial services in different countries can reveal cultural differences in attitudes, behaviors, and preferences (Pousttchi & Wiedemann, 2007). This cultural perspective is key for companies looking to expand into global markets and adapt their offerings and strategies accordingly (Mbama & Ezepue, 2018). Therefore, understanding the consumer experience can enable companies to effectively tailor their marketing strategies and communication tactics (Hanjaya et al., 2019). It is crucial to identify the key drivers of consumer experience with financial digital services in Angola in order to ensure that these services are designed and implemented in a way that meets the needs of Angolan consumers (Shankar & Behl, 2023). The research findings can contribute to the development of more accessible and inclusive digital financial services that meet the diverse needs of consumers in different countries.

This study is structured as follows. The second section presents the theoretical framework of the factors that influence the consumer experience when using digital financial services, including the literature review, as fundamental to the development of our hypotheses. The third section describes the methodology used in quantitative research to support the hypotheses developed. The fourth section presents the results and findings obtained. The fifth section concludes our work by outlining the implications of the findings, followed by suggesting future research.

2. LITERATURE REVIEW

2.1. DIGITAL FINANCIAL SERVICES

The digital economy provides a new business environment for companies to operate and provide services through the internet and digital platforms. Digital payment technology has grown significantly in recent years (Awinja & Fatoki, 2021).

In Kenya, according to Awinja & Fatoki (2021) digital financial services have played a crucial role in driving SME growth, as financial transactions through mobile payments have become increasingly popular. In the sub-Saharan Africa region, smartphone usage grew by 39 percent by the end of 2018 and is expected to reach 66 percent by 2025. This rapid growth in smartphone use is driving an increasing number of digital financial transactions made by consumers and merchants every day (Pazarbasioglu et al., 2020).

Digital financial services have revolutionised the way consumers manage their finances daily (Pazarbasioglu et al., 2020). With easy access via mobile apps and online platforms, it is now possible to carry out all necessary banking transactions, pay bills, and make purchases online with just a few clicks (Liu et al., 2021). Mobile payments and digital wallets have become increasingly popular for financial transactions (Kwateng et al., 2018). With the advancement of technology and the proliferation of mobile phones, digital means have become an attractive way to meet the diverse daily needs of consumers (Flavian et al., 2020).

The use of mobile money offers a wide range of financial services. The adoption of digital payments by the government can increase efficiency and promote the growth of digital financial services (Shankar & Kumari, 2016). Through the internet and mobile technologies, banks and financial institutions can reach diverse consumers, enabling convenient and secure financial transactions using smart devices such as mobile phones, smartphones and tablets. These devices represent the future of digital financial services, providing customers with a modern and efficient experience (Mbama & Ezepeue, 2018).

For the purposes of this study, we consider digital financial services to be all financial transactions carried out via mobile banking applications or web banking platforms, mobile payment applications and virtual wallet applications.

2.2. CONSUMER EXPERIENCE

Meyer & Schwager (2007) defined consumer experience as the internal and subjective reaction of customers to any direct or indirect contact with a company. When consumers use online platforms, their overall experience is influenced by the different interactions they have with service providers at various touchpoints, such as browsing, purchasing or seeking assistance (Shankar & Behl, 2023).

Shankar & Behl (2023) affirmed that consumer experience involves multiple dimensions or responses, including functional, emotional, operational and social aspects that occur during a process. Recognising this multidimensional nature of the consumer experience implies understanding that user interactions go beyond financial transactions and also encompass all the stimuli that can arise from this operation (Shahid et al., 2022).

The consumer experience in digital financial services encompasses the interaction, perception and emotion that users feel when using various digital platforms to carry out financial transactions (Komulainen & Makkonen, 2018). Collecting and analysing customer experience data allows companies to make informed decisions, optimise their operations and ultimately provide even better experiences for their customers (Meyer & Schwager, 2007).

Mbama & Ezepue (2018) suggest that the consumer experience should be able to provide clues about interface design, functionality, ease of use and quality of service. This research considers the consumer experience to be the result of consumer satisfaction with the interactions that they engage in when using mobile applications and online platforms for the purpose of making financial transactions during different service contacts.

Based on a comprehensive literature review, it was identified that certain factors have a significant impact on the consumer experience when using digital financial services. In view of this, the main factors to be analysed in this study were selected, based on relevant theories and research (Hanjaya et al., 2019). The factors can be divided into two main categories: the product perspective and the consumer behaviour perspective. From the product perspective, the elements that make the product unique and attractive to consumers are analysed, taking into account everything from functionality, ease of use, security. The consumer behaviour perspective focuses more on factors linked to emotions, such as consumer awareness, social influence and convenience, which are directly related to the consumer experience. Understanding how consumers behave when making purchasing decisions, what their main motivators are and how they relate to the product is essential for offering personalised and satisfying experiences (Shankar & Kumari, 2016).

2.3. PERCEIVED OF USEFULNESS

The adoption of digital payment and banking platforms has become a key driver in forming the financial habits of consumers around the world. With the proliferation of smartphones and the convenience they offer, people are increasingly using mobile applications to manage their finances, make transactions and monitor their bank accounts (Liu et al., 2021). Shankar & Kumari (2016) argue that individuals only adopt an innovation when they perceive it to be useful in their daily lives. The value of financial services extends beyond simple transactions to the ability to meet diverse financial needs efficiently and effectively (Bapat, 2022). As consumers increasingly turn to digital platforms for their banking and investing activities, the usefulness factor is emerging as a key element of the consumer experience when using digital financial services (Shankar & Behl, 2023).

