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The effect of regulation on mobile financial services

Rasigan Govender

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A research article submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Business Administration

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DECLARATION

I, Rasigan Govender, declare that this research article 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 Business Administration in the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Rasigan Govender

Signed at Johannesburg

On the 31st day of March 2019.

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ABSTRACT

Unlike, other emerging markets within sub-Saharan Africa, South Africa has experienced many challenges in replicating the successes of mobile money services (MMS). Literature reports that the regulatory environment is a critical barrier to the success of financial services in low-trust and institutionally compromised developing countries. As such, this study aims to investigate the factors influencing consumers' behavioural intention to adopt MMS in South Africa, with a specific aim of establishing and investigating a linkage between the perceived effectiveness of the regulatory environment (PERE) and behavioural intention to adopt MMS. The proposed model, which is an extension to the combined UTAUT and TAM model, was validated through exploratory factor analysis, confirmatory factor analysis, and covariance-based structural equation modelling. These multivariate analyses were conducted on a data set comprising of 298 responses. The results of the study indicated that the proposed model accounted for 91.8% of the variance pertaining to the consumers' behavioural intention to adopt MMS. Thus, demonstrating a 5.40% improvement in explanatory and predictive power over the combined UTAUT and TAM model. The study results reported several strong influences on consumers' behavioural intention to adopt MMS, namely, PERE, security, risk, trust, and price value. The empirical results thereby provide valuable theoretical, policy and practical implementation contributions for researchers, system developers, service providers, governments, central banks, and regulatory bodies to consider in driving MMS adoption.

Keywords: Unified theory of acceptance and use of technology (UTAUT), Mobile money services (MMS), perceived effectiveness of the regulatory environment (PERE), security, risk, trust, price value (PV), institutionally compromised developing countries.

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LIST OF ABBREVIATIONS

AML	Anti-Money Laundering
ATM	Automated Teller Machine
ATT	Attitude
AVE	Average Variance Extracted
CB-SEM	Covariance-Based Structural Equation Modelling
CBSL	Central Bank of Sri Lanka
CDD	Customer Due Diligence
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CICO	Cash-in/Cash-out
CLF	Common Latent Factor
CMB	Common Method Bias
DV	Dependent Variable
EE	Effort Expectancy
EFA	Exploratory Factor Analysis
FC	Facilitating Conditions
FICA	Financial Intelligence Centre Act
Fintech	Financial Technology
GDP	Gross Domestic Product
GSMA	Groupe Speciale Mobile Association
HPE	Hedonic Performance Expectancy
ITU	Intention to Use
IV	Independent Variable
KMO	Kaiser–Meyer–Olkin
KYC	Know-your-customer

MFS	Mobile Financial Services
ML	Maximum Likelihood
MMO	Mobile Money Operator
MMS	Mobile Money Services
MNO	Mobile Network Operator
NDB	National Development Bank
NFC	Near Field Communication
OECD	Organisation for Economic Co-operation and Development
P2P	Person-to-person
PAF	Principal Axis Factoring
PCA	Principal Components Analysis
PCLOSE	*p*-value of Close Fit
PEOU	Perceived Ease of Use
PERE	Perceived Effectiveness of the Regulatory Environment
PU	Perceived Usefulness
PV	Price Value
RMSEA	Root Mean Square Error of Approximation
SE	Self-efficacy
SEC	Security
SEM	Structural Equation Modelling
SI	Social Influence
SRMR	Standardised Root Mean Square Residual
SSA	Sub-Saharan Africa
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TR	Trust

TRA	Theory of Reasoned Action
UPE	Utilitarian Performance Expectancy
UTAUT	Unified Theory of Acceptance and Use of Technology
VIF	Variance Inflation Factor

1 INTRODUCTION

1.1 Purpose of the Research Study

The study aims to investigate the factors influencing consumers' behavioural intention to adopt mobile money services (MMS) in South Africa, with the specific aim of establishing and investigating a linkage between the perceived effectiveness of the regulatory environment and a consumer's behavioural intention to adopt MMS.

