

The influence of customer touch-point digitalisation on customer perceived value in the South African vehicle and asset finance market

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ABSTRACT

This research undertook to address the lack of clarity on whether customer touch-point digitalisation influences the formulation of CPV in the context of a VAF product and employed a conceptual framework based on the PERVAL scale. Customer touch-point digitalisation was hypothesised to have a significant positive influence on all three dimensions of CPV, namely functional (price), functional (quality) and emotional.

The population studied was South African residents who were 18 years or older and had purchased a VAF product in the past, the total population size was approximated at 2,3 million. Convenience sampling was used and a final sample size of 281 was attained. A quantitative research methodology was adopted for this study. Data was collected by means of a self-administered online questionnaire and SmartPLS 3 and IBM SPSS Statistics 27 were used for analysis.

The study found that customer touch-point digitalisation has a significant positive influence on all the dimensions of CPV, this influence being the strongest on functional value (quality) and weakest on functional value (price). Moreover, the study found that age and gender do not significantly moderate the relationship between customer touch-point digitalisation and CPV.

This study found that the higher a VAF provider's level of customer touch-point digitalisation the more favourably customers will perceive the VAF provider's value propositions. Some recommendations emanating from this study are that VAF providers should aim to increase their level of customer touch-point

digitalisation to gain a competitive advantage, they should also incorporate customer touch-point digitalisation into how they prioritise initiatives for investment. VAF providers with high levels of customer touch-point digitalisation should incorporate this into their integrated marketing communication plans and messaging to customers. VAF customers should take a VAF provider's level of customer touch-point digitalisation into account when deciding on which VAF provider to use.

KEYWORDS

Customer touch-point digitalisation; consumer perceived value; vehicle and asset finance; PLS-SEM

DECLARATION

I, Sbusiso Eugene Tshuma, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in Digital Business at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: Sbusiso Eugene Tshuma Signature: 

Signed at Weltevreden Park

On the 28th day of February 2022

DEDICATION

I would like to dedicate this to the giants on whose shoulders I've been able to stand so I could see and get this far:

To my late grandmother, Rosy, on the back of whose sacrifices I've been able to get to this point, and

To my mother who ceaselessly showered me with words of encouragement and motivation.

I have reached this point only because you carried me and believed in me.

To my nieces and nephews, it is possible.

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LIST OF ACRONYMS

Table 1: List of acronyms

Acronym	Description
CPV	Customer Perceived Value
IT	Information Technology
KYC	Know Your Customer
OEM	Original Equipment Manufacturer
PLS	Partial Least Squares
QR	Quick Response
SA	South Africa
SEM	Structural Equation Modelling
UTAUT2	Extended Unified Theory of Acceptance and Use of Technology
VAF	Vehicle and asset finance

CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

This research is a quantitative study to investigate the influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market.

1.2 Background of the study

Firms need to be providers of value and to rethink the ways in which they create and provide this value so as to differ from competitors, improve their results and thrive in volatile and uncertain business environments brought about by disruption (Kurznack et al., 2021).

Customer perceived value (CPV) is an area of research that is concerned with studying why consumers make the choices they do; and particularly how value influences the choices consumers make at the use (use vs not use a product), product type (product type A vs product type B) and brand (brand X vs brand Y) level (Sheth et al., 1991). Previous authors have defined CPV in various ways, such as the perceived difference between the benefits derived and the sacrifices made to pursue a particular option (Zeithaml, 1988), other authors have approached CPV as a multi-dimensional construct comprised of functional, social and emotional elements (El-Adly, 2019; Fandos Roig et al., 2006; Parente et al., 2015). What all the authors agree on is the relevance of CPV in consumer choices.

Gartner (n.d) define digitalisation as “the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business”, According to Armstrong and Lee (2021) it is “the reconceptualization and reconfiguration of processes and systems from analogue- and physical-centric forms into maximally digital-centric forms”, these definitions imply that digitalisation is concerned with using technology to transform previously physical or analogue ways of delivering value to customers or doing business into digital ways of doing business and delivering value.

An area where digitalisation has been widely applied is the digitalisation of customer touch-points; this has been done in the form of self-service checkout systems in the retail industry (Demirci Orel & Kara, 2014; Meuter et al., 2000), as well as mobile and internet banking in financial services (Ahmad & Al-Zu'bi, 2011; Ghazi Zouari & Abdelhedi, 2021; Mostafa, 2020). This transformation has yielded benefits for both firms and consumers (Ahmad & Al-Zu'bi, 2011; Garg et al., 2014; Kurz, 2017), yet it is currently not clear what the effect of digitalisation of customer touch-points is on how consumers formulate the perceived value of a brand or product.

Determinants of bank selection research also reveals that convenience, availability of technology-based services, quick/prompt service, and overall quality of service are key determinants of consumer bank selection choices (Agarwal, 2017; Aregbeyen, 2011; Blankson et al., 2007; Hinson et al., 2013), customer touch-point digitalisation has been found to have a positive influence on these determinants (Demirci Orel & Kara, 2014; Meuter et al., 2000).

Understanding how to best leverage digitalisation could be key in enabling VAF providers to survive and thrive in a challenging economic climate.

1.3 Context of the study

1.3.1 The VAF and automotive industries in South Africa

In South Africa, most consumers purchase vehicles using loans acquired from VAF providers, these VAF providers are usually divisions of the major banks. Absa, Motor Finance Corporation (MFC) – a division of Nedbank, Standard bank VAF and WesBank - a division of FirstRand bank - are the dominant VAF providers in the South African market with a combined market share of over 97% (Thompson, 2018). Increased competition in the banking sector has resulted in banks introducing more sophisticated and innovative delivery methods and channels for their products (Camarate & Maritz, 2018), South African banks have not been an exception, as in the recent past, VAF providers have invested heavily in adding digital customer touch-points to their offerings, such as online finance calculators, online finance pre-approval, iContract by WesBank (the ability to sign your vehicle loan agreement online), emailed statements, electronic Know Your Customer (e-KYC) and the ability to request and download account and vehicle letters online (such as border letters and paid-up letters), these initiatives by the VAF providers form part of their digitalisation efforts (Absa Group Limited, 2021; FirstRand, 2020; Nedbank Group, 2020; Standard Bank Group, 2020). The view of increasing spending on digitalisation is further supported by PwC (2021), which found that information technology (IT) was the fastest growing spend category for the four largest banks in South Africa in the 2020 financial year.

The automotive industry contributes 4.9% to the Gross Domestic Product (GDP) of South Africa, with 119344 new cars and light commercial vehicles (LCV) being sold on average per year (between 2011 and 2019), these sales are done almost exclusively through dealerships, however, the number of vehicles being sold in South Africa has been in decline over recent years (NAAMSA, 2019, 2021b; National Automobile Dealers Association, 2021). Additionally, the VAF providers in South Africa have 2.3 million active accounts with an outstanding balance of R493 billion (TransUnion, 2021), these figures are a testament to the important role VAF providers play in meeting the mobility needs of South Africans. Most vehicle finance purchases are originated at the dealer premises once consumers have decided on a vehicle to purchase (wheels24, 2021), this makes it difficult for VAF providers to differentiate their offerings outside of price, despite their large investments in digitalisation. This then means the only area where VAF providers can differentiate themselves is in how they service their customers.

1.3.2 Changing consumer habits: adoption of digital technology in South Africa

According to We are Social (2021), there are 100.6 million mobile connections in SA (168.5% of the population), 38 million internet users (64% of the population), with the average internet user (aged between 16 and 64) spending on average 10 hours 6 minutes using the internet on a daily basis. The mobile connection and internet use figures represent annual growth rates of 0.8% and 4.5% respectively compared to population growth of 1.3%, which implies that the number of internet users is growing at a faster rate than the population. There is also large and growing e-commerce activity, with 90.2% and 57.7% of internet

users having done an online search for a product or service and purchased a product online respectively (We are Social, 2021). The lockdowns introduced due to the COVID-19 pandemic have also led to increases in e-commerce activity, with Standard Bank South Africa (2020) reporting an 84% increase in the value of online grocery purchases.

From a banking perspective, SA bank customers have also increased their usage of digital channels, with First National Bank recording a 23% growth in mobile application usage between July and December 2020 (Labuschagne, 2021), and having over 6 million digitally-active users on their digital platforms (online banking and banking application) on a monthly basis (Moyo, 2021). The convergence of increasing internet penetration, mobile penetration, consumer adoption of digital channels, increase in e-commerce, changes in consumer mobility needs and preferences, as well as changes in OEMs' business models (e.g., selling directly to consumers and not via dealerships) has brought about changes to the ways in which consumers search for and purchase vehicles (Schmidt et al., 2019; SubPrime, 2016; We are Social, 2020).

These changes in how consumers search for, purchase, and maintain vehicles, especially the growing role of internet and technology usage in the customer journey, may have an impact on how digitalisation of customer touch-points by VAF providers influences the customer perceived value of their products in the South African VAF market.

1.4 Research problem

Low economic growth (average growth rate of -0.281% between 2015 and 2020) has led to a decrease in vehicle sales in South Africa in recent years (average decrease of 2% in new vehicle sales between 2016 and 2019), and this decrease in sales is likely to be exacerbated by the introduction of electric vehicles (which have a longer lifespan) to the South African market (Deloitte, 2019; Fischer et al., 2021; NAAMSA, 2021a; Schmidt et al., 2019; Statistics South Africa, 2020b, 2021a; The World Bank, 2022).

The decrease in overall vehicle sales, within the context of a highly competitive banking environment, has resulted in compromised revenues and profits for VAF providers (Thompson, 2018). VAF providers are still required to remain competitive and profitable while operating under these economic conditions, where the market isn't growing, and competition is high. To compound the situation, previous research into bank switching behaviour has found that consumers in highly competitive bank markets, such as South Africa, are more likely to switch banks (Brunetti et al., 2016), this means VAF providers are also at risk of losing their existing customers to competitors.

In a market that is shrinking, to be profitable and to grow, VAF providers must keep hold of their existing customers and convince the other customers that can still afford VAF products to switch from competitors. Previous research into bank switching behaviour (Narteh, 2013; Zhao et al., 2021) suggests that VAF providers can do this by providing convenience, offering better service, reducing the cost of service and by communicating their value propositions through better advertising; this is due to customer pain points such as service encounter failures,

electronic banking failures, inconvenience, and pricing failures being the main contributing factors to bank switching behaviour (Narteh, 2013; Zhao et al., 2021).

To address the challenges faced, some VAF providers have invested in the digitalisation of customer touch-points as a solution (Absa Group Limited, 2021; FirstRand Limited, 2021; Nedbank Group, 2020; Standard Bank Group, 2020), this is due to the positive impact digitalisation of customer touch-points has been found to have on convenience, service quality, transaction costs and customer satisfaction. Digitalisation of customer touch-points has also been found to provide value for both firms and consumers (Ahmad & Al-Zu'bi, 2011; Demirci Orel & Kara, 2014; Mostafa, 2020). Digitalisation of customer touch-points is especially important for VAF providers as this is the only area where they have control of engagements with consumers and can shape customer perceptions due to most vehicle sales taking place at dealers' premises (wheels24, 2021).

CPV is concerned with studying why consumers make the choices they make and how value influences the choices consumers make, which encompasses choices that are made at brand level (VAF provider X vs VAF provider Y), CPV has also been found to be a good predictor and explainer of consumer choices (Parente et al., 2015; Sheth et al., 1991; Sweeney & Soutar, 2001; Zeithaml, 1988). Given the need for VAF providers to retain existing customers and convince customers to switch from competitors in a low growth and highly competitive market, understanding whether digitalisation of customer touch-points has an influence on CPV is imperative for VAF providers.

Existing research on CPV has either focused on contexts outside of banking, such as retail products, location-based services and tourism (El-Adly, 2019; Pura,

2005) and the CPV research that has focused on banking has excluded electronic banking channels and digitalised touch-points (Fandos Roig et al., 2006; Parente et al., 2015). To the researcher's best knowledge (premised on a rigorous evaluation of the existing CPV literature), there is little or no research that investigates customer touch-point digitalisation's influence on CPV, less so in the context of VAF providers.

Therefore, the problem this research undertook to address is the lack of clarity on whether customer touch-point digitalisation influences the formulation of CPV in a VAF context. The relationship between CPV and its dimensions has already been established by other researchers as being formative (Fandos Roig et al., 2006; Parente et al., 2015; Sánchez et al., 2006; Sweeney & Soutar, 2001; Zeithaml, 1988) and was not the subject of this study. This study addressed the influence of customer touch-point digitalisation on CPV by investigating the relationship between customer touch-point digitalisation and the CPV dimensions applicable to a banking context, as reflected by the research questions employed.

1.5 Research questions

1. Does customer touch-point digitalisation have an influence on customer perceived value in the South African VAF product context?
 - 1.1. Does customer touch-point digitalisation have an influence on Functional value (price) in the South African VAF product context?
 - 1.2. Does customer touch-point digitalisation have an influence on Functional value (quality) in the South African VAF product context?

- 1.3. Does customer touch-point digitalisation have an influence on Emotional value in the South African VAF product context?
2. Do age and gender moderate the relationship between customer touch-point digitalisation and CPV through its dimensions in the South African VAF product context?

1.6 Significance of the study

Many South African financial services firms have digitalised their customer touch-points, the motives for digitalising have varied from driving down the costs of customer acquisition and servicing to introducing operational efficiencies (Absa Group Limited, 2021; FirstRand, 2020; Nedbank Group, 2020; Standard Bank Group, 2020). Studies have found that digitalised customer touch-points positively influence customer loyalty and satisfaction (Ahmad & Al-Zu'bi, 2011; Ghazi Zouari & Abdelhedi, 2021), according to Ahmad and Al-Zu'bi (2011), this is because digitalised customer touch-points improve convenience while reducing the associated cost of banking.

The items that are positively influenced by customer touch-point digitalisation, such as convenience, service quality and cost of transacting have been found to be reflective of the CPV dimensions identified in banking, namely functional (price), functional (quality) and emotional value (Ahmad & Al-Zu'bi, 2011; Fandos Roig et al., 2006; Parente et al., 2015). However, based on the researcher's knowledge there has been no research that investigates the direct influence of customer touch-point digitalisation on CPV or its dimensions in the banking context. it is not clear whether digitalised customer touch-points influence the

value that consumers assign to a firm's VAF product when making a choice on which VAF provider to purchase from, and therefore difficult for VAF industry decision makers to assess their investments in customer touch-point digitalisation from a CPV perspective. This study contributed to the body of knowledge by providing evidence of the nature of the relationship between the dimensions of CPV and customer touch-point digitalisation.

1.6.1 Empirical and CPV body of knowledge contribution

This research enhanced the existing knowledge on CPV by examining the relationship between customer touch-point digitalisation and CPV through its dimensions. Previous CPV research has focused on identifying and verifying what the dimensions of CPV are and building scales to measure CPV in different contexts (Boksberger & Melsen, 2011; El-Adly, 2019; El-Adly & Eid, 2015; Fandos Roig et al., 2006; Hernandez-Ortega et al., 2017; Parente et al., 2015; Petrick, 2002; Prodanova et al., 2019; Sánchez et al., 2006; Sweeney & Soutar, 2001) but has not examined whether factors such as digitalisation of customer touch-points influence those dimensions and ultimately CPV. Determinants of bank selection research identifies reasons such as cost, convenience and security as contributing to why consumers choose one bank over another (Aregbeyen, 2011; Blankson et al., 2007; Hinson et al., 2013; Phuong Ta & Yin Har, 2000). The manifestations of customer touch-point digitalisation such as online banking, digital sales and customer service have been found to have a positive influence on the bank selections factors identified by bank selection determinants research (Ghazi Zouari & Abdelhedi, 2021; Meuter et al., 2000), yet existing literature on CPV in banking does not address the influence of customer

touch-point digitalisation on the CPV dimensions, in spite of the fact that digitalisation is transforming customer expectations and the way banks operate (Harris et al., 2016; PwC, 2020).

1.6.2 Practical and VAF industry contribution

Although widely studied, there is limited research that offers practical guidelines for practitioners and VAF providers on CPV in the banking industry, and in particular, the VAF context, and less so in a South African market context. A study's context matters because new contexts can lead to significant changes in theories, such as causing relationships that were originally theorised to be insignificant to become significant, affecting the direction of relationships and creating new relationships between variables (Alvesson & Kärreman, 2007; Johns, 2006). Understanding whether customer touch-point digitalisation influences CPV is useful to South African VAF providers in a bid to attain a competitive advantage in an environment that is highly competitive and where consumers are buying fewer vehicles than in previous years (NAAMSA, 2021b). The findings from this study can help guide decision makers in the VAF industry on where to focus their limited resources.