When analysing the usefulness of e-mail and voice systems, Adams et al. (1992) used scale items that assessed how effective the system is in facilitating various tasks and improving user performance. Usefulness relates to the system's ability to enable users to work more effectively, improve their performance and increase productivity, regardless of their location or time constraints. This also includes the convenience of accessing services remotely, without the need to go to a traditional financial agent (Kaur et al., 2021). The usefulness of digital financial services can be seen in the ability of consumers to conduct their banking transactions, pay for goods and services, or perform other money-related activities without the need for direct intervention by a financial agent (Heshmati et al., 2019). So, it can be assumed that:

Hypothesis 1: There is a positive relationship between Perceived usefulness and consumer experience with digital financial services.

2.4. EASE OF USE

In the constantly developing scenario of digital financial services, ease of use is a crucial element in providing a satisfactory consumer experience (Hanjaya et al., 2019). As financial transactions become increasingly digital, simple navigation and user-friendly interfaces are extremely important to ensure satisfaction and a high retention rate (Shankar & Kumari, 2016).

Shaikh et al. (2020) observed that the use of user-friendly mobile applications has made it easier for consumers to perform their daily tasks related to banking, payments and purchases. These intuitive mobile applications have simplified and improved the consumer experience when it comes to managing their finances, fulfilling payment obligations and shopping activities. Previous research has

concluded that ease of use not only increases consumers' intention of making financial transactions using mobile apps and web platforms, but also positively influences customer satisfaction.

When payment apps and digital wallets are simple and intuitive, users feel more confident and satisfied in their interactions, which leads them to use these tools more often. Ease of use is therefore a crucial factor in the consumer experience and adoption of digital financial services (Komulainen & Makkonen, 2018).

Shankar & Kumari (2016) emphasize that ease of use is fundamental for consumers to adopt technology that is simple and does not require a lot of physical and mental effort. If the technology is too complex and the customer cannot understand and use it easily, the chances of adoption are reduced. Considering these observations, a hypothesis can be formulated as follows:

Hypothesis 2: Ease of use has a positive impact on consumer experience with digital financial services.

2.5. SECURITY RISK

As sensitive financial data is transmitted and stored online, consumers become vulnerable to a range of potential threats, from data violations to identity fraud (Chakraborty et al., 2022). The security of financial information is one of the main concerns for consumers when making financial transactions, whether through mobile payments, electronic cards or virtual wallets. The risk of improper access or theft of this information is imminent, due to increasingly sophisticated data theft practices (Kaur et al., 2021). The perception of privacy and risk is widely recognized as a crucial factor in the consumer experience when using financial services, according to various research studies conducted by researchers in the field (Chauhan et al., 2022).

Security and privacy are significant worries for users of digital financial services. Security issues are big challenges for consumers when conducting online transactions. As a result, consumers are often hesitant to share their personal information online due to privacy concerns and the potential risks associated with this. However, payment systems implement standards, regulations, and methods to reduce the risks involved in online financial transactions and increase consumer confidence. It can therefore be assumed that:

Hypothesis 3: There is a negative relationship between privacy risk and consumer experience with digital financial services.

2.6. CONVENIENCE

In today's fast-paced world, individuals are looking for simplified methods to manage their finances. The advent of digital technology has transformed the financial sector, offering customers unprecedented convenience in conducting transactions, accessing account information, and performing a range of financial activities (Chauhan et al., 2022). Convenience is a primary factor influencing consumer satisfaction and experience, both in offline and online contexts (Mbama & Ezepue, 2018). With the facilities of Digital Financial Services, customers can take care of their finances, make payments, investments and even apply for loans with just a few clicks, providing practicality and simplicity in their daily financial activities (Mbama & Ezepue, 2018). This convenience provides an agile and effective experience for consumers, who can carry out all their financial transactions quickly and securely, without having to leave their homes (Nguyen et al., 2022). Thus, it can be assumed that:

Hypothesis 4: There is a positive relationship between convenience and consumer experience with financial digital.

2.7. SOCIAL INFLUENCE

Social influence inevitably affects consumer behaviour and decisions. Today, in an interconnected world, people are increasingly influenced by social factors, such as the opinions and recommendations of friends and family, prevailing cultural trends and social norms related to financial management (Nguyen et al., 2022). Interactions and connections on social networks play a key role in financial choices, from deciding which banking product or financial app to use (Kaur et al., 2021). However, it is important to recognise the influence of these social aspects on the way consumers handle their finances and how financial institutions can adapt to better meet the needs and preferences of the public (Yang et al., 2021). As such, the following hypothesis is proposed:

Hypothesis 5: Social influence has a positive effect on consumer experience with financial digital services.

2.8. MODERATING EFFECT OF AGE, EDUCATION

The adoption and utilization of digital financial services are influenced by a set of factors, among which age and education emerge as particularly salient moderators (Kar, 2021). These demographic and variables influence individuals' access to and proficiency in using digital financial platforms (Windasari et al., 2022). Age affects familiarity with technology, while the level of education is correlated with digital literacy. Furthermore, internet connectivity determines the degree of access to digital services (Kwateng et al., 2018). Based on these findings, the following hypothesis is proposed:

Hypothesis 6: Age moderates the relationships of usefulness, ease of use, consumer awareness, security and privacy risk, convenience, social influence, with consumer experience on using of digital financial services.

Hypothesis 7: Level of education moderates the relationships of usefulness, ease of use, consumer awareness, security and privacy risk, convenience, social influence, with consumer experience on using of digital financial services.