1.2 The Context of the Research Study

1.2.1 The state of financial services in emerging markets

Emerging markets offer significant growth opportunities for the private sector as opposed to many developed markets, which are approaching stabilisation in growth (S. Asongu & Boateng, 2018). These growth opportunities are expected to result from superior economic growth, which is driven primarily by a rapidly increasing middle-class population (Pénard, Poussing, Zomo Yebe, & Ella, 2012). However, the current state of the financial services industry within many emerging markets poses a severe threat for such economies to fully realise their potential and adequately satisfy the needs of their citizens (Dermish, Kneiding, Leishman, & Mas, 2011).

A large and significant percentage of individuals within emerging markets remain underserved and unbanked, with limited or no access to formal financial services, respectively (Cole, Sampson, & Zia, 2011). Due to the poor infrastructure, reach, and high costs of formal financial services in such markets, most individuals are forced to use informal financial channels (Beshouri & Gravråk, 2010; Cole et al., 2011; Lawack, 2012). Although there is evidence indicating that informal financial markets are well established and operate reasonably well within emerging market economies, these channels are prone to high costs, theft, and limited service velocity, and offer inadequate financial products (Balasubramanian & Drake, 2015; Beck, Demirguc-Kunt, & Peria, 2007). This limits the ability of the

impoverished to pursue growth opportunities, save, repay debt and appropriately manage risk while hindering the country's ability to achieve widespread financial inclusion (Donner & Tellez, 2008; Donovan, 2012; Jack & Suri, 2014). Financial development and inclusion have been widely identified and supported as critical determinants of reducing inequality and spurring economic growth (Levine, 2005; Makina, 2017; Otchere, Senbet, & Simbanegavi, 2017). With the informal financial sector boasting an average size of 36% of the gross domestic product (GDP) across 76 emerging market economies, increasing the reach of formal financial services will be crucial to the development and progression of these economies in the coming years (Cole et al., 2011; Donovan, 2012; Levine, 2005). However, providing financial services to remote and rural areas through the banks' traditional delivery models or even the no-frills branch model has proven to be uneconomical for traditional financial players, mostly due to the small nominal deposits and transactions of the low-income segment (Gupta, 2013; Rangan & Lee, 2012).

1.2.2 The state of the telecommunications sector in emerging markets

In recent years, the global telecommunication industry has undergone significant transformation, which was driven by rapid and increased changes in consumer demands, as well as technological innovations (Gitu, 2013). Due to its dynamic nature and competitive landscape, mobile network operators (MNOs) are consistently seeking to develop new revenue streams; and financial services are among one of the most promising opportunities for MNOs to counter their declining growth (Chaouali, Souiden, & Ladhari, 2017; Gitu, 2013).