1.7 Delimitations of the study

The scope of the study will include VAF customers who are individuals/natural persons, VAF customers who reside in South Africa. Lastly, the scope of digitalisation this research addresses is limited to the digitalisation of customer touch-points as perceived by VAF customers.

The research scope excludes VAF customers who are juristic persons and VAF customers who reside outside of South Africa.

1.8 Definition of terms

The definitions of the terms used in this study are provided in Table 2 below.

Table 2: Definition of terms

Term	Definition
Digitalisation	“Reconceptualization and reconfiguration of processes and systems from analogue- and physical-centric forms into maximally digital-centric forms” (Armstrong & Lee, 2021) Examples of digitalised customer touch-points in a VAF context include capabilities that allow customers: • to interact with the VAF provider’s products before purchasing (e.g., online catalogue, online finance pre-approval) • to conclude the purchase of a VAF product online (e.g., iContract, online identity, address, and source of funds verification (KYC)) • to manage their accounts online (e.g., change payment method, date, and account) • to request and receive assistance regarding their accounts online (e.g., border letter request).
Emotional value	“The perceived utility acquired from an alternative’s capacity to arouse feelings or affective states” (Sheth et al., 1991).

Term	Definition
Functional value (price)	"The utility derived from the product due to the reduction of its perceived short term and longer term costs."(Sweeney & Soutar, 2001)
Functional value (quality)	"The utility derived from the perceived quality and expected performance of the product".(Sweeney & Soutar, 2001)
Social value	"The perceived utility acquired from an alternative's association with one or more specific social groups" (Sheth et al., 1991).
Vehicle and asset finance	A type of financial product where a bank provides a customer with a loan to purchase a vehicle or movable asset, the vehicle or movable asset is held as collateral for the loan and ownership is only transferred to the customer once the full loan amount has been repaid to the bank (Pieterse, 2009).

1.9 Assumptions

No assumptions are being made that significantly impact the study's outcome.

1.10 Report outline

The report consists of 6 chapters and is structured as outlined in Figure 1 below. A detailed literature review is conducted in Chapter 2, the methodological choices made are elaborated on in Chapter 3, and the data analysis results are presented

in chapter 4. Chapter 5 discusses the results and integrates them with the literature. Lastly, chapter 6 draws conclusions and provides recommendations based on this study's findings and makes suggestions for future research.

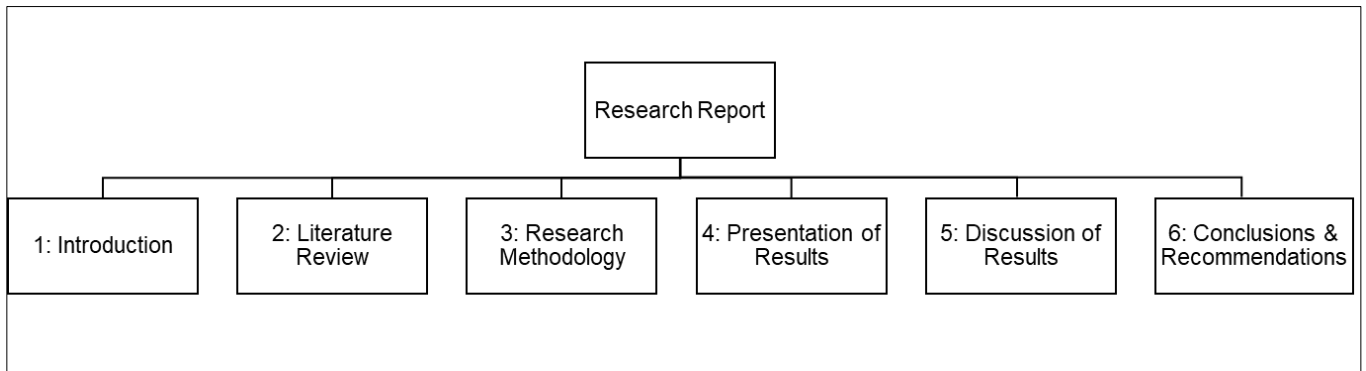


Figure 1: Research Report Outline

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

A theoretical evaluation of the concepts that this study is based on, namely, CPV and digitalisation is provided in this chapter, the chapter then aims to outline the current state of the research. The main themes uncovered in the literature are then outlined. Additionally, considerations that are relevant to the research topic are discussed, culminating in the hypotheses being developed.

2.2 Literature review context

CPV is viewed as a multi-dimensional construct that influences the choices made by consumers in various contexts and choice levels, i.e. buy or not buy, product type 1 vs product type 2 and brand A vs brand B (Sheth et al., 1991; Sweeney & Soutar, 2001), customer touch-point digitalisation has introduced new ways for firms to interact with customers and allowed firms that have utilised it to gain a competitive advantage over their peers (Kurz, 2017; Westerman et al., 2012). Current research into CPV does not cover the role digitalisation plays in the formulation of CPV. This literature review examines the present state of CPV, digitalisation and bank selection determinants research, and proposes hypotheses on how customer touch-point digitalisation and CPV are intertwined within the context of the South African VAF market.

This will be done in the context of the research questions of:

1. Does customer touch-point digitalisation have an influence on customer perceived value in the South African VAF product context?
2. Do age and gender moderate the relationship between customer touch-point digitalisation and CPV through its dimensions in the South African VAF product context?

In addressing the first question, the definition and dimensions of CPV, as well as the definition and benefits of digitalisation are outlined, a related area of research, determinants of bank selection, is investigated and the potential relationship between the CPV dimensions and customer touch-point digitalisation proposed. Figure 2 illustrates the different research areas the literature review and study weave together.

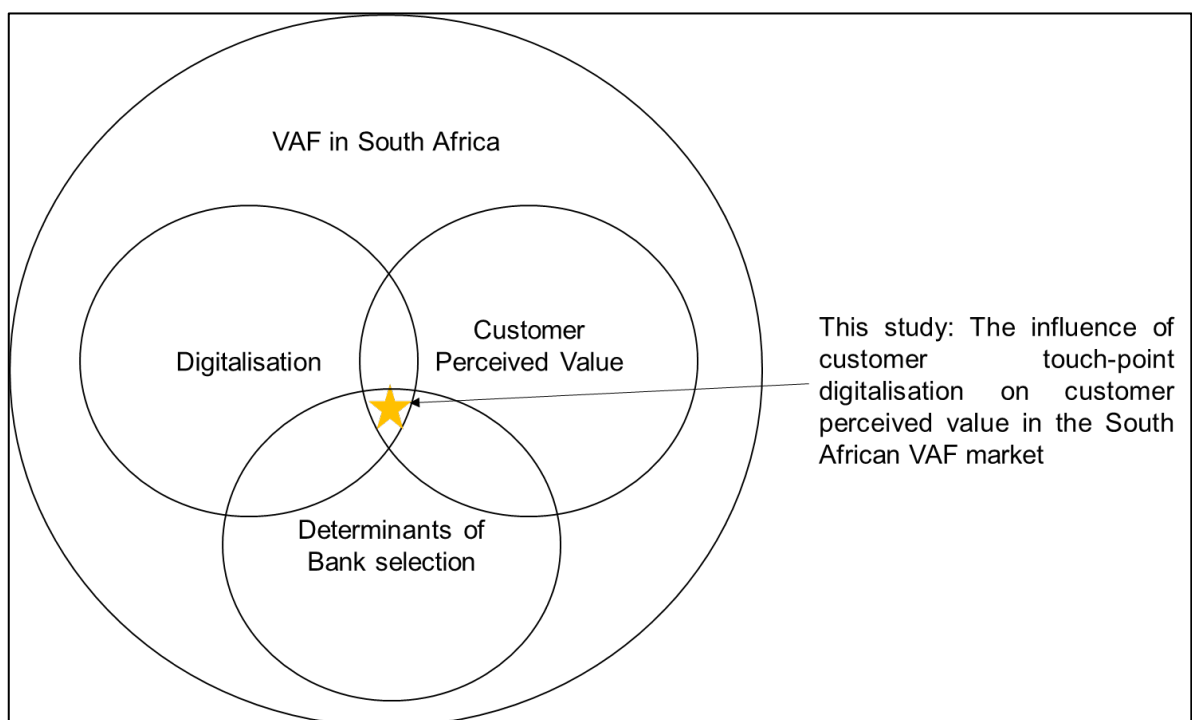


Figure 2: Contextualisation of the Research

In addressing the second question, the role of age and gender in technology adoption, and internet and mobile banking adoption is explored, and the potential role of age and gender in the relationship between customer touch-point digitalisation and the dimensions of CPV is proposed.

2.3 Definition of topic or background discussion

2.3.1 *Customer Perceived Value*

The definitions of CPV adopted by different researchers over time are outlined in Table 3. These definitions were selected due to forming the basis of the definitions used by and studies carried out by most other researchers.

Table 3: Definitions of CPV

Author	Definition	Dimensionality
Zeithaml (1988)	“The consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given” in a choice situation. Value is seen as representing “a trade-off between benefits and sacrifices”. A utilitarian approach is taken towards perceived value determination. Functional aspects of value such as price and quality are deemed to be the antecedents of customer perceived value.	CPV seen as a unidimensional construct.

Author	Definition	Dimensionality
Sheth et al. (1991)	CPV is a construct made up of multiple values (functional, social, emotional, epistemic, conditional) which are independent and contribute additively to a given choice scenario, the extent to which each dimension contributes to CPV varies based on the choice situation. A consumer will choose the option with the highest CPV.	CPV seen as a multi-dimensional construct.
Sweeney and Soutar (2001)	Viewed CPV as a multi-dimensional construct (quality, price, social, and emotional) in a similar manner to Sheth et al. (1991) but contended that the values/dimensions are interdependent.	CPV seen as a multi-dimensional construct.

Researchers have largely agreed with the multi-dimensional view of CPV, which considers both the cognitive and emotional dimensions to decision making among consumers (Arne et al., 2017; Fandos Roig et al., 2006; Zeithaml et al., 2020). Based on this definition, various scales were built in different contexts such as PERVAL (Sweeney & Soutar, 2001), GLOVAL (Sánchez et al., 2006), MALLVAL (El-Adly & Eid, 2016) and a CPV scale in the Brazilian retail banking context (Parente et al., 2015) which were all found to be valid.

The definition of CPV this study adopted is in line with the consensus among researchers that CPV is a multi-dimensional construct comprised of functional,

social and emotional value, this study will also adopt the view shared by Jarvis et al. (2003) and Fandos Roig et al. (2006) that CPV is a formative construct, this is due to the dimensions being the defining characteristics of CPV (as per measurement model criteria by Jarvis et al. (2003)), meaning the direction of causality flows from the dimensions to CPV (Fandos Roig et al., 2006; Sheth et al., 1991; Sweeney & Soutar, 2001). This definition is suitable to the VAF context as Williams and Soutar (2009) found that a unidimensional perspective of CPV that focuses on functional value only is not suitable for service contexts such as VAF. The relationship between CPV and its dimensions as per the definition adopted by this study is illustrated in Figure 3.

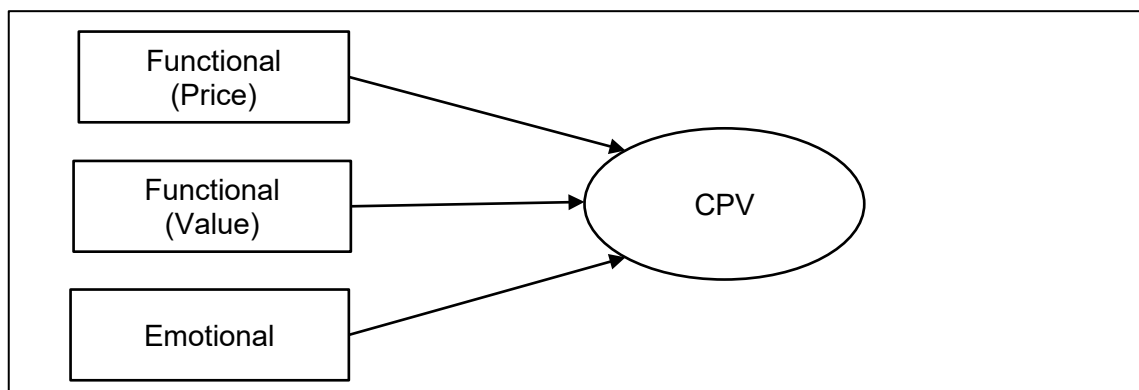


Figure 3: Relationship between CPV and dimensions (formative) (adapted from Jarvis et al. (2003))

2.3.2 Digitalisation

Table 4 below outlines some of the definitions for digitalisation that were found in literature.

Table 4: Definition of digitalisation

Author	Definition
Armstrong and Lee (2021)	“Reconceptualization and reconfiguration of processes and systems from analogue- and physical-centric forms into maximally digital-centric forms”
Gartner (n.d)	“The use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business.”
Ghazi Zouari and Abdelhedi (2021)	Defined digitalisation in banking as the acquisition of technology-based capabilities that improve customer experience by enabling new methods of interaction and customer service delivery.

This study adopted the following composite definition of digitalisation based on the definitions of Armstrong and Lee (2021), Gartner (n.d) and Ghazi Zouari and Abdelhedi (2021):

The use of technology to transform the way of doing business from analogue and/or physical to digital, with the aim of improving business outcomes. Which in banking typically manifests in offerings that enable self-service for consumers.

An example of digitalisation in the banking context is mobile banking, which allows customers to interact with a bank, execute transactions and manage their accounts online on their mobile devices at a lower cost; it allows customers to view account balances and make payments and it's available to customers at any time and any location (Singh & Srivastava, 2018). In the VAF context, examples of customer touch-point digitalisation include electronic statements, online query logging and resolution, electronic border, and settlement letters.

2.4 Does customer touch-point digitalisation have an influence on customer perceived value in the VAF product context?

2.4.1 Antecedents of CPV and relationship to digitalisation

Numerous studies that aimed to determine the antecedents of CPV in varying contexts, and to measure CPV in different consumer choice situations have been conducted, Table 5 below summarises some of these. In the context of banking, the CPV measurement scales which were created by Fandos Roig et al. (2006) and Parente et al. (2015) found that CPV is a good predictor of consumer bank choice.

Table 5: CPV research summary

Author	Conceptual foundation	Dimensions	Country and context
Sweeney and Soutar (2001)	Consumption values (Sheth et al., 1991)	• Emotional Value • Functional Value (quality) • Functional value (price) • Social Value	Australia: Consumer durable goods
Petrick (2002)	(Zeithaml, 1988)	• Behavioural price • Emotional response • Monetary price • Quality • Reputation	USA: Tourism
Wang et al. (2004)	PERVAL (Sweeney & Soutar, 2001)	• Functional value • Emotional value • Social value • Perceived sacrifices	China: Online shopping
Pura (2005)	Consumption values (Sheth et al., 1991)	• Conditional value • Emotional value • Epistemic value • Social value	Finland: Location-based mobile services
Fandos Roig et al. (2006)	PERVAL (Sweeney & Soutar, 2001)	• Emotional value • Functional value (establishment) • Functional value (personnel) • Functional value (product) • Functional value (price) • Social value	Spain: Banking

Author	Conceptual foundation	Dimensions	Country and context
Williams and Soutar (2009)	Consumption values (Sheth et al., 1991)	- Emotional value - Value for money - Novelty value	Australia: Tourism
Parente et al. (2015)	PERVAL (Sweeney & Soutar, 2001) (Petrick, 2002)	- Convenience - Monetary sacrifice - Reputation - Service quality	Brazil: Banking
Hernandez-Ortega et al. (2017)	PERVAL (Sweeney & Soutar, 2001)	- Cost-benefit value - Emotional value - Quality-performance value - Social value	Spain and Greece: Mobile messaging services

In building their scales CPV researchers (Fandos Roig et al., 2006; Parente et al., 2015) used indicators that fall into the functional, social, and emotional dimensions of CPV as illustrated in Table 6.

Table 6: Dimensions of CPV from banking studies

Dimension	Fandos Roig et al. (2006)	Parente et al. (2015)
Functional	Functional value of the installations of the establishment	Monetary sacrifice
	Functional value of the contact personnel	Operational quality
	Functional value of the service (quality)	Convenience and access
	Functional value (price)	
Emotional	Emotional value	Safety and soundness

Dimension	Fandos Roig et al. (2006)	Parente et al. (2015)
Social	Social value	

A closer examination of some of the indicators (see Table 5) reveals that they are comprised of items that relate to the cost, convenience and quality of service associated with transacting. The scales used conceptualised the dimensions as having a formative relationship with CPV, but a reflective relationship with the items (see Figure 4).