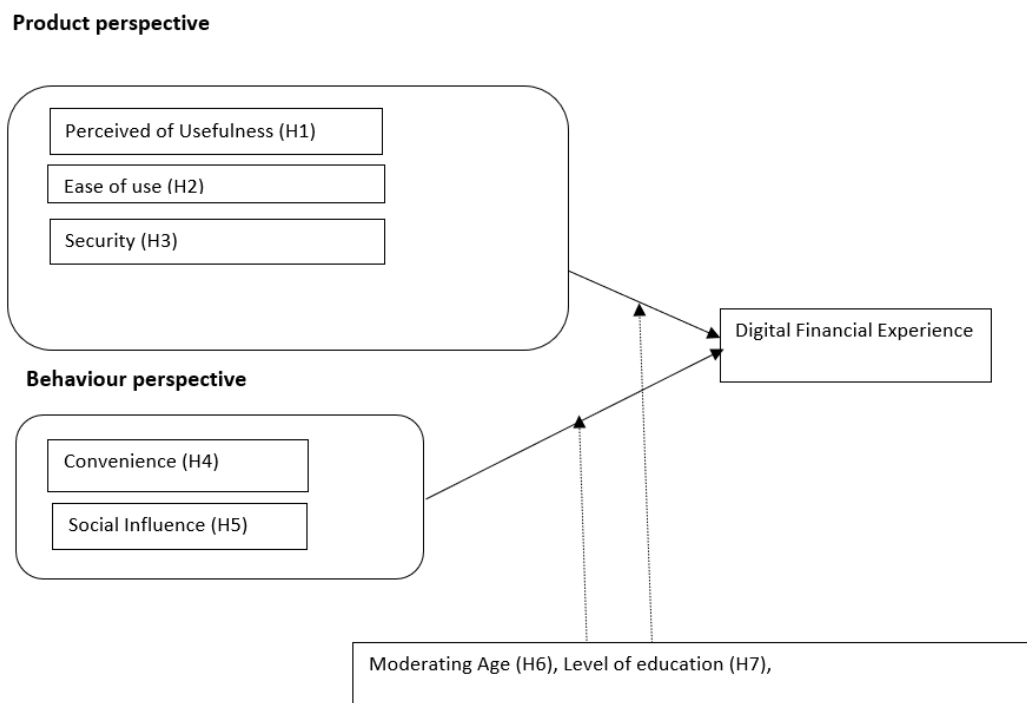


Figure 1. Conceptual Model

3. METHODOLOGY

The study will use quantitative methodology to gain a better understanding of the phenomenon under investigation. We will collect data from individuals over the age of 18 who use digital financial services in Angola through an online questionnaire administered via the Quatric platform. The questions are designed to be clear and concise, ensuring accurate and authentic information is obtained. Participants will be asked to rate the items on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The proposed hypotheses will be evaluated for relevance using exploratory factor analysis and linear regressions.

We selected SmartPLS 4.0 for its Partial Least Squares Structural Equation Modeling (PLS-SEM) capabilities, which include handling complex models, focusing on prediction, flexibility with measurement models, robustness to multicollinearity, and suitability for studies with smaller samples. These features collectively made it the most appropriate method for conducting this structural equation modeling study.

Table 1. Constructs measures

Construct	Measurement Scale	Source
Perceived of Usefulness	I think mobile payment apps require less effort in comparison to other payment methods. Using mobile payment apps help in quicker payments in comparison to other payment systems payment systems. Digital financial services are good as they reduce my efforts.	(Sheth et al., 1991) (Hanjaya et al., 2019)
Ease of use	The operation of mobile payment applications and digital wallets can be quickly learned. It is easy for people to interact with digital financial services. Easy access to the most important functions such as account balance and transaction history.	(Aslam et al., 2017) (Hanjaya et al., 2019)
Security and privacy risk	I feel that financial transaction applications have sufficient competence and credibility to provide services. I trust the privacy of digital financial services apps and platforms.	(Singh et al., 2020)

	The risk of an unauthorized third party overseeing the payment is low	
Consumer awareness	I know where to find trustworthy sources of information on digital financial services. Using educational resources to enhance knowledge about digital financial technologies and practices. I Engage with peer networks, forums, and social media communities to exchange information, seek advice, and stay updated on developments in the digital payments industry.	(Aslam et al., 2017)
Convenience	I use digital financial services because they allow me to make financial transactions without queuing. I use digital financial services because they allow me to make cashless transactions. I use digital financial services because they allow me to carry out my banking transactions without the need to go to a bank agent.	(Chakraborty et al., 2022)
Social Influence	The people who are important to me use mobile payment apps. I think using mobile payment apps will help improve my social image. Using mobile payment apps will help feel more acceptable.	(Sheth et al., 1991) (Sweeney and Soutar, 2001) (Sin et al., 2012)
Digital Financial Experience	I am satisfied with the overall experience of using digital financial services provided by my financial institution. I am satisfied with the customer support available for digital financial services provided by my financial institution. I am satisfied with the ease of use of the digital financial services platform.	(Jun & Palacios, 2016)

3.1. SAMPLE AND DATA COLLECTION

The survey was conducted with individuals in Angola who utilize digital financial services. A total of 174 individuals responded to the questionnaire, comprising 120 men (69%) and 54 women (31%). In terms of the highest level of education achieved, 56% of respondents have obtained a bachelor's degree, 19% have a master's degree, 10% have a postgraduate qualification, and 10% have completed high school.