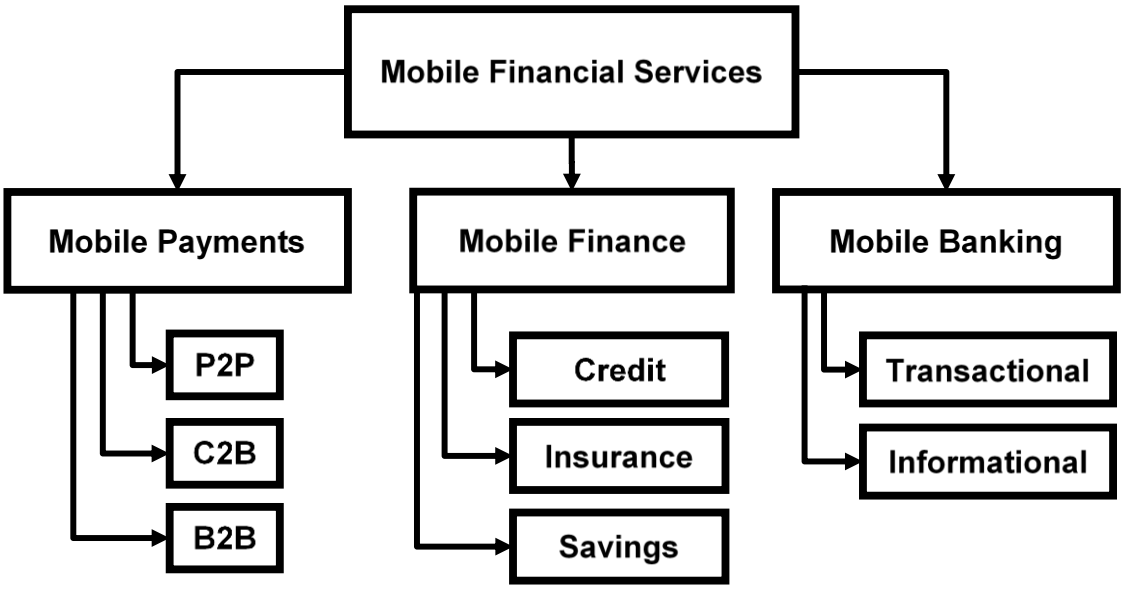
Emerging markets present a unique opportunity whereby countries with low formal financial services penetration have managed to achieve extensive mobile network coverage and superior mobile device penetration (Balasubramanian & Drake, 2015; Mothobi & Grzybowski, 2017; Schulze, 2014). Unlike the challenges faced by traditional financial service providers, mobile technology and devices significantly reduce the cost of serving the low-income segment by up to 50-70%, thereby making it economically viable to service the vast population that has once

been considered unprofitable (Cobert, Helms, & Parker, 2012; Gupta, 2013; Kikulwe, Fischer, & Qaim, 2014).

As such, governments regard mobile technology as a critical enabler for delivering reliable and low-cost financial services to the rural and impoverished population, while for-profit organisations view this as an opportunity to grow and reach a sizeable and untapped market segment (Gupta, 2013; Otchere et al., 2017; Rangan & Lee, 2012).

1.2.3 The mobile financial services sector within emerging markets

Since mobile financial services (MFS) exists at the intersection of the financial services and telecommunication industries, it comprises a diverse set of stakeholders and attracts several new players from MNOs and financial technology (fintech) start-ups to companies from adjacent industries (Donovan, 2012; Gupta, 2013; Rangan & Lee, 2012). Its range of services has grown to include payments, finance and banking as depicted in Figure 1 below (Gencer, 2011).



Legend:
P2P – indicates payments between people domestically and internationally
C2B – indicates payments between consumers and business
B2B – indicates payments between businesses

Figure 1: MFS Range [adapted from Gencer (2011)]

Beyond the enormous commercial opportunity presented by MFS, there is the potential to realise substantial social and economic benefits; none more so than the realisation of wide-scale financial inclusion. This has been identified by several policymakers and scholars around the world as a prerequisite for stimulating long-term economic growth, thereby lifting communities out of poverty (Kirui, Okello, Nyikal, & Njiraini, 2013; Mothobi & Grzybowski, 2017; Singh, 2012).

Recent literature indicates that the rapid expansion of the MFS industry has been instrumental in driving financial inclusion across the sub-Saharan Africa (SSA) region (S. Asongu & Boateng, 2018; Leng, Talib, & Gunardi, 2018; Rouse, 2017). As a result of significantly reduced costs as well as improved convenience, security and efficiency of formal financial services, S. Asongu (2016) argued that MFS promotes a savings culture among the lower-income segment. While, Ashta (2017) further substantiated that the ability to save has a significant impact on the bottom of the income pyramid since it provides lower-income consumers with opportunities to earn interest income, facilitate consumption smoothening, and give them a less risky alternative to investing and financing future growth activities. Other research studies also suggest that MFS can significantly influence the empowerment of women and mitigate income inequality (S. Asongu, 2015; Ojo, Janowski, & Awotwi, 2013).