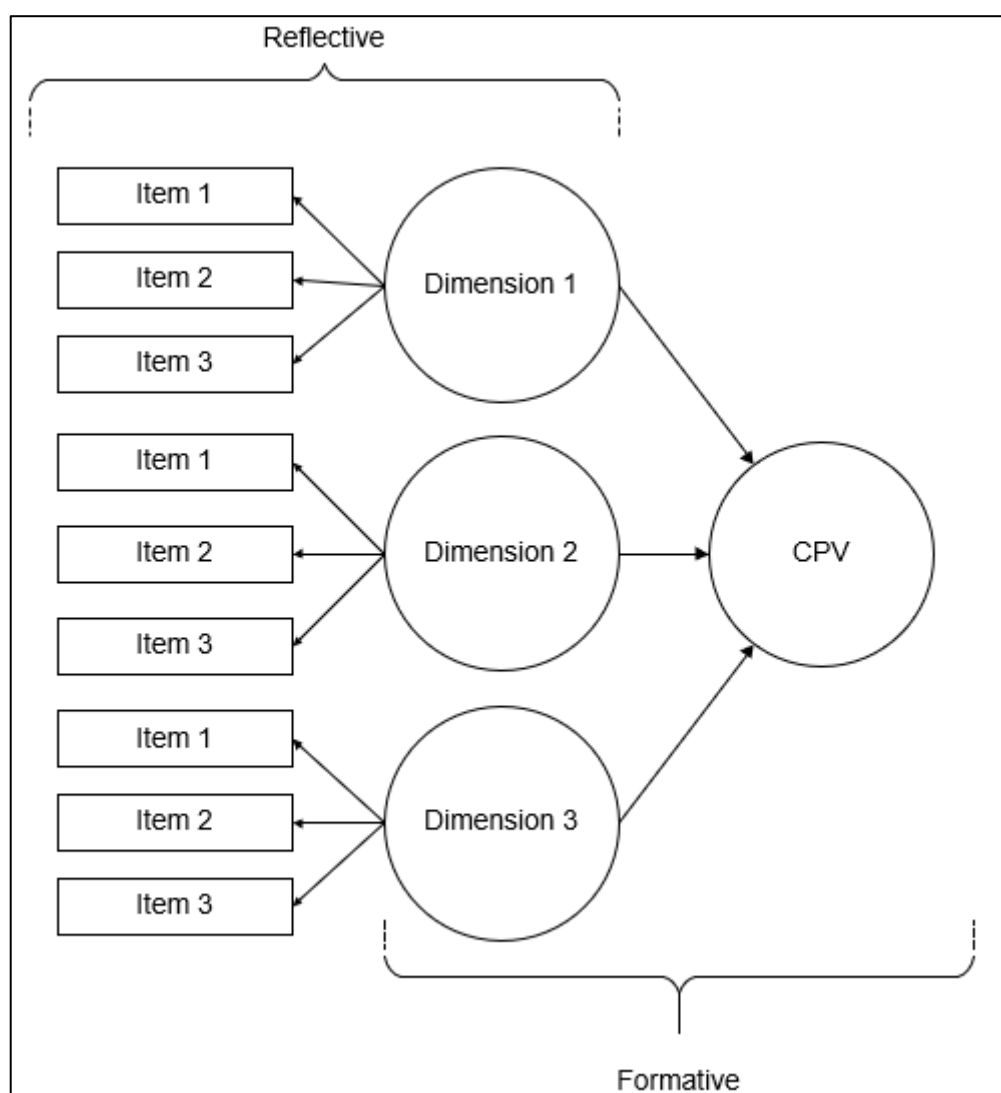


Figure 4: Conceptualisation of CPV scales in banking (adapted from Fandos Roig et al. (2006) and Parente et al. (2015))

Table 7 outlines the dimensions and items tested by researchers when developing CPV scales in a banking context.

Table 7: Dimensions and Items/Indicators for banking CPV scales

Fandos Roig et al. (2006)		Parente et al. (2015)	
Dimension	Items	Dimension	Items
Functional value of the service (Quality)	"The service as a whole is correct"	Service quality	"My bank's processes are fast and reliable"
	"The quality has been maintained all of the time"		"Overall, the quality of services provided by my bank is very good"
			"Services provided by my bank are delivered as promised"
	"The level of quality is acceptable in comparison with other entities"	Convenience and access	"In my bank, I am able to make transactions at convenient times"
	"The results of the service received were as expected"		
Functional value (price)	"The service is good for the expense it causes me"	Monetary sacrifice	"What I spend in order to make bank transactions is adequate (parking, transportation, etc.)"
	"The total cost that it causes me is reasonable"		"Maintenance fees charged by my bank are adequate"
			"Services charges (bank statements, wire transfers, etc.) of my bank are fair"

Fandos Roig et al. (2006)		Parente et al. (2015)	
Dimension	Items	Dimension	Items
Emotional Value	"I am happy with the financial services contracted"		"My bank handles my information in a confidential and private manner"
	"I feel relaxed"		
	"In general I feel at ease"		

Demirci Orel and Kara (2014) studied the impact of self-service checkout systems (a form of customer touch-point digitalisation in supermarkets) on service quality and concluded that they have a positive effect. Ahmad and Al-Zu'bi (2011) found that electronic banking positively affected loyalty and customer satisfaction and due in part to the accessibility, convenience, speed, cost, and security benefits it provided to customers.

Digitalisation of customer touch-points has been found to have a positive effect on the items used in the CPV scales. It has been found to reduce the cost of transacting for both the bank and customer, it has made transacting more convenient, and increased availability of services; through automation of processes, service quality and speed are enhanced as well as offering a reduction in errors (Ahmad & Al-Zu'bi, 2011; Mostafa, 2020). Meuter et al. (2000) also argue that self-service transacting will be a key enabler for the long-term success of firms. They found that consumers were satisfied by self-service transaction offerings because they are available 24/7, which is beyond the availability of firm employees, and that self-service transacting was perceived to be better than staff-assisted transacting because consumers found it easy to use, it saved time, offered wider geographic availability, and saved money. Self-service transacting is one of the manifestations of customer touch-point

digitalisation and the perceived benefits it provides to consumers are aligned to the convenience, functional value (price), functional value (quality) and monetary sacrifice dimensions of CPV identified by Fandos Roig et al. (2006) and Parente et al. (2015) in a banking context.

2.4.2 Bank selection determinants and digitalisation

As early as the year 2000, Phuong Ta and Yin Har (2000) identified the availability of self-banking facilities as an important factor in the decision to select a bank by consumers in the Singaporean context. Research done by Blankson et al. (2007) identified convenience, which they defined as “the importance of proximity and location of the bank” and competence, defined as representing “issues concerning frustration-free service, security and easy access to money” as factors that are determinants of bank selection by consumers in Ghana, the United States of America, and Taiwan.

More recently, Aregbeyen (2011) conducted a similar study within a Nigerian context and found that the “safety of funds” and the availability of technology-based service(s) are key determinants of consumer bank selection. Hinson et al. (2013) corroborated Blankson et al. (2007)’s findings that convenience is a determinant of bank selection in Ghana. In an Ethiopian context, Agarwal (2017) found that technological factors had a large influence on bank selection intention. A summary of the factors identified by researchers in bank selection determinants research in different contexts is provided in Table 8.

Table 8: Determinants of bank selection research

Researcher	Factors identified	Country
Phuong Ta and Yin Har (2000)	• Convenient location of bank and its branches • High interest rate on savings account • Overall quality of service • Low charges on services by bank • Low interest on loans • Long operating hours • Recommendation by parents/friends • Availability of self-banking facilities	Singapore
Blankson et al. (2007)	• Convenience • Competence • Recommendation by peers • Free banking (no charges)	Ghana, Taiwan, and USA
Aregbeyen (2011)	• Safety of funds • Availability of technology-based services • Quick/prompt service • Good complaint handling • Reputation/dependability	Nigeria
Hinson et al. (2013)	• Convenience • Bank appearance • Banking services • Third party influences • Electronic services • Financial benefit • Employee customer relations • Secure feeling • Marketing communication • Reputation	Ghana
Agarwal (2017)	• Bank image • Convenience • Financial factors • Service quality	Ethiopia

Researcher	Factors identified	Country
	• Social factors • Technology factors	

The research on CPV and determinants of bank selection is related because both are concerned with identifying factors that have an influence on consumer choices. CPV research does this in a broader scope and bank selection determinants research in the narrow scope of banking, this similarity is also borne out by the similarity between the CPV scale items and determinant of banking factors (Table 7 and Table 8). Previous research has found that customer touch-point digitalisation (through its manifestations) offers convenience, makes technology-based services available, reduces costs of transacting and improves security and access to money for customers (Ahmad & Al-Zu'bi, 2011; Meuter et al., 2000; Mostafa, 2020), and thus can be argued to have a positive effect on the dimensions on CPV when it is present and negative effect when absent. Digitalisation is also argued to be a source of value creation for firms (Amit & Zott, 2001).

Despite these links, to the researcher's knowledge, the existing research does not explicitly focus on the influence of customer touch-point digitalisation on CPV or its antecedents.

2.4.3 The Moderation role of age and gender

Previous research into technology adoption in both organisational and consumer contexts and varying in geographical contexts has found that age and gender are significant moderating variables in the relationship between behavioural intention and its antecedents (Magsamen-Conrad et al., 2015; Morris et al., 2005;

Sakkthivel & Ramu, 2018; Venkatesh et al., 2012). Age and gender have also been found to play moderating roles in internet banking and mobile banking adoption research (Merhi et al., 2021; Safeena et al., 2014; Yousafzai & Yani-de-Soriano, 2012)

Making use of digitalised customer touch-points entails using technology, which creates the possibility that age and gender could play a moderating role in the relationship between customer touch-point digitalisation and CPV. However, according to the researcher's knowledge (based on a thorough review of CPV literature) there are no studies at present that look into the role of age and gender on the formulation of CPV. It is therefore important that an understanding of the role age and gender in the relationship between customer touch-point digitalisation and CPV be sought.

Previous studies into CPV (Boksberger & Melsen, 2011; Fandos Roig et al., 2006; Hernandez-Ortega et al., 2017; Parente et al., 2015; Sánchez et al., 2006; Sweeney & Soutar, 2001) have thus far been focused on the construct's dimensionality, development of scales and testing of scales in new contexts, and have not focused on investigating the role of age and gender on the formation of CPV.

Should age and gender be found to have a significant moderating role in the relationship between customer touch-point digitalisation and CPV, the manner in which VAF providers approach their customer touch-point digitalisation journeys may need to take age and gender into account.

2.5 ANALYTICAL FRAMEWORK

2.5.1 Theoretical framework

This study made use of the theoretical framework proposed by Sweeney and Soutar (2001) which conceptualised CPV as a multi-dimensional formative construct constituted by functional value (price), functional value (quality), emotional value and social value – as illustrated in Figure 5. However, for the purposes of this study, social value was excluded due to not enough evidence being found in the literature of the benefits of customer touch-point digitalisation that align with social value items/indicators.

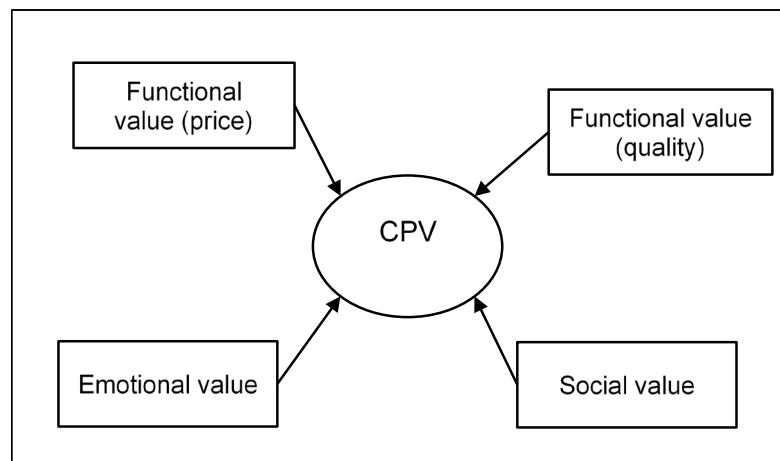


Figure 5: Theoretical framework (adapted from Sweeney and Soutar (2001))

2.5.2 Conceptual framework

As per Figure 4, the relationship between CPV and its dimensions is formative, whereas the relationship between the dimensions and the items used to measure them is reflective. This study investigated the influence of customer touch-point digitalisation on the dimensions of CPV by introducing customer touch-point

digitalisation as an antecedent to the dimensions of CPV. The relationship between CPV and its dimensions has already been established by other researchers as being formative (Fandos Roig et al., 2006; Parente et al., 2015; Sánchez et al., 2006; Sweeney & Soutar, 2001; Zeithaml, 1988) and was not the subject of this study. This study only addressed the influence of customer touch-point digitalisation on CPV by investigating the relationship between customer touch-point digitalisation and the CPV dimensions applicable to a banking context, as reflected by the research questions and hypotheses employed.

The moderating role of age and gender is examined by introducing them as moderating variables between customer touch-point digitalisation and the three CPV dimensions. Since existing literature has already established the dimensionality of CPV and applicability of these dimensions in banking contexts (Boksberger & Melsen, 2011; El-Adly & Eid, 2015; Fandos Roig et al., 2006; Hernandez-Ortega et al., 2017; Prodanova et al., 2019; Pura, 2005; Sánchez et al., 2006; Sweeney & Soutar, 2001; Zeithaml, 1988), this study did not test the relationship between the dimensions and CPV, only the relationships marked H1 to H6 in Figure 6 were tested. Figure 6 below illustrates the conceptual framework adopted in this study.

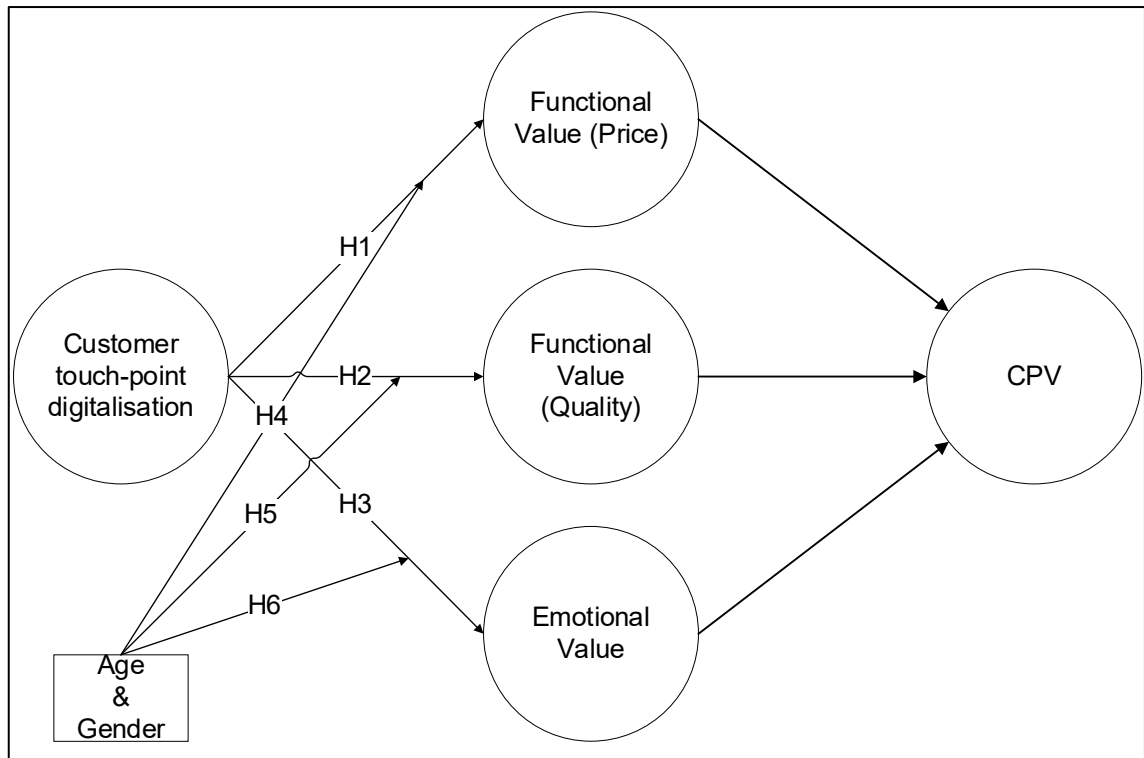


Figure 6: Conceptual framework

2.5.3 Hypotheses

2.5.3.1. Customer touch-point digitalisation and CPV hypotheses:

The factors identified in determinants of bank selection research (Agarwal, 2017; Aregbeyen, 2011; Lelissa & Metasebiya, 2017) along with the dimensions and items identified by CPV research in the banking context can be categorised into Functional (price), functional (quality) emotional value, reputation, and social value (Fandos Roig et al., 2006; Parente et al., 2015). The benefits of digitalisation can be closely related to functional (price), functional (quality) and emotional value dimensions of CPV. Therefore, the hypotheses proposed by this study looked into the influence of customer touch-point digitalisation on the three dimensions of CPV.