Table 2. Statistics summary

Constructs	Items	Mean	Standard deviation
Perceived usefulness	PU1	4.224	0.859
	PU2	4.172	0.867
	PU3	4.414	0.670
Ease Of Use	EOU1	3.937	0.832
	EOU2	3.454	0.944
	EOU3	4.368	0.672
Security	SEC1	3.764	0.862
	SEC2	3.310	1.009
	SEC3	3.414	1.034
Convenience	CON1	4.609	0.622
	CON2	4.529	0.725
	CON3	4.552	0.621
Social Influence	SOI1	3.598	1.077
	SOI2	3.086	1.087
	SOI3	3.207	1.046
Financial Digital Experience	FDX1	3.362	1.099
	FDX2	3.563	0.997
	FDX3	3.368	1.063

The mean scores for the three items are over 4.5 out of 5, showing respondents perceive high convenience. Item CON1 has the highest mean score of 4.609, indicating it is the most convenient aspect. The slight differences in standard deviations indicate that while respondents generally agree on the convenience aspects measured by CON1 and CON3, there is more varied perception regarding the aspect measured by CON2. The construct Ease of Use has an overall mean score of 3.920, suggesting a positive perception among respondents. However, there is variability in responses. EOU2 has the lowest mean score (3.454) and the highest standard deviation (0.944), indicating some aspects are less easy to use. PU1, PU2 and PU3 have high mean scores (4.224 to 4.414) indicating that respondents perceive this aspect of usefulness. The mean rating for the Financial Digital Experience ranges from 3.224 to 3.563, showing some variation in how different aspects of the financial digital experience are perceived. The standard deviations indicate that there is notable variability in responses, particularly for FDX1 (1.099), which has the highest standard deviation. The mean scores for social influence range from 3.086 to 3.207, showing some variation in how social influence is perceived. The standard deviations show there is a lot of variation in responses. The mean scores for Security are 3.764 and 3.310, indicating a moderately positive perception.

4. RESULTS AND DISCUSSION

This study utilises a methodologically two-step approach to validate its proposed model. Firstly, emphasis is placed on establishing the reliability and validity of the constructs using a measurement model. This phase serves to ensure that the conceptual underpinnings of the study are solidified prior to proceeding. Secondly, the structural model is then subjected to examination, with the interrelationships between these constructs.

4.1. MEASUREMENT MODEL AND STRUCTURAL MODEL

To gain deeper insight into the data and hypotheses underlying this research, it was essential to apply an advanced multivariate data analysis method. Partial Least Squares Structural Equation Modelling (PLS-SEM) is the optimal choice when the research objective is theoretical development and construct prediction (Hair Jr et al., 2014). It is particularly adept at handling small samples and complex models, adept at efficiently handling reflective measurement models and accurately predicting key constructs to validate hypotheses.

Table 3. Model Fit

	Saturated model	Estimated model
SRMR	0.074	0.074
d_uls	0.735	0.735
d_g	0.307	0.307
Chi-square	328.419	328.419
NFI	0.707	0.707

Model fit metrics are used to assess the adequacy of the model to validate whether there are discrepancies, differences and statistical significance in the model. An SRMR value of less than 0.08 is generally considered acceptable, indicating a good fit and an NFI above 0.9 is considered an adequate fit, while values between 0.7 and 0.9 are acceptable (Wong, 2013). The value found SRMR (0.074) and NFI (0.707), indicating a moderately acceptable fit. This certifies that the model provides a solid basis for analysing the relationships between the latent variables and customer experience with digital financial services in Angola.

The table 3 below presents the Variance Inflation Factor (VIF) values, which are used to detect multicollinearity in regression analyses.

Table 4. Collinearity assessment

	VIF
CO-> FDX	1.158
EU -> FDX	1.379
PU -> FDX	1.155
SP -> FDX	1.272
SI -> FDX	1.091

In evaluating the structural model, it is imperative that the tolerance of each independent variable is less than 5 (Hair Jr et al., 2014) . As evidenced in Table 3, the VIF values of the analyses demonstrate that all VIF values are well below the commonly accepted limit of 5, indicating that collinearity is not a significant problematic factor in the model. Each construct serves as a distinct and independent predictor of financial digital experience.

Table 5. Construct Variability and validity

Constructs	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
CON	0.863	0.916	0.784
EOU	0.545	0.759	0.521
FDX	0.901	0.938	0.836
PU	0.718	0.835	0.629
SOI	0.789	0.866	0.767
SEC	0.734	0.882	0.789

Cronbach's Alpha is the traditional criterion for evaluating internal consistency, which provides an estimate based on the internal correlation of the observed variables. However, this criterion is sensitive to the number of items in the scale, which can result in constructs with few items exhibiting a low Cronbach's Alpha performance. To obtain a more precise analysis of internal consistency, alternative methods such as composite reliability and Average Variance Extracted were employed. Cronbach's alpha values above 0.70 are indicative of acceptable internal consistency, which is achieved for most of the constructs. However, ease of use (0.545) is slightly below this level because of the reduction in the number of items.

Composite reliability is generally interpreted in the same way as Cronbach's Alpha, with higher values indicating higher levels of reliability. Composite reliability values between 0.60 and 0.70 are acceptable, while values between 0.70 and 0.80 are seen as satisfactory. The composite reliability values of the constructs Convenience (0.916), Social Influence (0.866), Security (0.882), Financial Digital Experience (0.938), Perceived Usefulness (0.835), Ease of Use (0.759) show that all the constructs have high levels of internal consistency reliability. An AVE of 0.50 or above indicates that, on average, the construct explains more than half of the variance in its items. On the other hand, an AVE of less than 0.50 indicates that there is more error in the items than variance explained by the constructs. The AVE values of this research sample are all above 0.50, which is the minimum evaluation criterion required. This means that all the constructs have good convergent validity.

Table 6. Factor loadings

Construct	Items	Factor loadings
Convenience	CON1	0.886
	CON2	0.884
	CON3	0.887
Ease of Use	EOU1	0.747
	EOU2	0.853
	EOU3	0.529
Financial Digital Experience	FDX1	0.934
	FDX2	0.892
	FDX3	0.916
Perceived of Usefulness	PU1	0.828
	PU2	0.839
	PU3	0.706
Social Influence	SOI2	0.741
	SOI3	0.992
Security	SEC1	0.875
	SEC2	0.902

Factor loadings demonstrate the strength of the correlation between each observed variable and its underlying construct. High factor loadings indicate that the observed variable is a significant indicator of the construct. Loadings between 0.50 and 0.70 are considered acceptable, particularly in the context of exploratory studies.