At the end of 2017, the Groupe Speciale Mobile Association (GSMA, 2017) had recorded 279 active mobile money deployments in 90 countries across the globe. Emerging markets and, more specifically SSA, have become the leaders within the mobile money segment, boasting an impressive customer market share of 49.1% while accounting for $19.9 billion of the reported $31.5 billion nett transaction value for 2017 (GSMA, 2017; Makina, 2017).

A recent report by McKinsey Global Institute, quantified the potential impact that MFS could have on emerging markets as follows (Manyika, Lund, Singer, White, & Berry, 2016):

- Increase on the GDPs of emerging markets by up to 6%, which could total $3.7 trillion by 2025;
- Provide access to 1.6 billion unbanked people;

- Create an additional 95 million new jobs across various sectors of the economy;
- Provide benefits of up to $100 billion per year to governments by reducing leakage in public spending and tax collection;
- Provide significant benefits to financial service providers by reducing costs by up to 90% when migrating from traditional to digital delivery methods in serving consumers.

From the above, there is no doubting the significant growth MFS has experienced and its future potential as we migrate into a digital economy (Arner, Barberis, & Buckley, 2015). However, despite its promise and widespread implementation, to date, there remains a limited number of successful and sustainable mobile money deployments (Kleijnen, De Ruyter, & Wetzels, 2007; Sharma, Govindaluri, Al-Muharrami, & Tarhini, 2017). Some countries, such as Kenya, Tanzania, Uganda, Ghana, Philippines, China and India, have had great success while others have found mobile money deployments to be a challenge. Literature suggests that in low-trust environments, typically emerging markets, the regulatory environment is a key enabler to the success of the MFS industry. South Africa is one such example, where mobile money adoption has been a challenge (Lawack, 2012). The failed attempts by Vodacom and MTN to reach a sustainable customer base for their mobile money deployments underline the challenges that exist in different markets, and provides evidence that government, regulators, central banks, and service providers do not have a good sense for the factors that will lead to successful deployments (Jain, 2014; Lal & Sachdev, 2015).

1.2.4 Factors influencing consumer adoption of technology

In literature, there have been extensive studies seeking to investigate and evaluate the factors that influence consumers' adoption of technology, resulting in several technology adoption models being developed. A thorough review of the various models reveals that the technology acceptance model (TAM) and the unified theory of acceptance and use of technology (UTAUT) are two widely adopted models. However, Khalilzadeh, Ozturk, and Bilgihan (2017) recently

proposed combining the UTAUT and TAM model and provided empirical evidence of its superior explanatory power and predictive accuracy.

However, despite literature suggesting the importance of the regulatory environment in the adoption and growth of mobile money services (MMS), to the best of our knowledge, no previous technology adoption model or studies on consumer adoption of MMS incorporate the perceived effectiveness of the regulatory environment (PERE). As such, the study seeks to establish and investigate a linkage between the PERE and consumers' behavioural intention to adopt MMS in South Africa.

1.3 Problem Statement

1.3.1 Main problem

As discussed above, MFS has witnessed rapid expansion in emerging markets across SSA, which is driven primarily by the widespread adoption of MMS. However, South Africa has experienced many challenges in replicating the successes of MMS, with literature suggesting that the regulatory environment is a critical barrier to success in low-trust environments such as emerging markets.

Several models have been developed and used to explain and predict consumers' behavioural intention to adopt MMS across the world. However, all models and previous MMS studies seemingly overlook the linkage between PERE and consumers' behavioural intention to adopt MMS. As such, the study aims to investigate and evaluate this linkage, as well as the other primary factors that influence MMS adoption in South Africa.

1.3.2 Sub-problem 1

To investigate and evaluate the driving factors that influence consumers' behavioural intention to adopt MMS in South Africa.

1.3.3 Sub-problem 2

To investigate and evaluate if the PERE influences consumers' behavioural intention to adopt MMS in South Africa.

1.3.4 Sub-problem 3

To investigate and evaluate if gender, age, income, education and the use of formal banking affect consumers' behavioural intention to adopt MMS in South Africa.

1.4 The Significance of the Research

The significance and contribution of the research study are threefold, namely theoretical, policy, and practical implementation contribution.