Customer touch-point digitalisation has been found to offer benefits such as convenience, reduced costs, improved speed, and improved quality of service (Ahmad & Al-Zu'bi, 2011; Demirci Orel & Kara, 2014; Meuter et al., 2000). Functional value (price), functional value (quality) and emotional value as dimensions of CPV aim to measure user perceptions on the price, quality and emotional aspects of a product (Sheth et al., 1991; Sweeney & Soutar, 2001), these aspects for which perceptions are being measured by the CPV dimensions are expected to be positively affected by the benefits of customer touch-point digitalisation, namely, improved speed and quality of service to positively affect customer perceptions on the quality aspect of a product, and reduced costs to positively affect the price aspect. Therefore, the hypotheses proposed by this study are:

H1: Customer touch-point digitalisation has a strong positive influence on Functional value (price)

H2: Customer touch-point digitalisation has a strong positive influence on Functional value (quality)

H3: Customer touch-point digitalisation has a strong positive influence on Emotional value.

2.5.3.2. Age and Gender as moderators

Age and gender have been found to play a significant moderating role in technology adoption research conducted in varying contexts (Magsamen-Conrad et al., 2015; Morris et al., 2005; Sakkthivel & Ramu, 2018; Venkatesh et al., 2012). Age and gender have also been found to play moderating roles in internet

banking and mobile banking adoption research (Merhi et al., 2021; Safeena et al., 2014; Yousafzai & Yani-de-Soriano, 2012). To make use of digitalised customer touch-points, consumers need to make use of technology, this creates the possibility that age and gender may influence the relationship between customer touch-point digitalisation and CPV.

It is expected that the influence of customer touch-point digitalisation on CPV will reduce with as age increases and therefore be lower in elderly customers and higher in younger customers. This is due to internet banking adoption being higher in younger customers compared to the elderly, age has been found to be a moderating variable in internet banking adoption research (Safeena et al., 2014; Yilmazer, 2005) and digitalised VAF customer touch-points are based on internet and mobile banking technologies.

It is expected that the influence of customer touch-point digitalisation on CPV will be higher amongst males compared to females. This is because males are more likely to be less reliant on facilitating conditions when contemplating the use of a new technology while females are more likely to place more importance on external supporting factors (Morris et al., 2005; Venkatesh et al., 2012) and in the case of digitalised customer touch-points, VAF providers offer little to no support to new digitalised touch-point users.

Therefore, the hypotheses proposed by this study in relation to the moderating role of age and gender are:

H4: Age and Gender will significantly moderate the relationship between Customer touch-point digitalisation and Functional value (price).

H5: Age and Gender will significantly moderate the relationship between Customer touch-point digitalisation and Functional value (quality).

H6: Age and Gender will significantly moderate the relationship between Customer touch-point digitalisation and Emotional value.

2.6 Conclusion of literature review

CPV is a multi-dimensional construct that is used to describe and predict consumer choices in various choice situations, its dimensions include functional, emotional, and social value (Fandos Roig et al., 2006; Hernandez-Ortega et al., 2017; Parente et al., 2015; Sweeney & Soutar, 2001). Several researchers have attempted to measure CPV in a variety of contexts by developing CPV scales such as PERVAL, GLOVAL and MALLVAL. In conceptualising CPV and the scales to measure it, researchers have mostly adopted the view that CPV is a formative construct (Zeithaml et al., 2020). These scales have been found to have items such as convenience, cost, and service quality, these are items that can be positively influenced by the presence of customer touch-point digitalisation. Digitalisation is defined as making use of technology to change the way of doing business from analogue and/or physical to digital, with the aim of improving business outcomes (Armstrong & Lee, 2021; Gartner, n.d).

Determinants of bank selection is a research area that aims to understand the factors which influence the choices consumers make when selecting a bank. It is related to CPV research in that it attempts to predict and describe consumer choices, albeit within the narrow scope of banking and at a brand choice level. Several researchers have found that convenience, cost, service quality and

technology-enabled banking are some of the factors that positively influence consumer bank choices (Agarwal, 2017; Aregbeyen, 2011; Blankson et al., 2007; Hinson et al., 2013; Lelissa & Metasebiya, 2017; Sayani & Miniaoui, 2013). These are factors customer touch-point digitalisation has been found to have a positive influence on (Ahmad & Al-Zu'bi, 2011; Demirci Orel & Kara, 2014; Meuter et al., 2000).

Age and gender have been shown to be significant moderating variables in technology adoption as well as internet and mobile banking adoption research (Magsamen-Conrad et al., 2015; Merhi et al., 2021; Morris et al., 2005; Safeena et al., 2014; Sakkthivel & Ramu, 2018; Venkatesh et al., 2012) and to make use of digitalised customer touch-points, consumers need to make use of internet and mobile banking technology. Existing CPV research does not investigate the effect of age and gender on CPV formulation.

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Introduction

The research methodology choices that were made to test the hypotheses defined in this study, with the aim of answering the research questions, are described in this chapter.

To describe the research methodology, the research approach, research design, sampling method, design of the research instrument, data collection procedure, techniques used to analyse and interpret the data, as well as ethical considerations are discussed.

3.2 Research approach

This research measures the relationship between customer touch-point digitalisation (independent variable) and the dimensions of CPV (dependant variables) and follows a quantitative research approach by studying the relationship between the independent and dependant variables, and it falls within the paradigm of positivism. The selected approach allowed the researcher to evaluate the independent variable (customer touch-point digitalisation) and dependant variables (functional value (price), functional value (quality) and, emotional value) to establish if relationships exist between them and if so, the significance and nature of these relationships. This approach was suitable for this study because quantitative approaches target the measurement and analysis of the relationships between variables (Schindler, 2019).

The research was cross-sectional, it measured the variables at a single point in time. The research problem, questions, types of data and hypotheses framed by this study are aligned to the ontological, epistemological, researcher role and theory-practice relationship assumptions of the quantitative approach as outlined by Khazanchi and Munkvold (2003).

3.3 Research design

A communication-based approach was used by this research to collect primary data, this approach entails surveying cases, by means of questionnaires or personal interviews (Schindler, 2019). This design is suitable to this study due the advantages it offers such as relatively low cost and high speed compared to other options such as observation, and the constraints faced by the researcher such as limited access to participants due to COVID-19 enforced lockdowns, requirement to offer participants the option of anonymity to improve response rates and the wide geographical distribution of potential respondents.

This study also collected comparable data across all participants for analysis to adequately answer the research questions, and surveys enable that (Schindler, 2019). The disadvantages of this approach such as not being able to probe participants further did not impact the ability to adequately address the research questions posed by this study.

3.4 Data collection methods

The data collection method selected for this research is a self-administered online questionnaire. Questionnaires allow for the collection of standardised feedback

from participants which enabled quantitative analysis of the data (Schindler, 2019). Online questionnaires in particular, were chosen for this study because they offer the advantages of being perceived as more anonymous by participants (this may improve response rates), enable fast data collection, enable participants to think about questions, and enable the researcher to reach participants who would otherwise not be accessible (Schindler, 2019) and being self-administered means the participants can complete them from any location and at a time that is suitable for them.

The advantages stated allowed the researcher to collect data from the requisite number of participants. A disadvantage of this data collection method is that only members of the population with internet access are able to participate, however for this study this is not a disadvantage as the constructs in question are mostly applicable to consumers with internet access.

3.5 Population and sample

3.5.1 Population

This research sought to investigate the influence of customer touch-point digitalisation on the dimensions of CPV in the South African VAF market and therefore the population targeted for this research was individuals residing in South Africa (SA) who have the following characteristics:

- Natural persons
- 18 years or older
- Have made use of a VAF product before

TransUnion (2021) reported that there are 2.3 million VAF active accounts in RSA, this number gives an indication of the total number of individuals who are 18 years or older, residing in South Africa and have an active VAF product, which is a good approximation of the population size.

3.5.2 Sample and sampling method

A non-probability sampling method was employed for this study. More specifically, the convenience sampling method in particular was utilised for this research. Convenience sampling is a non-probability sampling method that allows for data to be collected from population members who are conveniently available to provide it (Sekaran & Bougie, 2016). This method was selected due to time and budget constraints for the completion of this study, additionally, the exact demographics of the target population are unknown, and this would hinder the use of probability sampling methods. A disadvantage of this method is the lack of generalisability of findings (Sekaran & Bougie, 2016). Figures 7 below shows the approximate age demographics of the population based on employment demographics in South Africa, the decision to use employment demographics to approximate the VAF account holder population is because only employed people are eligible to purchase VAF products. The gender proportions are 56% male and 44% female (Statistics South Africa, 2021b).

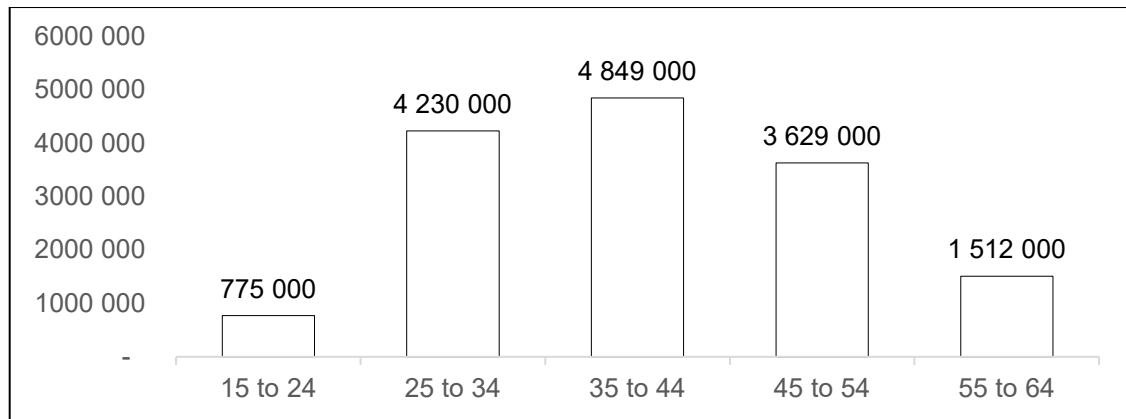


Figure 7: South African employment by age group (based on Statistics South Africa (2021b))

A final sample of size of 281 was obtained in this study, although small, this number adheres to the variable to participant ratios suggested by Hair et al. (1995) and Field (2013), it also falls within the recommended good sample size by Comrey and Lee (1992). The sample size obtained in this research is also seen as sufficient for partial least squares structural equation modelling (PLS-SEM) analysis to achieve a statistical power of 80% at a significance level of 5% as per the guideline by Cohen (1992) as shown in Table 9.

Table 9: Sample Size Guide for PLS (adapted from Cohen (1992))

Number of independent variables)	Significance level											
	10%				5%				1%			
	Minimum R ²				Minimum R ²				Minimum R ²			
	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75
2	72	26	11	7	90	33	14	8	130	47	19	10
3	83	30	13	8	103	37	16	9	145	53	22	12
4	92	34	15	9	113	41	18	11	158	58	24	14
5	99	37	17	10	122	45	20	12	169	62	26	15
6	106	40	18	12	130	48	21	13	179	66	28	16
7	112	42	20	13	137	51	23	14	188	69	30	18
8	118	45	21	14	144	54	24	15	196	73	32	19
9	124	47	22	15	150	56	26	16	204	76	34	20
10	129	49	24	16	156	59	27	18	212	79	35	21

3.6 The research instrument

A 24-question structured questionnaire was used as the research instrument. It was made up of 7 sections, broken down as per the Table 10 below. The questions used were closed ended questions that were answered by means of a 5-point Likert scale. The questions used were adopted and adapted from research done by Sweeney and Soutar (2001), Fandos Roig et al. (2006) and Parente et al. (2015), the instrument is suitable as it contains items (questions) that have been validated by other researchers and were proved to be reflective of the dimensions of CPV that this study aims to examine, the instrument's shortcoming was that some items were worded for transactional banking contexts, this has been addressed by amending the wording to speak to a VAF context without changing the meaning of the items.

The full instrument, along with the cover letter that accompanied it can be found in the appendix section (Appendix B).

The research instrument used in this study was broken down into the sections outlined in Table 10 below.

Table 10: Research instrument breakdown

Section	Data to be collected	Questions
Section 1	Qualifying questions	Q1 to Q3
Section 2	Demographic information	Q4 to Q6
Section 3	Perceived level and use of customer touch-point digitalisation	Q7 to Q8
Section 4	Functional value (Price)	Q9 to Q12
Section 5	Functional value (Quality)	Q13 to Q18
Section 6	Emotional value	Q19 to Q22
Section 7	Perceived Value	Q23 to Q24

3.7 Procedure for data collection

Wits university students and the public were targeted for this study. While links were shared to students and the public via social media platforms, mall and fuel station intercept approach were also used to complement the online channels. All participants needed to meet the criteria of being 18 years or older, South African residents and having used a VAF product before. The research instrument used

is a self-administered online questionnaire and was shared with potential participants using the channels listed below.

1. Email:

Emails were sent to the Wits university student community via the office of the deputy registrar, this was done to reach the student community members who met the participant criteria.

2. LinkedIn post with a link to the research instrument:

A LinkedIn post inviting the researcher's LinkedIn connections to participate was used, the post was then reshared after 8 weeks to encourage participation. This was done with the aim of reaching the researcher's 500+ LinkedIn connections.

3. Social media posts with a link to the research instrument:

The instrument was posted on the researcher's Facebook and Twitter pages as a link, it was also shared on the Facebook, Twitter, and Instagram pages of the researcher's friends.

4. Posters with Quick Response (QR) codes linking to the research instrument:

Printed posters with a QR code were placed at various filling stations, car washes and vehicle accessories shops in the Roodepoort area to reach the establishments' customers. QR codes were also used by the researcher when approaching customers at shopping malls.

5. Direct messages

The link to the data collection instrument was also posted on WhatsApp groups.

The channels used were selected with the aim of reaching as many potential respondents as possible. Participants with whom the instrument was shared as a link accessed the instrument by clicking on the link and being redirected to the instrument on a web browser, those with whom it was shared as a QR code accessed it by scanning the QR code and being redirected to the instrument on a web browser. The instrument was accessible via smartphones, computers, laptops, and tablets. The research invitations used are shown in Appendix C.

The study encouraged participation and reduced non-response bias by doing the following:

- Used a compelling and enticing introduction.
- Ensured the research instrument is accessible on a variety of devices.
- Ensured questions are clear and concise.
- Kept the number of questions to the minimum required to address the research questions posed.
- Ensured the subject line of the email is worded in a manner that allows participants to grasp the essence of the survey and encourage them to participate.
- Offered participants the chance to access the results of the research once it has been completed.

3.8 Data analysis and interpretation

Descriptive analysis of the data was performed, and the following descriptive statistics were measured: mean, standard deviation, skewness, and kurtosis, Chapter 4 presents the results of the descriptive analysis. The PLS-SEM

framework was adopted for analysis of the relationships between the variables in this study due to its suitability for analysis of data that is not normally distributed and for small sample sizes as is the case for the data in this study (Hair et al., 2019; Ringle et al., 2012). Data analysis was done using the SmartPLS 3 (Ringle et al., 2015) and IBM SPSS Statistics 27 tools.

3.9 Validity and reliability

3.9.1 External validity

The convenience sampling method, which is the sampling method employed by this study, may negatively impact the generalisability of the results due to its inability to provide a sample that is a good representation of the population.

3.9.2 Internal validity

To ensure the internal validity of the research instrument, the questions utilised in this study's research instrument were adopted and adapted from previous research (sources of questions include Sweeney and Soutar (2001), Fandos Roig et al. (2006), and Parente et al. (2015)). Cross-loadings and the Heterotrait-Monotrait Ratio (HTMT) were used to measure discriminant validity and average variance expected (AVE) was used to measure convergent validity. Chapter 4 presents the results from the assessment of the instrument's validity in detail.

3.9.3 Reliability

Factor loadings, Cronbach's alpha rho_A and composite reliability were used to analyse the reliability of the instrument. Chapter 4 presents the results from the assessment of the instrument's reliability in detail.

3.10 Ethical considerations

This research followed all the ethical standards as stipulated by Wits University. Over and above these standards, the researcher made certain that research participants were made aware of the purpose of the study and that they were fully aware of what their participation entails. Participants' responses were only included if they consented to the use of their data after the questionnaire is complete. Participants were allowed to exit the study at any time they wished to. The research does not involve any discrimination based on age, gender, race or ability, nor were any incentives offered to participants.

This research was also not a threat to the physical environment and will not be used to impact the physical environment adversely. The responses received were anonymous, no data that can be used to identify participants was collected, the data collected was stored in a password protected platform (Microsoft Forms) and processed in a manner that is in compliance with the protection of personal information act (POPIA).

Lastly, this research was only conducted after the requisite approval was received from the University of Witwatersrand ethics committee; the committee required that all the minimum ethical standards be met by this research.

CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

The results from analysis of the data collected during the study are presented in this chapter. Firstly, a descriptive analysis of the data, including the respondents' demographic profile (age and gender), is presented. Thereafter the hypothesis testing results are presented, beginning with an assessment of the measurement (outer) model, followed by an evaluation of the structural (inner) model as is common in Partial Least Squares (PLS) analysis and as suggested by Chin (2010). A summary of the results is provided to conclude the chapter. Figure 8 outlines how the chapter has been structured.

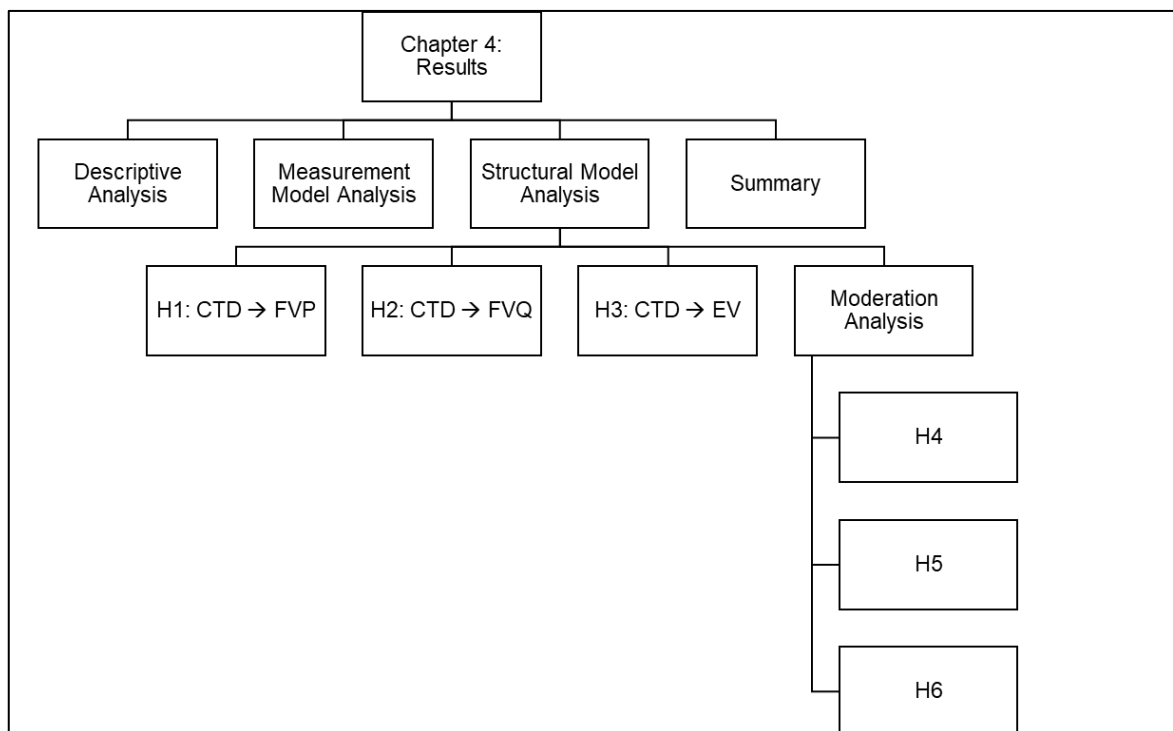


Figure 8: Chapter 4 Outline

4.2 Data mapping and coding

For ease of analysis, the responses were mapped and coded as per Table 11 below:

Table 11: Data mapping and coding key

Question on Instrument	Variable Name Mapped to	Options on Instrument	Coded value
Which VAF provider did you use for your most recent vehicle purchase?	VAF_Provider	ABSA VAF Nedbank Motor Finance Corporation (MFC) Standard Bank VAF WesBank Other	1 2 3 4 5
Please indicate your age	Age	18 – 24 years 25 – 34 years 35 – 44 years 45 – 54 years 55 – 64 years	1 2 3 4 5
Please indicate your gender	Gender	Male Female	1 2

Question on Instrument	Variable Name Mapped to	Options on Instrument	Coded value
My VAF provider's level of customer touch-point digitalisation is	CTD	High Slightly High Moderate Slightly Low Low	5 4 3 2 1
I'm aware of the digital ways of transacting and servicing that my VAF provider offers (e.g., digital contracting, digital statements, online border letters, online query resolution etc.).	Awareness	Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree	5 4 3 2 1
I MOSTLY use digital channels (mobile app, website, USSD) to transact and get service from my VAF provider	Usage		
The maintenance (monthly) fees charged by my VAF provider are acceptable	FVP1		
The amount I pay for services (e.g., statements, payments, letters, etc.) is fair	FVP2		
The cost I incur to make transactions is acceptable (e.g., parking, transportation, airtime etc.)	FVP3		
The level of service is good for the expense (both monetary and non-monetary) it causes me	FVP4		
The service I receive from my VAF provider as a whole is correct	FVQ1		

Question on Instrument	Variable Name Mapped to	Options on Instrument	Coded value
The quality of the service provided by my VAF provider is consistent	FVQ2		
The level of quality I receive from my VAF provider is acceptable in comparison with other entities	FVQ3		
My VAF provider's processes are fast and reliable	FVQ4		
Overall, the quality of services provided by my VAF provider is very good	FVQ5		
I am able to make transactions and get service (e.g., statements, border letters, account changes) at convenient times	FVQ6		
I am happy with the VAF provider I am using	EV1		
When I interact with my VAF provider I feel relaxed	EV2		
In general I feel at ease concerning my VAF provider	EV3		
My VAF provider handles my information in a confidential and private manner	EV4		
I would make use of my current VAF provider for my future VAF needs	CPV1		
I would recommend my current VAF provider to my friends and family	CPV2		

4.3 Descriptive statistics

The descriptive statistics presented were computed using the SmartPLS 3 (Ringle et al., 2015) and IBM SPSS Statistics 27 tools.

4.3.1 Distribution of the data collected

The data was tested for normality and was found to be non-normally distributed. Both the Kolmogorov-Smirnov and Shapiro-Wilk tests for normality had p values of 0.000 for all the variables, meaning the null hypothesis (the data is not normally distributed) cannot be rejected. Table 12 presents the results of the tests for normality.

Table 12: Tests of Normality results

Construct	Indicator	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Age		0,194	207	0,000	0,911	207	0,000
Gender		0,344	207	0,000	0,636	207	0,000
Awareness		0,281	207	0,000	0,712	207	0,000
CTD		0,201	207	0,000	0,858	207	0,000
Usage		0,287	207	0,000	0,792	207	0,000
FVP	FVP1	0,256	207	0,000	0,880	207	0,000
	FVP2	0,221	207	0,000	0,899	207	0,000
	FVP3	0,234	207	0,000	0,894	207	0,000
	FVP4	0,283	207	0,000	0,865	207	0,000
FVQ	FVQ1	0,324	207	0,000	0,791	207	0,000
	FVQ2	0,290	207	0,000	0,826	207	0,000
	FVQ3	0,278	207	0,000	0,853	207	0,000
	FVQ4	0,314	207	0,000	0,823	207	0,000

		Kolmogorov-Smirnov			Shapiro-Wilk		
Construct	Indicator	Statistic	df	Sig.	Statistic	df	Sig.
	FVQ5	0,308	207	0,000	0,814	207	0,000
	FVQ6	0,295	207	0,000	0,809	207	0,000
EV	EV1	0,266	207	0,000	0,835	207	0,000
	EV2	0,249	207	0,000	0,859	207	0,000
	EV3	0,253	207	0,000	0,851	207	0,000
	EV4	0,218	207	0,000	0,832	207	0,000

4.3.2 Response breakdown

A total of 281 responses were received; of these, 278 (98.93%) gave consent, 208 (74.02%) responses were from respondents who had used a VAF product before, and 207 (73.67%) responses were from respondents who resided in SA. A total of 74 (26.33%) responses were discarded as the respondents did not meet the participant criteria as outlined in chapter 3 of this report. Figure 9 presents the response breakdown in a funnel format.

Due to the anonymous nature in which the research instrument was designed, it is impossible to calculate a survey response rate as it is impossible to determine how many people the instrument reached through the various channels it was distributed.

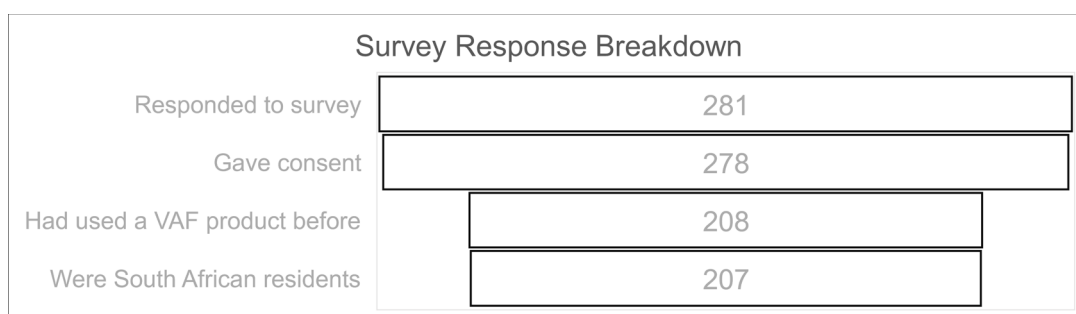


Figure 9: Survey Response Breakdown

4.3.3 Data screening and validation

The data collected was validated to reduce the risk of invalid conclusions. This involved examining the data and dealing with problems such as missing/invalid data to ensure the data was of good quality before conducting analysis. The following steps were taken to validate the data:

4.3.3.1 Discarding responses from participants who do not meet the sample criteria

Responses from participants who had not used a VAF product before and were not South African residents were removed from the data before analysis. This resulted in the removal of 74 responses, leaving only 207 valid responses to be used for analysis.

4.3.3.2 Checking for missing data

Missing values reduce the amount of data available for analysis, which negatively affects the statistical power of a study and compromises the reliability of its results (Kwak & Kim, 2017). A check for missing values was done, and of the 207 valid responses, none had any missing data.

4.3.4 Respondents' demographic characteristics

Demographic data represents the attributes of the sample being reported on (Schindler, 2019). It is important to evaluate the sample demographics to determine if the sample is representative of the larger population it was drawn from when conducting research; a demographically representative sample is expected to be normally distributed (Field, 2013). The respondent demographic data collected in this study are age and gender.

4.3.4.1. Age

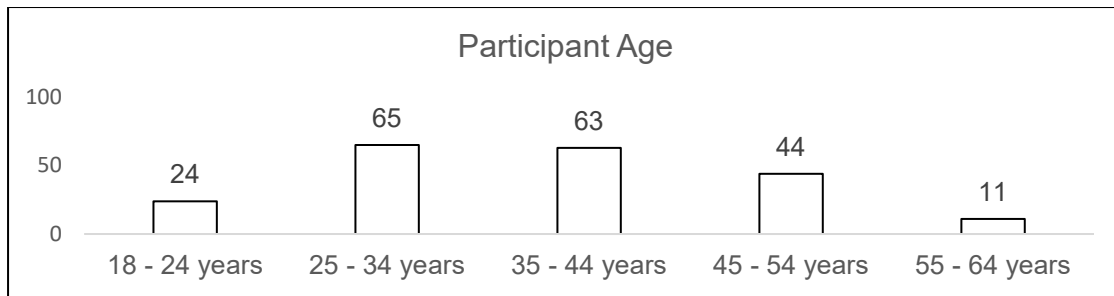


Figure 10: Respondent Age

Figure 10 presents the distribution of the responses by age. 24 respondents (11.59%) were between 18 and 24 years old. 65 respondents (31.40%) were between 25 and 34 years old, 63 respondents (30.43%) were between 35 and 44 years old, 44 respondents (21.26%) were between 45 and 54 years old, 11 respondents (5.31%) were between 55 and 64 years old, and there were no respondents who were 65 years and older.

For respondent age, the Mean = 2.773; the standard deviation is 1.073. The data is skewed (skewness =0.157) towards respondents that are 35 years and older.

4.3.4.2 Gender

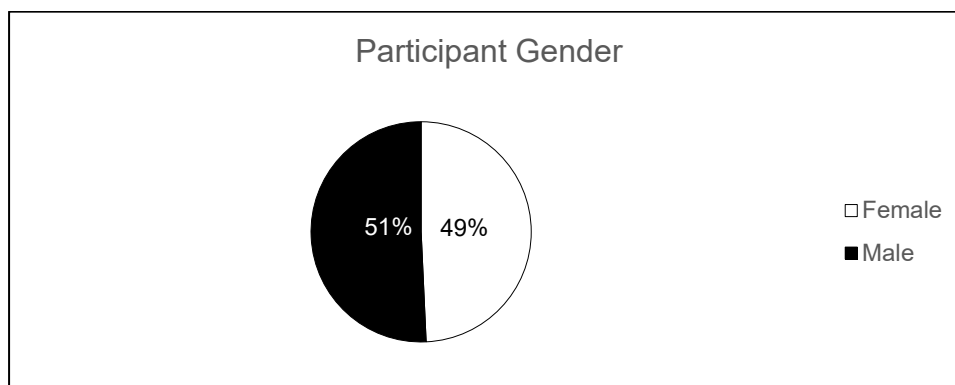


Figure 11: Respondent Gender

As shown in Figure 11 above, 105 respondents (50.72%) were males, and 102 respondents (49.72%) were female. The Mean value for respondent gender is 1.493, and the standard deviation value is 0.500. The Skewness value is 0.029, indicating that respondent gender was slightly skewed towards males.

As shown in Table 13 below, the demographic attributes of the sample exhibit a high level of similarity with the employment demographics from Statistics South Africa (2021b), which have been used to approximate the population the sample was drawn from.

Table 13: Sample vs Population Demographics

Age				Gender			
	Sample	Population	Difference		Sample	Population	Difference
18 – 24	11.59%	5%	6.59%	Male	50.72%	56%	5.28%
25 – 34	31.40%	28%	3.4%	Female	49.28%	44%	5.28%
35 – 44	30.43%	33%	2.57%				
45 – 54	21.26%	24%	2.74%				
55 – 64	5.31%	10%	4.69%				

4.4 Measurement model analysis

As discussed in section 3.9, the validity and reliability of the measurement model are assessed by analysing the factor loadings, construct reliability and construct validity. The subsequent sections present the results of the analysis carried out to evaluate the validity and reliability of the measurement model. The Consistent PLS algorithm and Consistent Bootstrapping with 5000 samples were used for this analysis. SmartPLS 3 (Ringle et al., 2015) was used for the measurement model analysis.

4.4.1 Factor loadings

Factor loadings refer to “the extent to which each of the items in the correlation matrix correlates with the given principal component” (Pett et al., 2003). All of the items in this study had factor loadings that were above the threshold of 0.7 as recommended by Chin (2010); Hair et al. (2019); Hair Jr et al. (2017)

The factor loadings for this study are presented in Table 14 below. The values ranged from 0.701 to 0.979 and were also statistically significant as indicated by p values <0.05 and t values >1.96 (at a significance level of 5%).

Table 14: Factor Loading Results

	EV	FVP	FVQ	P Value	T Statistic
EV1	0.907			0.000	36.895
EV2	0.883			0.000	36.865
EV3	0.940			0.000	54.656
EV4	0.701			0.000	12.819
FVP1		0.886		0.000	32.784
FVP2		0.833		0.000	20.720
FVP3		0.804		0.000	21.330
FVP4		0.917		0.000	26.820
FVQ1			0.888	0.000	25.810
FVQ2			0.871	0.000	32.393
FVQ3			0.842	0.000	24.024
FVQ4			0.831	0.000	23.228
FVQ5			0.899	0.000	40.826
FVQ6			0.775	0.000	15.812

4.4.2 Discriminant validity

Discriminant validity refers to the extent to which a construct is empirically different from other constructs (Hair Jr et al., 2017). Cross-loadings and the Heterotrait-Monotrait Ratio (HTMT) were used to assess discriminant validity in this study.

Cross-loadings assess an indicator/item's outer loading on its associated construct compared to its cross-loading/correlation to other constructs in the model; for the model to have an adequate level of discriminant validity, the items in a model must have outer loading values that are higher for their associated constructs compared to their cross-loading values on other constructs in the

model (Chin, 2010; Hair et al., 2019; Hair Jr et al., 2017). The cross-loading results are presented in Table 15 below. All the indicators in the study had higher loadings for their associated constructs than their cross-loadings on other constructs in the model.