For the construct of convenience, items CON1 (0.886), CON2 (0.884), and CON3 (0.887) have loadings above 0.70, indicating that they strongly reflect the construct. Similarly, the indicator SOI3 (0.992) for the Social Influence construct has the highest acceptable outer loading, indicating a very strong representation. While the majority of outer loadings for the constructs exceed the acceptable threshold, EOU3, an indicator of the Ease of Use construct, exhibits a lower loading of 0.523. However, EOU3 was retained in the model since its deletion did not result in an increase in the internal consistency and average variance extracted (AVE) for the ease of use construct. Overall, the observed items are effective representatives of their respective constructs, supporting the reliability and validity of the measurement model.

Table 7. Discriminant Validity, Fornell Larcker Criterion

	CON	EOU	FDX	PU	SOI	SEC
CON	0.886					
EOU	0.310	0.722				
FDX	0.209	0.266	0.914			
PU	0.243	0.321	0.104	0.793		
SOI	0.205	0.209	0.082	0.162	0.876	
SEC	0.215	0.462	0.030	0.220	0.255	0.888

The table above shows the results of the Fornell-Larcker criterion, which is utilized to evaluate discriminant validity. To establish this criterion, the square root of each construct's AVE (represented by the diagonal elements) should be higher than its highest correlation with any other construct in the model. As seen, the square roots of the AVEs for the constructs Convenience (0.886), Ease of Use (0.722), Financial Digital Experience (0.914), Perceived Usefulness (0.793), Security (0.888), and Social Influence (0.876) are all higher than the correlation of these constructs with other constructs. This indicates that the constructs are truly distinct from one another.

Figure 2. PLS-SEM Constructs relationship model

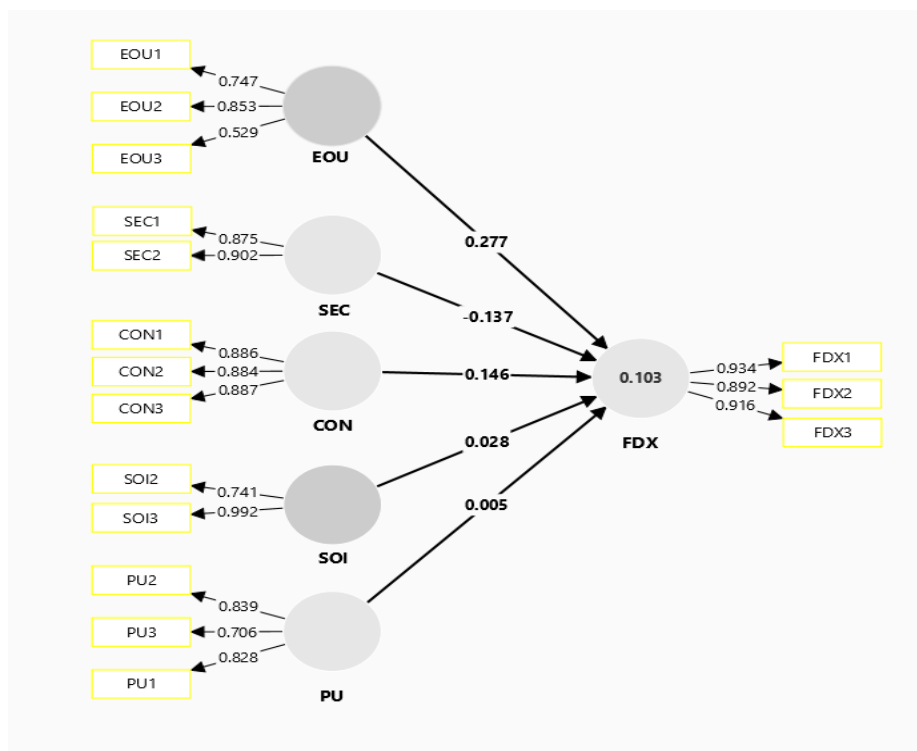


Table 8. Path coeficiente BootStrap Results

	Path coeficiente	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
CON -> FDX	0.146	0.141	0.069	2.110	0.035
EOU -> FDX	0.277	0.276	0.087	3.181	0.001
PU -> FDX	0.005	0.029	0.111	0.049	0.961
SEC -> FDX	-0.137	-0.111	0.092	1.488	0.137
SOI -> FDX	0.028	0.010	0.110	0.257	0.797

A path coefficient analysis provides insights into the relationship between different constructs and the Financial Digital Experience (FDX). Values greater than or equal to 10 are indicative of a moderate or significant impact (Ramayah et al, 2018) . As can be observed in the table and figure above, the relationship between convenience (CON) and financial digital experience is 0.146, indicating a positive and moderate impact. This suggests that although convenience contributes positively to the digital financial experience in general, its influence is not particularly significant.

The coefficient for Ease of Use (EOU) is 0.277, indicating a positive and significant effect on the Digital Financial Experience. This indicates that digital financial services that are user-friendly lead to a notable enhancement in the customer experience. The path coefficients for Perceived Usefulness (PU) and Social Influence (SOI) indicate a positive but weak relationship, suggesting an insignificant impact on customer experience with digital financial services. In contrast, the Security construct (SEC) -0.137 has the greatest negative impact on the relationship with the Digital Financial Experience, indicating that security concerns can negatively affect the customer experience.