1.4.1 Theoretical contribution

The study seeks to extend the combined UTAUT and TAM model, as proposed by Khalilzadeh et al. (2017), by incorporating the PERE and price value (PV) as latent variables to the existing model.

1.4.2 Policy contribution

Regarding policy contribution, the study aims to provide government, the central bank, and other regulatory makers with empirical evidence supporting the influence that PERE and PV have on consumers' behavioural intention to adopt MMS. Government can then use this information to adapt current laws and introduce new policies or regulations to foster greater MMS growth through increased consumer adoption.

1.4.3 Practical implementation contribution

Concerning the practical implementation contribution, the study aims to provide financial and non-financial service providers with a tool that can be used to

assess the market's risk and viability before the launch of an MMS and through the product and system design lifecycle.

1.5 Delimitations of the Research

The delimitations of the research study are as follows:

- The study will not conduct surveys on service providers as the research aims to explore the factors that influence customers' behavioural intention to adopt MMS.
- The survey will not extensively cover the rural areas of South Africa due to time and cost constraints.
- The study will not use the qualitative methodology in performing its research as the generation of numerical data is preferred. Therefore, the study will use a quantitative measure, namely, a survey.
- The questionnaire follows a structured format seeking responses via the form of a seven-point Likert scale for all measurement items.

1.6 Assumptions of the Research

The following assumptions were made:

- Participants of the survey will provide open and unbiased responses to questions and will answer to the best of their knowledge.
- The choice of participants for the survey will be appropriate.
- Participants will have a thorough understanding of what the questionnaire is asking.
- The areas covered will incorporate consumers from different ethnicities, gender, income levels and educational backgrounds.

2 LITERATURE REVIEW

In this chapter, the literature concerning the global MFS industry is reviewed, with a specific focus on MMS. This chapter evaluates the technological, economic and regulatory environments that must exist to facilitate widespread consumer adoption of MMS. In addition, the most prominent frameworks and theoretical models used in literature are investigated and analysed to understand the adoption of technology. Finally, the chapter is concluded by summarising the essential themes relevant to this study and the desired models that will be used to investigate the adoption of MMS in South Africa.

2.1 Background Discussion

This subsection provides an overview of the typical structure of a mobile money operator (MMO) within emerging markets, the potential of MMS, and its barriers to success.

2.1.1 The typical structure of an MMO

Extensive research has been conducted on the various structures and operating models of MMOs across the world, with literature suggesting three prominent and sustainable owner/operator models, each with its advantages and disadvantages. The models are: (i) MNO-led, (ii) financial institution-led, and (iii) MNO–financial institution partnerships (Beshouri & Gravråk, 2010; Donovan, 2012; Gupta, 2013; Lal & Sachdev, 2015).

The advantage of an MNO-led deployment is that the MMO owns the mobile network infrastructure, thereby gaining valuable access to consumers' mobile devices. In many instances, the MMO already possesses a well-entrenched physical presence within remote communities (Lal & Sachdev, 2015). Although autonomy and non-sharing of profits may be attractive and highly sort after, Ashta (2017) and Lal and Sachdev (2015), reasoned that such a model presents significant challenges; namely:

- Lack of financial capabilities, knowledge and experience in the development and distribution of financial services, which could hamper speed to market.
- Lack of regulatory compliance, which would likely restrict the product range or result in increased cost and time to obtain the necessary compliance.

In a financial institution-led deployment, although the MMOs possess the necessary financial services capabilities, experience and knowledge, they are reliant on MNOs to provide them access to consumers' devices and most often need to develop new distribution networks within remote areas, which has proven to be uneconomical (Gupta, 2013; Lal & Sachdev, 2015).

Literature, therefore, seems to promote the MNO–financial institution partnership and views this as the optimal model for MMOs. Such an operating model allows MNOs to attain the required financial services capabilities, knowledge and experience quickly while controlling costs. It provides banks with the opportunity to reach a vast and untapped market segment at significantly reduced costs through the existing distribution network of the MNO (Beshouri & Gravråk, 2010; Gupta, 2013).