Table 15: Discriminant Validity - Cross-Loadings

	EV	FVP	FVQ	CTD	P Value	T Statistic
EV1	0.907	0.733	0.812	0.594	0.000	36.895
EV2	0.883	0.688	0.774	0.591	0.000	36.865
EV3	0.940	0.742	0.822	0.633	0.000	54.656
EV4	0.701	0.579	0.628	0.415	0.000	12.819
FVP1	0.725	0.886	0.724	0.546	0.000	32.784
FVP2	0.666	0.833	0.690	0.552	0.000	20.720
FVP3	0.637	0.804	0.670	0.528	0.000	21.330
FVP4	0.718	0.917	0.782	0.617	0.000	26.820
FVQ1	0.766	0.794	0.888	0.574	0.000	25.810
FVQ2	0.783	0.744	0.871	0.590	0.000	32.393
FVQ3	0.731	0.718	0.842	0.588	0.000	24.024
FVQ4	0.744	0.652	0.831	0.638	0.000	23.228
FVQ5	0.818	0.743	0.899	0.630	0.000	40.826
FVQ6	0.672	0.598	0.775	0.607	0.000	15.812
CTD	0.654	0.652	0.708	1.000		

HTMT is a measure of similarity between latent variables (Henseler et al., 2015). A construct is considered to have an adequate level of discriminant validity when its HTMT value is less than the recommended threshold of 0.9; the closer to 0, the higher the level of discriminant validity the construct has (Hair et al., 2019; Henseler et al., 2015). All the constructs in this study had HTMT values less than the recommended threshold of 0.9, and the HTMT values ranged from 0.5999 to 0.887. The HTMT ratio results are presented in Table 16 below.

Table 16: Discriminant Validity - Latent Variable HTMT Ratios

	EV	FVP	FVQ	CTD
EV				
FVP	0.799			
FVQ	0.887	0.830		
CTD	0.652	0.651	0.711	

The Fornell-Larcker Criterion was not used as a measure of discriminant validity in this study due to assertions by Henseler et al. (2015) and Hair et al. (2019) that this measure is unsuited for discriminant validity assessment. Henseler et al. (2015) showed that the Fornell-Larcker criterion doesn't perform well when indicator/factor loadings on a construct only have slight differences, which is the case for the reflective indicators/factors in this study.

Based on the evaluation of cross-loadings and HTMT, an adequate level of discriminant validity has been attained in this study.

4.4.3 Reliability

Reliability is defined as the extent to which “a measurement is free of random or unstable error. A measure is reliable to the degree that it supplies consistent results” (Schindler, 2019). The most commonly used methods for establishing reliability are Cronbach's Alpha and Composite Reliability (CR); another, less common measure is rho_A. A construct is considered to have an adequate level of reliability when the composite reliability (CR), Cronbach's alpha, and rho_A values exceed the threshold value of 0.7 (Chin, 2010; Hair et al., 2019; Hair Jr et al., 2017).

Table 17 presents the results for Cronbach's alpha, composite reliability, and rho_A. The Cronbach's alpha values ranged from 0.917 to 0.978, the CR values ranged from 0.920 to 0.978, and the rho_A values ranged from 0.922 to 0.978; these values were also statistically significant as indicated by p values <0.05 and

t values >1.96 (at a significance level of 5%). All the constructs had Cronbach's alpha, CR, and rho_A values above the 0.7 threshold.

Table 17: Construct Reliability Measures

	Cronbach's Alpha			rho_A			Composite Reliability (CR)		
	Cronbach's Alpha	P Value	T Statistic	rho_A	P Value	T Statistic	CR	P Value	T Statistic
FVP	0.920	0.000	85.462	0.922	0.000	88.235	0.920	0.000	84.031
FVQ	0.940	0.000	100.437	0.942	0.000	108.869	0.941	0.000	102.377
EV	0.917	0.000	64.353	0.931	0.000	85.916	0.920	0.000	71.131

Based on the evaluation of Cronbach's alpha, composite reliability, and rho_A, an adequate level of reliability has been attained in this study

4.4.4 Convergent validity

Convergent validity is “the extent to which a measure correlates positively with alternative measures of the same construct” and is measured using average variance extracted (AVE). AVE is defined as “the grand mean value of the squared loadings of the indicators associated with the construct (i.e., the sum of the squared loadings divided by the number of indicators)”. For a construct to be considered to have an adequate level of convergent validity, its AVE value should not be lower than the recommended threshold of 0.5 (Hair Jr et al., 2017).

The results for AVE are presented in Table 18 below. The AVE values ranged from 0.726 to 0.956, and all values were above the recommended threshold of 0.5. These values were also statistically significant, as indicated by p values <0.05 and t values >1.96 (at a significance level of 5%).

Table 18: Average variance extracted (AVE) results

	Average Variance Extracted (AVE)	P Value	T Statistic
FVP	0.742	0.000	26.534
FVQ	0.726	0.000	22.709
EV	0.744	0.000	23.036

Based on the evaluation of the average variance extracted (AVE), an adequate level of convergent validity has been attained in this study.

4.5 Structural model analysis

The structural model reflects the relationships hypothesised in the conceptual framework. Hair Jr et al. (2017) and Hair et al. (2019) recommend that the structural model be assessed based on the R^2 , Q^2 , f^2 , and the statistical significance of the paths (using t statistics and p values). This recommendation has been followed in this study when assessing the structural model. The Consistent PLS algorithm and Consistent Bootstrapping with 5000 samples were used for this analysis. This was done to address the issue of inflated loadings that arise when using traditional PLS (Hair et al., 2011; Sarstedt et al., 2016).

Firstly, some comments on the use of model fit measures are in a PLS_SEM study made, and then the results of the structural model assessment are presented in the subsequent sections. SmartPLS 3 (Ringle et al., 2015) was used for the measurement model analysis.

4.5.1 Comments on model fit

Hair et al. (2019) advises caution against using model fit measures for PLS-SEM studies as (1) a Thorough assessment of these model fit measures is yet to be carried out, and therefore any thresholds suggested in the literature for model fit measures are still uncertain. (2) The algorithm used in PLS-SEM solutions is not based on reducing the divergence between observed and estimated covariance

matrices; therefore, chi-squared based model fit measures and their extensions that apply to covariance-based structural equation modelling (CB-SEM) do not apply to PLS-SEM. Hair Jr et al. (2017) and Hair et al. (2019) further argue that even bootstrap-based model fit measures such as the standardised root mean square residual (SRMR) should be used with “extreme caution” in PLS-SEM studies.

Other scholars, such as Lohmöller (1989); Rigdon (2012) and Hair Jr et al. (2017), have expressed scepticism regarding the value of the concept of model fit (as applied in CB-SEM) to PLS-SEM due to PLS-SEM’s focus being on the interaction between prediction and theory testing (Shmueli, 2010). Lastly, Hair Jr et al. (2017) argue that pursuing model fit measures that fall within the suggested thresholds (for example, by removing indicators) may hurt a PLS-SEM model’s predictive ability. Lastly, in PLS-SEM, the goodness-of-fit of a model is assessed in terms of how well it predicts the endogenous variables/constructs (Hair Jr et al., 2017; Sarstedt et al., 2014).

As a result of the above reasons, model fit measures have not been reported for this study.

4.5.2 Structural model predictive power (R^2)

The coefficient of determination (R^2) is “a measure of a model’s predictive power and is calculated as the squared correlation between a specific endogenous construct’s actual and predicted values. The coefficient represents the exogenous latent variables’ combined effects on the endogenous latent variable” (Hair Jr et al., 2017). For a model to have an adequate level of predictive power, the recommended threshold for the R^2 value is >0.2 (Wong, 2013). For complex models with large samples, using R^2 to assess a model’s predictive power may be fraught with a bias towards models with many exogenous variables, as adding more exogenous variables to a model tends to increase the R^2 value, in such cases, it is recommended that the adjusted R^2 measure be used instead (Hair Jr

et al., 2017). This study made use of the R^2 as it was not deemed to be complex, and the sample size was not large. Additionally, the differences between the R^2 and adjusted R^2 values were negligible.

The results of R^2 analysis for this study are presented in Table 19. The R^2 values in the study ranged from 0.425 to 0.502; the values were all above the recommended threshold value of 0.2 and were also statistically significant, as indicated by p values <0.05 and t values >1.96. Therefore, the structural model can be deemed to have an adequate level of predictive power.

Table 19: R^2 values

	R^2	T Statistic	P Value	2.5%	97.5%	Adjusted R^2
EV	0.428	6.433	0.000	0.294	0.555	0.425
FVP	0.425	6.013	0.000	0.289	0.567	0.423
FVQ	0.502	7.768	0.000	0.373	0.623	0.499

4.5.3 Structural model predictive relevance (Q^2)

Q^2 is a measure that indicates a model's "out of sample predictive power" or predictive relevance. Models with predictive relevance can accurately predict data that was not used in model estimation (Stone, 1974, as cited in Hair Jr et al., 2017). A Q^2 value of > 0 is sufficient for a model to be considered to have predictive relevance (Hair Jr et al., 2017).

The results of Q^2 analysis for this study are presented in Table 20. The Q^2 values in the study ranged from 0.315 to 0.359; the values were all above the recommended threshold value of 0. Therefore, the structural model can be deemed to have an adequate level of predictive relevance.

Table 20: Q^2 Values

	$Q^2 (=1-SSE/SSO)$
EV	0.315
FVP	0.311
FVQ	0.359

4.5.4 Structural model effect sizes (f^2)

f^2 is a measure that's used to determine the substance of effect that an exogenous construct has on an endogenous construct in a model by calculating the change in the R^2 value when a particular exogenous construct is omitted from the model, this change in R^2 can be used to gauge whether the omitted construct has a substantial effect on the endogenous construct (Hair et al., 2019; Hair Jr et al., 2017). f^2 values that are <0.02 indicate that there is no effect. f^2 values of >0.02 , >0.15 and >0.35 represent small, medium and large effects, respectively (Cohen, 1988, as cited in Hair Jr et al., 2017).

The results of f^2 analysis for this study are presented in Table 21. The f^2 values in the study ranged from 0.740 to 1.007. These are elaborated on in sections 4.5.6 to 4.5.8, where the hypotheses are discussed.

Table 21: f^2 Values

	Original Sample (O)	T Statistic	P Value	2.5%	97.5%
CTD -> EV	0.749	3.517	0.000	0.415	1.246
CTD -> FVP	0.740	3.225	0.001	0.406	1.309
CTD -> FVQ	1.007	3.714	0.000	0.594	1.653

4.5.5 Path coefficients

The results of path coefficient analysis for this study are presented in Table 22. The path coefficient values in the study ranged from 0.652 to 0.708. These are elaborated on in sections 4.5.6 to 4.5.8, where the hypotheses are discussed.

Table 22: Path Coefficients

	Original Sample (O)	T Statistic	P Value	2.5%	97.5%
CTD -> EV	0.654	12.670	0.000	0.542	0.745
CTD -> FVP	0.652	11.899	0.000	0.537	0.753
CTD -> FVQ	0.708	15.318	0.000	0.611	0.789

4.5.6 H1: Customer touch-point digitalisation has a strong positive influence on Functional value (price)

The results show that CTD has a strong and significant positive relationship with FVP (path coefficient = 0.652, t value = 12.670, p value = 0.000). The results also showed that CTD has a large substantive effect FVP (f^2 effect size = 0.740, t value = 3.225, p value = 0.001).

Therefore, H1 was supported.

4.5.7 H2: Customer touch-point digitalisation has a strong positive influence on Functional value (quality)

The results showed that CTD has a strong and significant positive relationship with FVQ (path coefficient = 0.708, t value = 15.318, p-value = 0.000). The results also showed that CTD has a large substantive effect FVQ (f^2 effect size = 1.007, t value = 3.714, p value = 0.000).

Therefore, H2 was supported.

4.5.8 H3: Customer touch-point digitalisation has a strong positive influence on Emotional value.

The results showed that CTD has a strong and significant positive relationship with EV (path coefficient = 0.654, t value = 12.670, p-value = 0.000). The results also showed that CTD has a large substantive effect FVQ (f^2 effect size = 0.749, t value = 3.517, p value = 0.000).

Therefore, H3 was supported.

Moderation analysis

Moderation refers to a scenario in which the relationship between two constructs is affected by the values of a third variable, which is referred to as a moderator

variable. The moderator variable (or construct) alters the strength or even the direction of a relationship between two constructs in the model (Hair Jr et al., 2017). The moderating effects of age and gender were analysed as part of this study. Age moderation was assessed by creating moderating effects on the latent constructs FVP, FVQ and EV, these effects were named Mod_CTD-FVP, Mod_CTD-FVQ and Mod_CTD-EV respectively. The results from the evaluation of the moderating effect of age are presented in Table 25. Multi-group analysis was performed to assess the moderating effect of gender on the relationships in the model. Table 23 and Table 24 present the results of this analysis.

Table 23: PLS Multi-Group Analysis Results

	Path Coefficients-difference (Male - Female)	P Value original 1-tailed (Male vs Female)	P Value new (Male vs Female)
CTD -> EV	0.117	0.105	0.210
CTD -> FVP	-0.014	0.554	0.893
CTD -> FVQ	0.153	0.036	0.073

Table 24: Multi-Group Parametric Test Results

	Path Coefficients-difference (Male - Female)	T Statistic (Male vs Female)	P Value (Male vs Female)
CTD -> EV	0.117	1.254	0.211
CTD -> FVP	-0.014	0.131	0.896
CTD -> FVQ	0.153	1.744	0.083

Table 25: Moderating Effect of Age Results

	Original Sample (O)	T Statistic	P Value
Mod_CTD-EV -> EV	-0.015	0.210	0.834
Mod_CTD-FVP -> FVP	0.036	0.604	0.546
Mod_CTD-FVQ -> FVQ	-0.020	0.277	0.782

4.5.9 H4: Age and Gender will significantly moderate the relationship between customer touch-point digitalisation and Functional value (price).

The results showed that age and gender do not significantly moderate the relationship between customer touch-point digitalisation (CTD) and functional value (price)(FVP).

Age: Path coefficient = 0.036, t value = 0.604, p value = 0.546. The t value for the path coefficient was below the threshold of 1.96 and the p value did not meet the <0.05 threshold.

Gender: Path co-efficient difference = -0.014, t value = 0.131, p value = 0.896. The t value for the path coefficient difference was below the threshold of 1.96 and the p value did not meet the <0.05 threshold.

Therefore, H4 is not supported.

4.5.10 H5: Age and Gender will significantly moderate the relationship between customer touch-point digitalisation and Functional value (quality).

The results showed that age and gender do not significantly moderate the relationship between customer touch-point digitalisation (CTD) and functional value (quality)(FVQ).

Age: Path coefficient = -0.020, t value = 0.277, p value = 0.782. The t value for the path coefficient was below the threshold of 1.96 and the p value did not meet the <0.05 threshold.

Gender: Path co-efficient difference = 0.153, t value = 1.744, p value = 0.083. The t value for the path coefficient difference was below the threshold of 1.96, and the p value did not meet the <0.05 threshold.

Therefore, H5 is not supported.

4.5.11 H6: Age and Gender will significantly moderate the relationship between customer touch-point digitalisation and Emotional value.

The results showed that age and gender do not significantly moderate the relationship between customer touch-point digitalisation (CTD) and emotional value (EV).

Age: Path coefficient = -0.015, t value = 0.210, p value = 0.834. The t value for the path coefficient was below the threshold of 1.96 and the p value did not meet the <0.05 threshold.

Gender: Path co-efficient difference = 0.117, t value = 1.254, p value = 0.211). – the t value for the path coefficient difference was below the threshold of 1.96 and the p value did not meet the <0.05 threshold.

Therefore, H6 is not supported.

4.6 Summary of the results

207 valid responses were analysed, the demographics showed that there was an even split among males and females (50.72% and 49.28% respectively). The ages of respondents ranged from the 18 - 24 to the 54 – 64 categories, with the most respondents (65) falling into the 24 – 35 age category. The data was revealed to be non-normally distributed.

Measurement and structural model analysis was conducted on the data collected as is common practice in PLS-SEM studies. The measurement model analysis assessed the reliability and validity of the model, and both were found to be adequate. In assessing the structural model, R^2 , Q^2 , f^2 and path coefficients were the measures that were used.

Based on the data collected, it was found that customer touch-point digitalisation has a strong positive influence on functional value (quality), functional value (price) and emotional value. However, there was no evidence to support that age and gender moderate any of these relationships. The results of the hypotheses testing are outlined in Table 26.

Table 26: Hypothesis Testing Summary

	Hypothesis	Outcome
H1	Customer touch-point digitalisation has a strong positive influence on Functional value (price)	Supported
H2	Customer touch-point digitalisation has a strong positive influence on Functional value (quality)	Supported
H3	Customer touch-point digitalisation has a strong positive influence on Emotional value	Supported
H4	Age and Gender will significantly moderate the relationship between Customer touch-point digitalisation and Functional value (price).	Not Supported
H5	Age and Gender will significantly moderate the relationship between Customer touch-point digitalisation and Functional value (quality).	Not Supported
H6	Age and Gender will significantly moderate the relationship between Customer touch-point digitalisation and Emotional value	Not Supported

The model as designed on the SmartPLS application is shown in Figure 12 below.