Table 9. R-Square Model

	R-square	R-square adjusted
FDX	0.103	0.076

The R-square and adjusted R-square values provide information on the effectiveness of the model. The R square value of 0.103 indicates that approximately 10.3% of the variance in FDX can be explained by the independent variables in the model. The adjusted R-square of 0.076 adjusts the R2 for the number of predictors in the model, providing a more accurate measure of the power of the model. An adjusted R-square of 0.076 means that approximately 7.6% of the variance in the FDX is explained by the model, after accounting for the number of predictors. The lower adjusted R-square compared to the R-square indicates that some of the factors may not contribute significantly to explaining the variance in customer experience with digital financial services.

4.2. MODERATOR ANALYSIS

Moderator analysis is used to compare parameters or hypotheses between two or more groups of data. In this research, the aim was to understand whether age or academic level have an impact on the relationship between the constructs in the customers' experience of using digital financial services.

Table 10. Age-moderate bootstrap result.

	Path coefficients	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Age -> FDX	-0.105	-0.106	0.086	1.224	0.221
CO -> FDX	0.131	0.129	0.073	1.785	0.074
EU -> FDX	0.264	0.261	0.088	2.999	0.003
PU -> FDX	-0.004	0.030	0.117	0.033	0.974
SOI -> FDX	0.009	-0.011	0.119	0.080	0.936
SP -> FDX	-0.122	-0.102	0.094	1.296	0.195
Age x PU -> FDX	0.085	0.090	0.129	0.655	0.512
Age x SOI -> FDX	-0.077	-0.085	0.101	0.761	0.447
Age x CO -> FDX	0.010	0.002	0.090	0.115	0.908
Age x SP -> FDX	0.054	0.023	0.143	0.379	0.705
Age x EU -> FDX	0.094	0.107	0.093	1.007	0.314

The inclusion of age as a moderating variable resulted in a slight increase in the R-squared value, from 0.103 to 0.147, compared to the model without age moderation. This increase indicates a small improvement in the model's explanatory power when age is considered as a moderating variable. Nevertheless, an examination of the P-values and path coefficients reveals that age does not exert a notable influence on the relationship between the constructs and the predictive variable of customer experience in the context of digital financial services. According to these findings, the impact of these constructs on customer experience remains consistent across different age groups.

Table 11. Academic Level-moderate bootstrap result

	Path coefficients	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Acad level -> FDX	-0.012	-0.008	0.077	0.153	0.878
CO -> FDX	0.158	0.153	0.075	2.097	0.036
EU -> FDX	0.268	0.267	0.088	3.047	0.002
PU -> FDX	0.018	0.040	0.119	0.149	0.882
SOI -> FDX	0.038	0.016	0.114	0.336	0.737
SP -> FDX	-0.134	-0.112	0.095	1.410	0.159
Acad level x PU -> FDX	0.006	0.005	0.106	0.060	0.952
Acad level x SOI -> FDX	0.085	0.075	0.093	0.914	0.361
Acad level x CON -> FDX	0.056	0.071	0.116	0.486	0.627
Acadlevel x SP -> FDX	-0.015	-0.017	0.086	0.178	0.858
Acad level x EU -> FDX	0.044	0.049	0.102	0.436	0.663

The addition of academic level as a moderating variable resulted in a non-significant increase in the R-squared value from 0.103 to 0.119, in comparison to the model without moderation. Similarly, the inclusion of age as a moderating variable also indicates a slight improvement in the model. However, an examination of the P-values and path coefficients reveals that academic level does not significantly influence the relationship between the constructs and customer experience. There is also no evidence that these constructs have a differential impact on customer experience across different academic levels.

4.3. DISCUSSION

This section presents the principal findings of the study, which focus on identifying the critical factors that influence consumer experiences with financial digital services in Angola.

Table 12. Path coefficiente, Mean STDEV, T values, P values

	Relationship	Path coefficients	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Decision
H1	PU -> FDX	0.005	0.029	0.111	0.049	0.961	Reject
H2	EOU -> FDX	0.277	0.276	0.087	3.181	0.001	Accept
H3	SEC-> FDX	-0.137	-0.111	0.092	1.488	0.137	Reject
H4	CON -> FDX	0.146	0.141	0.069	2.110	0.035	Accept
H5	SOI -> FDX	0.028	0.010	0.110	0.257	0.797	Reject

The P-values obtained from the analysis can verify the significance of the relationships between the constructs and the Financial Digital Experience (FDX), or the relationships may be non-significant. For a construct to be defined as significant, it is necessary for the associated P-value to be less than 0.05. The analysis revealed that the relationship between convenience (CON) and financial digital experience has a P-value of 0.035, indicating a relevant level of significance. This suggests that convenience has a notable impact on customer experience with digital financial services. Similarly, the relationship between ease of use (EOU) and financial digital experience is also highly significant, emphasizing the crucial importance of ease of use in cultivating a positive customer experience.

Conversely, the relationship between Perceived Usefulness (PU) and Financial Digital Experience, even though it corroborates the previously defined hypotheses, lacks sufficient strength to be considered significant, which is why it was rejected. The Security construct (SEC) is also not significant, despite its negative path coefficient, which positively supports the hypothesis defined. This result indicates that the impact of Security is not strong enough to be considered significant in this study. Furthermore, Social Influence (SOI) has a P-value of 0.797, indicating that Social Influence does not substantially impact the customer experience with digital financial services in Angola.

5. CONCLUSIONS AND FUTURE RESEARCH

5.1. CONCLUSIONS

This research provides a comprehensive understanding of consumer experiences with digital financial services, emphasising the critical factors that financial institutions should prioritize to enhance user satisfaction, trust, and adoption. The findings highlight the significance of usability and convenience in influencing customer experiences with digital financial services in Angola. By addressing these factors, financial institutions can potentially improve customer satisfaction and retention in the digital financial services sector.