Despite the seemingly attractive partnership, several recent global studies indicate that this partnership has not flourished as expected, primarily due to the challenges presented by the differing objectives and existing operational structures of MNOs and financial institutions (Gupta, 2013). Lal and Sachdev (2015), therefore, argued that the owner/operator model employed by the MMO should be predominately guided by the regulatory policies and regimes of the market within which it operates.

Irrespective of the owner/operator model, MMOs leverage of "agent networks" to achieve widespread service distribution. Agents are typically retail stores owned directly by MMOs or new/existing merchants who have been signed up by the MMO to its distribution network. These agents are located within proximity to consumers and provide services that include account registration, cash-in/cash-

out (CICO) and over the counter (OTC) transactions (Balasubramanian & Drake, 2015; Lal & Sachdev, 2015).

Although MMOs employ different fee structures, the literature suggests that the primary factor considered when establishing a fee structure is the specific consumer behaviour MMOs wish to encourage and believe will be beneficial to their service ecosystem (Lal & Sachdev, 2015). For example, charging higher fees for cash-out vs cash-in transactions has been shown to encourage customers to put money into the system while charging unregistered consumers higher fees has proven to encourage account registration (Balasubramanian & Drake, 2015). Figure 2 details the mechanics of a typical urban-to-rural P2P transfer.

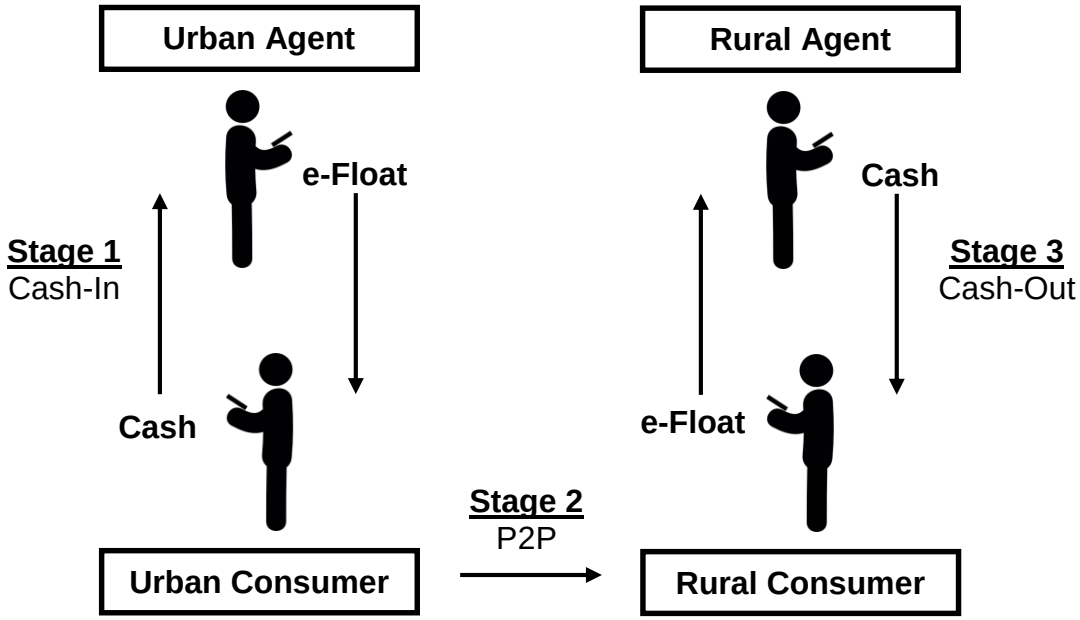


Figure 2: Typical urban-to-rural P2P transfer [adapted from Balasubramanian and Drake (2015)]

2.1.2 Challenges and barriers to success for the MFS industry

Despite its potential, there are still significant barriers and challenges that the MFS industry needs to overcome. Extensive research has been conducted to understand these challenges and barriers to success. A summary of the most significant findings is presented below.