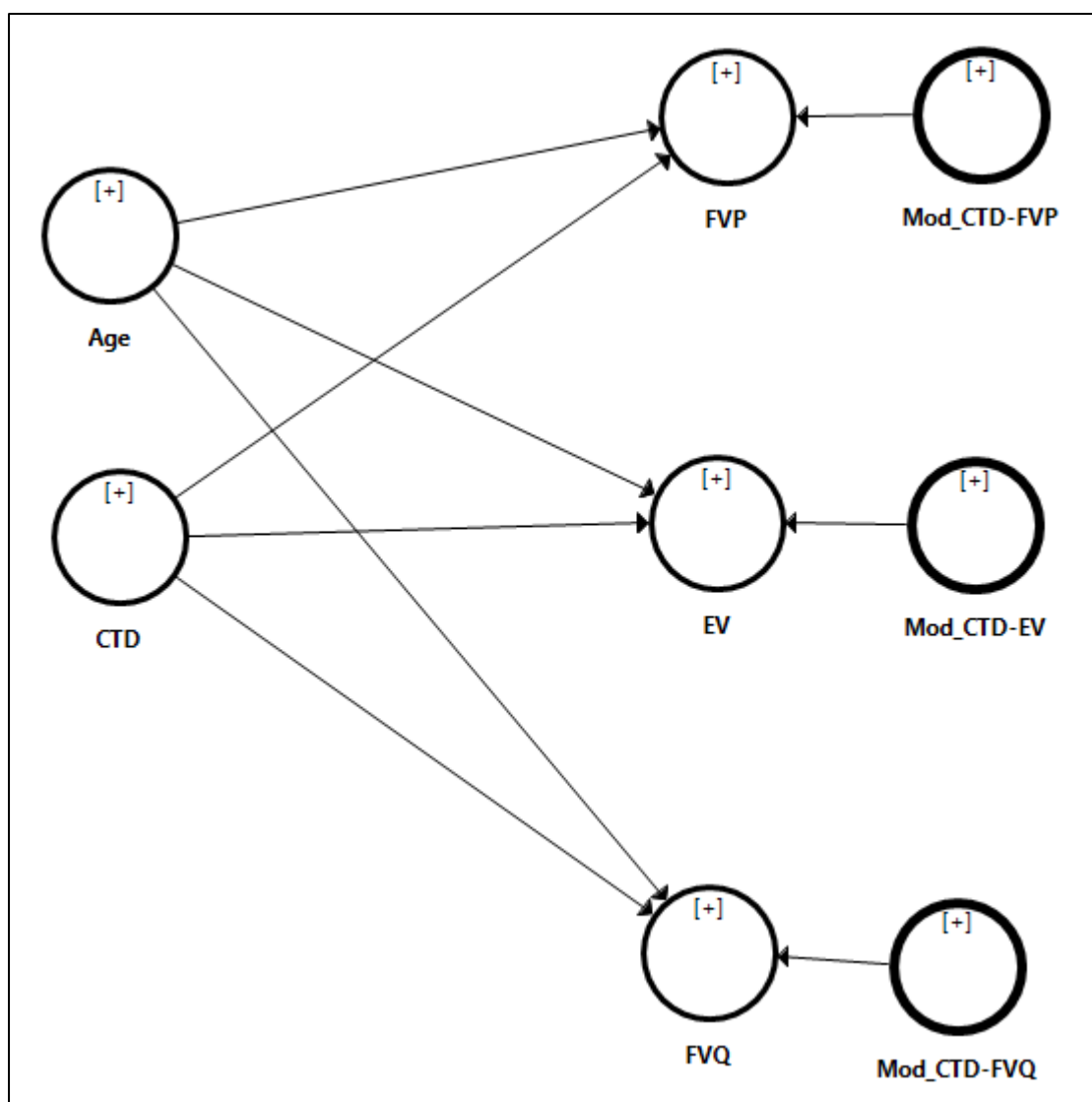


Figure 12: SmartPLS Model

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter discusses and explains the results of the study that were presented in Chapter 4. The main problem this study undertook to address was the lack of clarity on whether customer touch-point digitalisation influences the CPV of a VAF product in the SA market. The results obtained from this research are integrated with the existing literature to generate meaningful insights within the context of the objective, problem, and questions outlined by this research. In this chapter the demographic characteristics of the research participants as they pertain to the research questions are discussed, the outcomes of hypothesis testing and the implications of the results are then delved into. To conclude the chapter, a synopsis of the results and discussion is stipulated.

5.2 Respondents' demographic characteristics

5.2.1 Age and Gender's influence on the relationship between customer touch-point digitalisation and CPV

This study aimed to investigate whether age and gender significantly moderate the relationship between the dimensions of CPV, namely, functional value (price), functional value (quality) and emotional value and customer touch-point digitalisation and in the South African VAF market context.

The results from the study were that age and gender do not play a significant moderating role in the relationship between customer touch-point digitalisation and CPV in the South African VAF market. This means that regardless of gender

or age, South African consumers who view their VAF provider's level of customer touch-point digitalisation as high will likely ascribe a high CPV to their VAF provider and vice versa, meaning that the benefits of digitalisation are experienced uniformly across male and females of different ages in the SA VAF context.

This study's findings are in contrast with previous research into technology adoption in both organisational and consumer contexts and internet and mobile banking adoption, which has found that age and gender are significant moderating variables in the relationship between behavioural intention and its antecedents (Magsamen-Conrad et al., 2015; Merhi et al., 2021; Morris et al., 2005; Safeena et al., 2014; Sakthivel & Ramu, 2018; Venkatesh et al., 2012; Yilmazer, 2005). These studies into technology, internet and mobile banking adoption are the only basis to which the findings from this study can be compared to, as previous studies into CPV (Boksberger & Melsen, 2011; Fandos Roig et al., 2006; Hernandez-Ortega et al., 2017; Parente et al., 2015; Sánchez et al., 2006; Sweeney & Soutar, 2001) have so far been focused on the construct's dimensionality, development of scales and testing of scales in new contexts, and have not focused on whether age and gender have a significant influence on the formation of CPV.

A possible explanation for these results is that the benefits derived from the digitalisation of customer touch-points, such as reduced costs, convenience, reduced errors, improved service quality and improved security (Ahmad & Al-Zu'bi, 2011; Demirci Orel & Kara, 2014; Mostafa, 2020; Singh & Srivastava, 2018) are applicable to all consumers across the age and gender continuum. Additionally, the findings from determinants of bank selection research did not identify the digitalisation-related factors as being age or gender-dependent. The findings emanating from this research are aligned with those from research done by Sharma et al. (2015) and Kim (2016), who investigated whether age and gender are moderating variables internet banking and hotel tablet usage

adoption respectively, and found that in their research contexts, there was no significant moderating role played by both age and gender.

5.3 Customer touch-point digitalisation has a strong positive influence on Functional value (price)

The results showed that there is evidence that customer touch-point digitalisation has a strong positive influence on the CPV dimension functional value (price). This implies that as the level of customer touch-point, as perceived by VAF customers, increases, so too does the level of functional value (price) that customers in the South African market imbue a VAF provider's offerings with. The R^2 value of 0.426 suggests that 42.6% of the variance in functional value (price) can be attributed to customer touch-point digitalisation as per the conceptual model proposed. The path coefficient value of 0.652 also corroborates this, it signifies a strong positive relationship between the customer touch-point digitalisation and functional value (price) constructs. The relationship between customer touch-point digitalisation and functional value (price) was the weakest, only slightly weaker than the relationship with emotional value.

This is also reflected in that 76% of respondents who reported that their VAF provider's level of digitalisation is high or slightly high agreed (strongly or somewhat) that the amount they pay for services is fair, compared to 6% of those who reported that their VAF provider's level of digitalisation was either slightly low or low. A large proportion (75%) of respondents who viewed their VAF provider's level of digitalisation as high or slightly high agreed (strongly or somewhat) that the monthly maintenance fees charged by their VAF provider are acceptable, compared to 3% of those who reported that their VAF provider's level of digitalisation was either slightly low or low.

A possible explanation for this is that digitalisation reduces the cost of transacting for both firms and customers and positively influences customer loyalty and

satisfaction by making transacting more convenient and cheaper (Ahmad & Al-Zu'bi, 2011; Mostafa, 2020). Along with the fact that low charges on services, availability of self-banking facilities, convenience and electronic services play a key role in the bank choices consumers make, as per bank selection determinants studies (Aregbeyen, 2011; Blankson et al., 2007; Phuong Ta & Yin Har, 2000).

Therefore, the findings emanating from this study regarding the relationship between customer touch-point digitalisation and functional value (price) are consistent with findings from prior research.

5.4 Customer touch-point digitalisation has a strong positive influence on Functional value (quality)

The results showed that customer touch-point digitalisation has a strong positive influence on the CPV dimension functional value (quality). Meaning that as the level of customer touch-point, as perceived by VAF customers, increases, so too does the level of functional value (quality) that customers in the South African market imbue a VAF provider's offerings with. The R^2 value of 0.502 suggests that 50.2% of the variance in functional value (quality) can be attributed to customer touch-point digitalisation as per the conceptual model proposed. This is also corroborated by the path coefficient value of 0.708, which signifies a strong positive relationship between the customer touch-point digitalisation and functional value (quality) constructs. The relationship between customer touch-point digitalisation and functional value (quality) was the strongest.

This is also reflected in that 100% of respondents who reported that their VAF provider's level of digitalisation is high or slightly high agreed (strongly or somewhat) that their VAF provider's processes are fast and reliable, compared to 18% of those who reported that their VAF provider's level of digitalisation was either slightly low or low. A large proportion (86%) of respondents who viewed

their VAF provider's level of digitalisation as high or slightly high agreed (strongly or somewhat) that the level of quality they receive from their VAF provider is "acceptable in comparison with other entities", compared to 18% of those who reported that their VAF provider's level of digitalisation was either slightly low or low. 93% of respondents whose VAF providers' digitalisation level is high or slightly high agreed (strongly or somewhat) that they can make transactions and get service at convenient times compared to 18% of those who reported low or slightly low digitalisation levels.

A possible explanation for this is that digitalisation reduces errors, improves service quality, enhances service speed and allows consumers to transact at any time and location (Demirci Orel & Kara, 2014; Mostafa, 2020; Singh & Srivastava, 2018). Along with the fact that convenience, quick or prompt service, electronic services and service quality play a vital role in the bank choices consumers make, as per bank selection determinants studies done in other African countries (Agarwal, 2017; Aregbeyen, 2011; Hinson et al., 2013).

Therefore, the findings emanating from this study regarding the relationship between customer touch-point digitalisation and functional value (quality) are consistent with findings from prior research.

5.5 Customer touch-point digitalisation has a strong positive influence on Emotional value

The results showed that there is evidence that customer touch-point digitalisation has a strong positive influence on the CPV dimension emotional value. This implies that as the level of customer touch-point, as perceived by VAF customers, increases, so too does the level of emotional value that customers in the South African market imbue a VAF provider's offerings with. The R^2 value of 0.428 means that 42.8% of the variance in emotional value is attributable to customer touch-point digitalisation as per the conceptual model proposed. The path

coefficient value of 0.654 also supports this, it signifies a strong positive relationship between the customer touch-point digitalisation and emotional value constructs.

This is also reflected in that 90% of respondents who reported that their VAF provider's level of digitalisation is high or slightly high agreed (strongly or somewhat) that they are happy with the VAF provider they are using, compared to 16% of those who reported that their VAF provider's level of digitalisation was either slightly low or low. A large proportion (79%) of respondents who viewed their VAF provider's level of digitalisation as high or slightly high agreed (strongly or somewhat) that their VAF provider handles their information in a confidential and private manner, compared to 24% of those who reported that their VAF provider's level of digitalisation was either slightly low or low.

These results can be possibly explained by prior research, which found that digitalisation improves security, saves time and is perceived to be better than employee assisted transacting (Ahmad & Al-Zu'bi, 2011; Meuter et al., 2000; Mostafa, 2020). Along with the finding that easy access to money, security, and "frustration-free" service and play a vital role in the bank choices consumers make, as per bank selection determinants studies (Blankson et al., 2007).

Therefore, the findings emanating from this study regarding the relationship between customer touch-point digitalisation and emotional value are consistent with findings from prior research.

5.6 Conclusion of results discussion

This study sought to assess whether customer touch-point digitalisation has an influence on CPV in the South African VAF market. The moderating effect of age and gender on the relationship between customer touch-point digitalisation and the dimensions of CPV was also investigated to determine whether it is aligned with findings from technology adoption research.

The results found that customer touch-point digitalisation does have a strong and significant influence on all the dimensions of CPV. This influence being the strongest on functional value (quality) and weakest on functional value (price). Respondents who reported a high level of digitalisation tended to agree with positive statements relating to their VAF provider's functional (price), functional (quality) and emotional value dimensions.

These results can be explained by findings from previous research into the benefits of digital customer touch-points and determinants of bank selection, which revealed that digitalisation offers benefits such as reducing transaction costs and errors, providing convenience, improving service quality, speed, and security. These benefits are aligned with important factors that affect bank selection choices by consumers, such as the desire for convenience, security, prompt and accurate service and low costs. These results imply that VAF providers can achieve benefits over and above cost savings from investing in digitalising their customer touch-points and that touch-point digitalisation could potentially give them the edge over competitors who have not digitalised their customer touch-points.

The results also showed that age and gender do not significantly moderate the relationship between customer touch-point digitalisation and the dimensions of CPV. This was contrary to findings from technology adoption research and can possibly be explained by the benefits derived from the digitalisation of customer touch-points, such as reduced costs, convenience, reduced errors, improved service quality and improved security (Ahmad & Al-Zu'bi, 2011; Demirci Orel & Kara, 2014; Mostafa, 2020; Singh & Srivastava, 2018) being generally applicable to all consumers across the age and gender continuum.

CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

The study sought to assess whether customer touch-point digitalisation has an influence on CPV in the South African VAF market. This chapter presents a conclusion of the study with regards to the research objectives defined in the beginning of this report. Recommendations and suggestions for further research are also provided.

6.2 Conclusions:

6.2.1 Research question 1: Does customer touch-point digitalisation have an influence on customer perceived value in the VAF product context?

The study found evidence that customer touch-point digitalisation does have a strong positive influence on CPV in the South African VAF context. The relationship was assessed via the functional value (price), functional value (quality) and emotional value dimensions of CPV that were outlined by previous CPV research (Fandos Roig et al., 2006; Parente et al., 2015; Sweeney & Soutar, 2001). These findings are consistent with and can be explained by findings from previous research into the benefits of digitalisation and determinants of bank selection, which revealed that digitalisation offers benefits such as reducing transaction costs and errors, providing convenience, improving service quality, speed, and security.

These benefits are aligned with important factors that affect bank selection choices by consumers, such as the desire for convenience, security, prompt and accurate service and low costs. These results imply that VAF providers can achieve benefits over and above cost savings from investing in digitalising their customer touch-points, and that touch-point digitalisation could potentially give them an advantage over competitors who have not digitalised their customer touch-points. This study has also managed to contribute to the theory on CPV and digital business by providing empirical evidence that was previously scant on the nature of the relationship between digitalisation of customer touch-points and CPV, and thus building an empirical link between customer touch-point digitalisation and CPV.

6.2.2 Research question 2: Do age and gender moderate the relationship between customer touch-point digitalisation and CPV and its dimensions?

The study found evidence that age and gender do not significantly moderate the relationship between customer touch-point digitalisation and any of the CPV dimensions in the South African VAF context. Age and gender have long been seen as moderators in technology adoption research and technology usage-related research (Magsamen-Conrad et al., 2015; Morris et al., 2005; Sakthivel & Ramu, 2018; Venkatesh et al., 2012), but the results from this study revealed that in the context of customer touch-point digitalisation's influence on VAF products' CPV, these two variables are not significant moderators.

A possible explanation for these results is that the benefits derived from the digitalisation of customer touch-points, such as reduced costs, convenience, reduced errors, improved service quality and improved security (Ahmad & Al-Zu'bi, 2011; Demirci Orel & Kara, 2014; Mostafa, 2020; Singh & Srivastava, 2018) are applicable to all consumers across the age and gender continuum. These results were consistent with those from research done by Sharma et al. (2015)

and Kim (2016), who investigated the moderating effect of age and gender in internet banking and hotel tablet usage adoption respectively, and found that in their research contexts, there was no significant moderating role played by both age and gender.