The results indicate that Convenience and Ease of Use are significant predictors of Financial Digital Experience in Angola, highlighting their importance in enhancing customer experience. However, Perceived Usefulness, Security, and Social Influence are not significant predictors, suggesting that these factors do not strongly influence the customer experience in the context of digital financial services. Therefore, efforts to improve customer experience with digital financial services in Angola should prioritize enhancing ease of use and convenience, while perceived usefulness, security concerns, and social influence may require different strategies or further investigation.

Digital financial services providers should focus their efforts on improving the user-friendliness of their platforms to guarantee customer satisfaction. Additionally, awareness-raising and education campaigns, as well as policies aimed at ensuring greater trust in the way customer data is used and safeguarding the security of digital financial services, are essential. Although this research did not reveal a strong impact of security as a predictor of customer experience, ensuring that customers feel secure remains a vital factor in increasing digital financial inclusion.

For countries like Angola, where financial inclusion is low, ease of use, convenience, and security are key factors that can significantly impact government financial inclusion policies. By focusing on these areas, financial institutions and policymakers can work towards greater financial inclusion and improved consumer experiences in the digital financial services sector.

5.2. LIMITATIONS

The present study highlights some potential limitations that require further consideration. Firstly, the sample may not fully capture the diversity of consumers' experiences with digital financial services in Angola. A larger and more diverse sample could provide more comprehensive results. Secondly, the use of only self-reported data may be subject to inaccuracies due to the inherent limitations of self-report measures. The incorporation of mixed methods, which include qualitative approaches, could further enhance the understanding of consumer experiences.

Furthermore, the lack of existing studies on digital financial services in Angola represented a significant limitation. The absence of previous research makes it challenging to compare the results and position this study within a broader context of existing knowledge.

5.3. FUTURE RESEARCH

For future research, it would be interesting to explore other factors that can influence consumers' experience with digital financial services, such as cultural, economic and technological aspects in Angola. Analysing the impact of government policies and laws on the adoption and effectiveness of digital financial services could provide valuable insights for financial institutions who seek to promote financial inclusion and customer satisfaction.

Considering the impact, though not significant, of the security concerns observed in this study, future research could explore the specific security issues faced by consumers. By identifying and addressing these issues in detail, it could contribute to the development of more robust security practices, increasing customer confidence and satisfaction.

Conducting qualitative research focused on the UX and UI design elements that have a significant impact on the consumer experience could assist in the development of online platforms that are more tailored to the needs of consumers, regardless of cultural and demographic differences.

BIBLIOGRAPHICAL REFERENCES

- Aslam, W., Ham, M., & Arif, I. (2017). Consumer behavioral intentions towards mobile payment services: An empirical analysis in Pakistan. *Trziste= Market*, 29(2), 161–176.
- Awinja, N. N., & Fatoki, O. I. (2021). Effect of digital financial services on the growth of SMEs in Kenya. *African Journal of Empirical Research*, 2(1), 79–94.
- Bapat, D. (2022). Exploring the relationship between lifestyle, digital financial element and digital financial services experience. *International Journal of Bank Marketing*, 40(2), 297–320.
- Chakraborty, D., Siddiqui, A., Siddiqui, M., Rana, N. P., & Dash, G. (2022). Mobile payment apps filling value gaps: Integrating consumption values with initial trust and customer involvement. *Journal of Retailing and Consumer Services*, 66, 102946.
- Chauhan, S., Akhtar, A., & Gupta, A. (2022). Customer experience in digital banking: A review and future research directions. *International Journal of Quality and Service Sciences*, 14(2), 311–348.
- Flavian, C., Guinaliu, M., & Lu, Y. (2020). Mobile payments adoption – introducing mindfulness to better understand consumer behavior. *International Journal of Bank Marketing*, 38(7), 1575–1599. <https://doi.org/10.1108/IJBM-01-2020-0039>
- Hair Jr, J., M. Ringle, G. Tomas, M. Ringle, C., & Sarstedt, M. (2014). Partial Least Squares Structural Equation Modeling (PLS-SEM). In *A Primer On Partial Least Squares Structural Equation Modeling (PLS-SEM)* (pp. 11–24).
- Hanjaya, M., Kenny, K., & Gunawan, F. (2019). Understanding factors influencing consumers online purchase intention via mobile app: perceived ease of use, perceived usefulness, system quality, information quality, and service quality. *Marketing Instytucji Naukowych i Badawczych*, 2 (32), 175–206.
- Heshmati, E., Saeednia, H., & Badizadeh, A. (2019). Designing a customer-experience-management model for the banking-services sector. *Journal of Islamic Marketing*, 10(3), 790–810.
- Kaur, S. J., Ali, L., Hassan, M. K., & Al-Emran, M. (2021). Adoption of digital banking channels in an emerging economy: exploring the role of in-branch efforts. *Journal of Financial Services Marketing*, 26, 107–121.
- Komulainen, H., & Makkonen, H. (2018). Customer experience in omni-channel banking services. *Journal of Financial Services Marketing*, 23, 190–199.