Several research studies suggest that the most significant barrier is the lack of an MMO blueprint, which is required for successful deployment across countries. Vodafone's failed efforts to replicate the successes of M-Pesa in Kenya across other SSA countries typify the challenges that are present (Lawack, 2012; Rouse, 2017; Schulze, 2014). Arner et al. (2015), Gupta (2013), and Lal and Sachdev (2015) contended that this is primarily due to the significant country-specific differences that exist within the economic, regulatory, financial infrastructure and consumer demand realms.

Furthermore, these authors claim that for MFS to prosper, service offerings must be tailored to satisfy the real needs of the local market and not as perceived by the MMOs (Arner et al., 2015; Gupta, 2013; Lal & Sachdev, 2015). Gupta (2013) further substantiated that even within a country, there may be distinct differences in consumer needs between urban and rural areas.

Other well-documented challenges for MMOs are establishing, scaling and maintaining the agent/distribution network. Donovan (2012) argued that MMOs have now realised the importance of agents to their business models and overall sustainability. Literature suggests that there are two critical factors to be considered regarding the agent network (Donovan, 2012; Lal & Sachdev, 2015):

- Understanding the agent economics and scalability of the agent network.
- Ensuring adequate agent skills, competencies and trust.

Empirical evidence indicates that if the business model of the MMO does not incentivise agents adequately, there is a tendency that MFS is de-emphasised in the day-to-day operations of agents or discontinued altogether in favour of other agent-like businesses, such as airtime top-ups (Lal & Sachdev, 2015). Also, research conducted by the Bill & Melinda Gates Foundation revealed that agents must process around 30–50 transactions per day to justify the business case (Gupta, 2013). Therefore, although rapidly scaling the agent network can be beneficial in more adeptly servicing the consumer, it has proven to affect the agent economics adversely, which ultimately leads to a failed agent network model. As such, research promotes the approach employed by M-Pesa in Kenya,

where the agent network was grown in parallel with the user base (Cobert et al., 2012; Lal & Sachdev, 2015).

In other work, Balasubramanian and Drake (2015), stated that it is in the MMO's best interest to enrol agents with appropriate levels of skill and competence since these agents are customer-facing and entrusted with the responsibility of ensuring proper liquidity management. Research suggests that when liquidity issues are faced, service levels are susceptible to falling, which affects consumer confidence and trust in the system adversely (Balasubramanian & Drake, 2015; Lal & Sachdev, 2015).

Research conducted by Patel, Kunche, Mishra, Bhaiyat, and Joshi (2015) indicated that new technologies, such as near field communication (NFC), introduce a new variable to the field of MFS. Enhanced smartphone capabilities and NFC have the potential to extend the current boundaries of MFS beyond the realms of the MNO and will likely result in increased competition (Donovan, 2012; Lal & Sachdev, 2015). Rouse (2017) suggested that consumer reluctance to adopt new technologies is gradually diminishing as consumers become educated about the functionality and benefits of new technologies.

Finally, research by Donovan (2012) suggested that regulatory policies and regimes also pose a severe challenge to MFS. Depending on the country's risk appetite and the maturity of the financial services sector, the regulatory regime and policies established can either promote or inhibit the growth of MFS. Therefore, Lal and Sachdev (2015) strongly advocated for MMOs to build productive relationships with regulators, which will assist in ensuring that the services they deploy operate within the bounds of existing laws, and following regulations facilitate rather than hinder the development of MFS. Section 2.2, provides a detailed regulatory analysis.

2.2 The Regulatory Environment

As discussed briefly in the sections above and extensively in the literature, the regulatory regime and policies of a country can either promote or hinder the development of the MFS industry (Donovan, 2012; Mothobi & Grzybowski, 2017;

Shaikh, Hanafizadeh, & Karjaluoto, 2017). This section reviews the literature on the regulatory environment for MFS across the world to understand the successes and failures of the various policies and regimes that have been implemented.