6.3 Implications and recommendations

Prevailing conditions in the operating environment present opportunities and threats to VAF providers. Opportunities such as increasing internet access, an increasing level of ecommerce usage, increasing levels of digital banking adoption and changing consumer mobility needs and habits (Labuschagne, 2021; Moyo, 2021; Schmidt et al., 2019; Standard Bank South Africa, 2020; We are Social, 2021), along with threats such as contracting economic growth, growing unemployment, decreasing vehicle sales and a highly competitive environment (NAAMSA, 2021b; Statistics South Africa, 2020a, 2021a, 2021b) are challenging how VAF providers operate and deliver value to customers.

The results from this study imply that there is value to be derived for both VAF providers and customers from the digitalisation of customer touch-points.

6.3.1 For VAF providers:

1. VAF providers that have relatively high levels of customer touch-point digitalisation should update their marketing messaging and communication to consumers to highlight this and the value that consumers can derive as a result. The findings from this study show that consumers are likely to assign a higher level of CPV to VAF providers with higher levels of customer touch-point digitalisation and vice versa, this implies that customers would choose to purchase VAF products from them instead of competitors. This recommendation is also supported by findings from bank switching behaviour studies, which found that better advertising

by competitors is a reason why consumers switch banks (Zhao et al., 2021).

2. VAF providers should develop a customer touch-point digitalisation rating that they can use to compare themselves against competitors and customer expectations with.
3. VAF providers that are starting their digital transformation journeys should prioritise digitalising customer touch-points as a starting point as it is an area that can produce tangible benefits to both the firms and their customers.
4. When assessing and prioritising initiatives for investment, VAF providers should incorporate a criterion that assesses whether initiatives will contribute towards the digitalisation of one or more customer touch-points.
5. To maximise the positive effects that result from the influence of customer touch-point digitalisation on CPV, VAF providers should educate their customers on the value of using digital touch-points and they should encourage their customers who are not using digital touch-points to switch to them by introducing incentives such as loyalty points or discounts for customers who meet certain digital touch-point usage targets.

6.3.2 For consumers:

Consumers should incorporate a VAF provider's level of customer touch-point digitalisation as a criterion when selecting which VAF provider to use when looking to purchase a vehicle. All other factors equal, the results from this research reveal that a consumer is expected to find more value from a VAF provider who has a higher level of customer touch-point digitalisation relative to competitors.

6.4 Limitations of the study

6.4.1 Sampling method limitations

The research may not be generalisable due to the sampling method selected (convenience sampling).

6.4.2 Data collection method limitations

The study was constrained by limitations that are inherent to the questionnaire data collection method employed. These are (as per Schindler (2019)):

- Only a limited number of questions can be asked.
- It's not possible to ask participants probing or clarifying questions.

These limitations were addressed by careful phrasing of the questions informed by prior research.

6.5 Suggestions for further research

6.5.1 Address sampling limitations

This study utilised a non-probability sampling method, namely, convenience sampling, this sampling method limits the ability to generalise the findings obtained. A recommendation to address the sampling method limitations is that a future study be done making using a probability sampling method to improve the generalisability of the findings. Another recommendation is for a larger sample size be utilised to improve the validity of the findings.

6.5.2 Investigate whether experience influences the relationship between customer touch-point digitalisation and CPV

Venkatesh et al. (2012) define experience as “the passage of time from the initial use of a technology by an individual” and found experience to be a moderating variable in the relationship between behavioural intention and its antecedents and behavioural use and its antecedents in their UTAUT2 theory. Research should be conducted to investigate whether a consumer’s level of experience with digital technologies would influence the relationship between customer touch-point digitalisation.

6.5.3 Test findings in different contexts

The context of a study matters because new contexts can lead to significant changes in theories, such as causing relationships that were originally theorised as insignificant to become significant, affecting the direction of relationships, and creating new relationships between variables (Alvesson & Kärreman, 2007; Johns, 2006). Research should be done to test the relationship between customer touch-point digitalisation and CPV in different contexts similar to how CPV scales have been tested in different contexts such as other industries and locations. This will grow the body of knowledge on how digitalisation impacts CPV.

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APPENDIX A – Consistency Matrix

The influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market							
Main Objective: To investigate the influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market							
Sub-Objectives	Literature Review	Hypotheses	Research questions	Variables (Independent & Dependent)	Source of data	Type of data	Analysis
To investigate the influence of customer touch-point digitalisation on functional value (price) in the VAF product context?	CPV: Zeithaml (1988) Sheth et al. (1991) Sweeney and Soutar (2001) Pura (2005) Sánchez et al. (2006) Fandos Roig et al. (2006) Meuter et al. (2000) Parente et al. (2015) Digitalisation:	Customer touch-point digitalisation has a strong positive influence on Functional value (price)	Does customer touch-point digitalisation have an influence on Functional value (price) in the VAF product context?	IV1 = customer touch-point digitalisation DV1 = Functional value (price)	Questionnaire Q9 TO Q12	Ordinal Data (5-point Likert scale)	DESCRIPTIVE ANALYSIS: • Mean • Standard deviation • Skewness • Kurtosis PARTIAL LEAST SQUARES STRUCTURAL EQUATION
To investigate the influence of customer touch-point digitalisation on functional value (quality) in the VAF product context?		Customer touch-point digitalisation has a strong positive influence on Functional value (quality)	Does customer touch-point digitalisation have an influence on Functional value (quality) in the VAF product context?	IV1 = customer touch-point digitalisation DV2 = Functional value (quality)	Questionnaire Q13 to Q18	Ordinal Data (5-point Likert scale)	

The influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market							
Main Objective: To investigate the influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market							
Sub-Objectives	Literature Review	Hypotheses	Research questions	Variables (Independent & Dependent)	Source of data	Type of data	Analysis
	Armstrong and Lee (2021) Mostafa (2020) Demirci Orel and Kara (2014); Kurz (2017); Singh and Srivastava (2018)						MODELLING (PLS-SEM): <u>Measurement model:</u> • Factor loadings • Cross-loadings • HTMT • Cronbach's alpha • Rho_A • Composite reliability • AVE <u>Structural Model:</u>
To investigate the influence of customer touch-point digitalisation on emotional value in the VAF product context?	<u>Determinants of bank selection:</u> Agarwal (2017); Aregbeyen (2011); Blankson et al. (2007); Garg et al. (2014); Hinson et al.	Customer touch-point digitalisation has a strong positive influence on Emotional value	Does customer touch-point digitalisation have an influence have an influence on Emotional value in the VAF product context?	IV1 = customer touch-point digitalisation DV3 = Emotional value	Questionnaire Q19 to Q22	Ordinal Data (5-point Likert scale)	

The influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market							
Main Objective: To investigate the influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market							
Sub-Objectives	Literature Review	Hypotheses	Research questions	Variables (Independent & Dependent)	Source of data	Type of data	Analysis
	(2013); Lelissa and Metasebiya (2017); Phuong Ta and Yin Har (2000); Sayani and Miniaoui (2013)						• R² • Q² • f² • Path coefficients • Multigroup analysis
To investigate the role age and gender play in the relationship between customer touch-point digitalisation and CPV	Morris et al. (2005) Sharma et al. (2015) Kim (2016) Sakkthivel and Ramu (2018)	Age and Gender play a significant moderating role in the relationship between Customer touch-point digitalisation and Functional value (price).	Do age and gender moderate the relationship between customer touch-point digitalisation and CPV and its dimensions?	<u>Moderating Variables:</u> MV1: Age MV2: Gender	Questionnaire Q4 to Q6	Categorical Data	
		Age and Gender play a significant moderating role in the		<u>Moderating Variables:</u> MV1: Age	Questionnaire Q4 to Q6	Categorical Data	

The influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market							
Main Objective: To investigate the influence of customer touch-point digitalisation on customer perceived value (CPV) within the South African vehicle and asset finance (VAF) market							
Sub-Objectives	Literature Review	Hypotheses	Research questions	Variables (Independent & Dependent)	Source of data	Type of data	Analysis
		relationship between Customer touch-point digitalisation and Functional value (quality).		MV2: Gender			
		Age and Gender play a significant moderating role in the relationship between Customer touch-point digitalisation and Emotional value.		<u>Moderating Variables:</u> MV1: Age MV2: Gender	Questionnaire Q4 to Q6	Categorical Data	
KEYWORDS - customer touch-point digitalisation; consumer perceived value; vehicle and asset finance; PLS-SEM							

APPENDIX B – Actual Research Instrument

CONSENT

Title of Project: Influence of customer touch-point digitalisation on perceived value in the SA VAF market

Does the fact that your vehicle and asset finance provider offers digital customer touch-points affect how you evaluate their value proposition?

My name is Sbusiso Tshuma, and I am a Master of Management in Digital Business student at the University of the Witwatersrand, Johannesburg. I am undertaking a research project as part of my studies, and I am investigating the influence of customer touch-point digitalisation on customer perceived value under the supervision of Dr. Thomas Anning-Dorson. As part of this project, I would like to invite you to take part in completing an online questionnaire. This will take approximately 5-10 minutes to complete, and it consists of 24 questions.

There will be no personal costs to you if you participate in this study. You may withdraw at any time you want to. The questionnaire will be completely confidential and anonymous as I will not be asking for your name or any identifying information, and the information you give will be held securely and not disclosed to anyone else.

If you have any questions during or afterwards about this research, feel free to contact me or my supervisor on the details listed below. This study will be written up as a research report which will be available online through the university library website.

Researcher:

Sbusiso Tshuma, 1578239@students.wits.ac.za

Supervisor:

Dr. Thomas Anning-Dorson, thomas.dorson.anning@wits.ac.za

- Yes, I consent
- No, I do not consent

QUESTIONNAIRE

Section 1: Qualifying questions

Q1 Have you purchased a personal use vehicle using a vehicle and asset finance (VAF) product before?

- Yes
- No

Q2 Do you reside in the Republic of South Africa?

- Yes
- No

Q3 Which VAF provider did you use for your most recent vehicle purchase.

- ABSA VAF
- Nedbank Motor Finance Corporation
- Standard Bank VAF
- WesBank
- Other

Section 2: Demographic information

Q4 Please indicate your age.

- 18 - 24 years
- 25 - 34 years
- 35 - 44 years
- 45 - 54 years
- 55 - 64 years
- 65 years and older

Q5 Please indicate your gender.

- Male
- Female
- Other

Section 3: Perceived level and use of digitalisation

Q6 I'm aware of the digital ways of transacting and servicing that my VAF provider offers (e.g., digital contracting, digital statements, online border letters, online query resolution etc.).

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q7 My VAF provider's level of customer touch-point digitalisation is.

- High
- Slightly High
- Moderate
- Slightly Low
- Low

Q8 I **MOSTLY** use digital channels (mobile app, website, USSD) to transact and get service from my VAF provider.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Section 4: Functional value (price) – Please answer these questions with your current or most recent VAF provider in mind.

VAF provider in this context refers to a financial institution that offers vehicle and asset finance products to private individuals.

Q9 The maintenance (monthly) fees charged by my VAF provider are acceptable.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q10 The amount I pay for services (e.g., statements, payments, letters, etc.) is fair.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q11 The cost I incur to make transactions is acceptable (e.g., parking, transportation, airtime etc.).

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q12 The level of service is good for the expense (both monetary and non-monetary) it causes me.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree

- Strongly Disagree

Section 5 Functional value (quality) - Please answer these questions with your current or most recent VAF provider in mind.

VAF provider in this context refers to a financial institution that offers vehicle and asset finance products to private individuals

Q13 The service I receive from my VAF provider as a whole is correct.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q14 The quality of the service provided by my VAF provider is consistent.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q15 The level of quality I receive from my VAF provider is acceptable in comparison with other entities.

- Strongly Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Strongly Disagree

Q16 My VAF provider's processes are fast and reliable.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree

- Somewhat Disagree
- Strongly Disagree

Q17 Overall, the quality of services provided by my VAF provider is very good.

- Strongly Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Strongly Disagree

Q18 I am able to make transactions and get service (e.g., statements, border letters, account changes) at convenient times.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Section 6 Emotional value - Please answer these questions with your current or most recent VAF provider in mind.

VAF provider in this context refers to a financial institution that offers vehicle and asset finance products to private individuals.

Q19 I am happy with the VAF provider I am using.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q20 When I interact with my VAF provider I feel relaxed.

- Strongly Agree
- Somewhat Agree

- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q21 In general I feel at ease concerning my VAF provider.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q22 My VAF provider handles my information in a confidential and private manner.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Section 7 Value Perception - Please answer these questions with your current or most recent VAF provider in mind.

VAF provider in this context refers to a financial institution that offers vehicle and asset finance products to private individuals

Q23 I would make use of my current VAF provider for my future VAF needs.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

Q24 I would recommend my current VAF provider to my friends and family.

- Strongly Agree

- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

APPENDIX C – Research Invitations



Figure 13: QR Code Poster Invitation

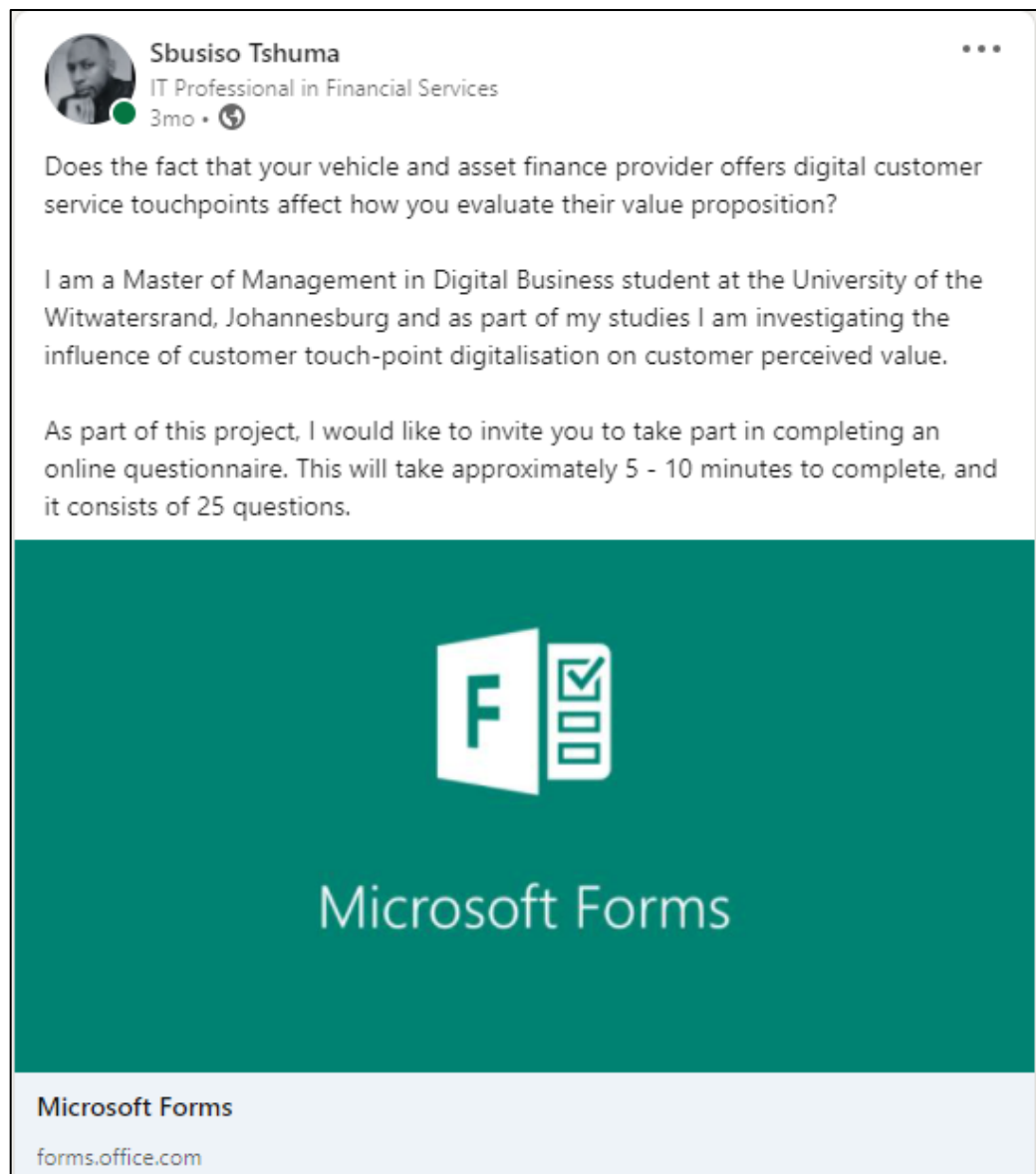


Figure 14: LinkedIn Invitation

Does the fact that your vehicle and asset finance provider offers digital customer touch-points affect how you evaluate their value proposition? I would like to invite you to take part in completing an online questionnaire. forms.office.com/r/NnsGE4Jz6R

#Wits #Survey #SouthAfrica



Figure 15: Social Media Invitation