- Kwateng, K. O., Atiemo, K. A. O., & Appiah, C. (2018). Acceptance and use of mobile banking: an application of UTAUT2. *Journal of Enterprise Information Management*, 32(1), 118–151.
- Liu, Y., Luo, J., & Zhang, L. (2021). The effects of mobile payment on consumer behavior. *Journal of Consumer Behaviour*, 20(3), 512–520.
- Mbama, C. I., & Ezepue, P. O. (2018). Digital banking, customer experience and bank financial performance: UK customers' perceptions. *International Journal of Bank Marketing*, 36(2), 230–255.
- Meyer, C., & Schwager, A. (2007). *Understanding Customer Experience*. www.gethuman.com
- Nguyen, N. T. H., Kim-Duc, N., & Freiburghaus, T. L. (2022). Effect of digital banking-related customer experience on banks' financial performance during Covid-19: a perspective from Vietnam. *Journal of Asia Business Studies*, 16(1), 200–222.
- Pazarbasioglu, C., Mora, A. G., Uttamchandani, M., Natarajan, H., Feyen, E., & Saal, M. (2020). Digital financial services. *World Bank*, 54.
- Ramayah, T., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2018). Partial least squares structural equation modeling (PLS-SEM) using smartPLS 3.0. *An Updated Guide and Practical Guide to Statistical Analysis*, 967–978.
- Shahid, S., Islam, J. U., Malik, S., & Hasan, U. (2022). Examining consumer experience in using m-banking apps: A study of its antecedents and outcomes. *Journal of Retailing and Consumer Services*, 65, 102870.
- Shaikh, A. A., Alharthi, M. D., & Alamoudi, H. O. (2020). Examining key drivers of consumer experience with (non-financial) digital services—An exploratory study. *Journal of Retailing and Consumer Services*, 55. <https://doi.org/10.1016/j.jretconser.2020.102073>
- Shankar, A., & Behl, A. (2023). How to enhance consumer experience over mobile wallet: a data-driven approach. *Journal of Strategic Marketing*, 31(4), 838–855. <https://doi.org/10.1080/0965254X.2021.1999306>
- Shankar, A., & Kumari, P. (2016). Journal of Internet Banking and Commerce Factors Affecting Mobile Banking Adoption Behavior in India. In *Journal of Internet Banking and Commerce* (Vol. 21, Issue 1). <http://www.icommercecentral.com>
- Sin, S. S., Nor, K. M., & Al-Agaga, A. M. (2012). Factors Affecting Malaysian young consumers' online purchase intention in social media websites. *Procedia-Social and Behavioral Sciences*, 40, 326–333.
- Wong, K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, 24(1), 1–32.

- Yang, M., Mamun, A. Al, Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability*, 13(2), 831.
- Zhao, Y., & Bacao, F. (2021). How does the pandemic facilitate mobile payment? An investigation on users' perspective under the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 18(3), 1–22.
<https://doi.org/10.3390/ijerph18031016>

APPENDIX A

Online Survey

As aplicações de pagamento digital exigem menos esforço do que outros métodos de pagamento (como dinheiro, cartões de crédito/débito ou cheques).

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Os serviços financeiros digitais facilitam a gestão das minhas finanças e pagar as minhas despesas correntes de energia, água e outros serviços.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Usar aplicativos de pagamento móvel facilita transacções mais rápidas em comparação com outros sistemas de pagamento.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

É simples aprender a utilizar aplicações de pagamento móvel e carteiras digitais.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

As pessoas conseguem interagir facilmente com plataformas de serviços financeiros digitais

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Os serviços financeiros digitais oferecem acesso fácil a funções essenciais como consultar saldos da conta e históricos de transações (pagamento e recebimento de dinheiro)

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Acredito que as aplicações de transações financeiras têm a competência e credibilidade necessárias para fornecer serviços confiáveis.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Confio na segurança e privacidade oferecida pelas apps e plataformas de serviços financeiros digitais.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Existe uma baixa probabilidade de alguém não autorizado monitorar as transações financeira em Apps como o multicaixa Express ou Mobile banking.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Eu sei onde encontrar fontes confiáveis de informação sobre serviços financeiros digitais.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Explorar materiais educativos pode aprofundar a compreensão sobre tecnologias financeiras digitais e suas aplicações práticas.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Participo de redes de contactos, fóruns e comunidades nas redes sociais para trocar informações, buscar conselhos e me manter atualizado sobre as novidades na indústria de pagamentos digitais.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Eu utilizo os serviços financeiros digitais pois me permitem realizar transações financeiras sem precisar enfrentar filas.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Eu utilizo serviços financeiros digitais porque me permitem realizar transações sem dinheiro físico.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Utilizo serviços financeiros digitais porque me permitem realizar minhas transações bancárias sem a necessidade de ir a um agente bancário.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

As pessoas que são importantes para mim utilizam aplicativos de pagamento móvel.

1. Discordo totalmente
2. Discordo
3. Neutro

4. Concordo
5. Concordo totalmente

Acredito que utilizar aplicativos de pagamento móvel irá contribuir para aprimorar minha imagem social.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Usar os serviços financeiros digitais vai me ajudar a me sentir mais conectado socialmente.

1. Discordo totalmente
2. Discordo
3. Neutro
4. Concordo
5. Concordo totalmente

Quão satisfeito você está com os serviços financeiros digitais fornecidos pela sua instituição financeira?

1. Muito insatisfeito
2. Insatisfeito
3. Neutro
4. Satisfeito
5. Muito satisfeito

Qual é a sua satisfação com o apoio ao cliente disponível para os serviços financeiros digitais?

1. Muito insatisfeito
2. Insatisfeito
3. Neutro
4. Satisfeito
5. Muito satisfeito

Gênero?

- Homem
- Mulher
- Prefiro não dizer

Qual é a sua idade?

- Menos de 18
- 18 – 24
- 25 – 34
- 35 – 44
- 45 – 54
- 55 – 64
- 75 – 84
- 85 ou mais

Qual é o seu nível académico?

- Ensino secundário
- Ensino Médio
- Curso Profissional
- Licenciatura
- Pós-graduação
- Mestrado
- Doutoramento