2.2.1 The importance of regulation

Literature postulates that the primary objective of regulation is to minimise risk either by reducing conflict among the various parties or by reducing the probability of failure of the parties involved (Ashta, 2017). Since MFS exists at the intersection of the financial services and telecommunications industries, Donovan (2012) and Ashta (2017) argued that the risks inherent in MFS are those inherited from both industries as well as new risks that are unique to the MFS industry.

During the 1980s and 1990s, several African economies liberalised their financial services sectors; a process which was primarily driven by structural reform programmes promoted by the International Monetary Fund and World Bank (Otchere et al., 2017). However, despite further reforms and impressive financial services growth and development, many African economies remain considerably underdeveloped compared with their low-income counterparts across the world (Otchere et al., 2017).

Otchere et al. (2017) contended that the challenge for African policymakers and regulators is the pursuit of financial broadening through both financial inclusion and financial deepening. However, Rouse (2017) debated that it is precisely the lack of regulatory development that has been instrumental in the rapid expansion of MFS within many of these African economies.

In addition, post-global financial crisis regulations, which were aimed at redressing the resilience of the financial services sector, had the unintended consequence of promoting the rise of new fintech players (Arner et al., 2015; Otchere et al., 2017). The introduction of legislation and regulations, such as the Basel III accord, placed increased capital requirements and compliance obligations on traditional financial institutions, prompting these institutions to alter

their business models while limiting their ability to compete against fintech players (Arner et al., 2015; Shaikh et al., 2017).

Shaikh et al. (2017) argued that consumers are increasingly exposed to significant risks as fintech players continue to expand their service offerings in a mostly isolated manner while being subjected to relaxed and limited regulatory obligations within several markets. As such, Donovan (2012) stressed the importance of seeking better regulation around competition and interoperability, while Beshouri and Gravråk (2010) claimed that regulators would require compliance with customer due diligence (CDD), know-your-customer (KYC) and anti-money laundering (AML) legislation to combat fraud and criminal activities. However, Rouse (2017) cautioned against overregulation since it has been proven to undermine the economics of MFS.

Furthermore, several research studies recognised multiple channels for linkage between financial development and economic development, owing mainly to the multi-faceted nature of financial systems; therefore, Otchere et al. (2017) argued that a functional perspective is required in the development of policies.

2.2.2 The suggested approach to MMS regulation

Literature seemingly proposes that regulators and central banks strive to establish regulatory regimes that streamline regulations into a coherent and prudent set of regulations (Shaikh et al., 2017), while at a minimum provide clear guidelines on the following (Lal & Sachdev, 2015):

- Allowed entity types (e.g. MNO, banks, and fintech) that can own and operate MMS.
- Allowed entity types that can provide various related services, such as account registrations and CICO transactions.
- The implementation of CDD, KYC and AML rules.
- The legal certainty around the boundaries within which MMOs can operate.

Several authors advocated the adoption of a test-and-learn approach for developing MMS policies and regulations. Arner et al. (2015), Donovan (2012), and Lal and Sachdev (2015) debated that instead of adopting a prescriptive approach to regulation, which has been shown to stifle innovation, regulators should initially seek to establish non-restrictive guidelines while providing MMOs sufficient legal certainty and confidence that the services they develop and operate are within the confines of the law. Such a setup will effectively allow MMOs the freedom to experiment while providing regulators with the opportunity to observe how the industry evolves before developing more specific regulations (Arner et al., 2015; Donovan, 2012; Ehrbeck & Tarazi, 2011; Lal & Sachdev, 2015).

As discussed above and extensively in the literature, it is not clear that banks are necessarily the best-suited entities to be MMOs. Traditionally, they have found it challenging to serve the bottom of the pyramid profitably while they do not have the necessary physical infrastructure within the relevant remote areas. As such, several authors argued that regulations should be introduced to allow non-banks to own and operate as MMOs. Furthermore, these authors claimed that regulations allowing non-bank entities to conduct account registration and CICO transactions are vital to the growth and adoption of MMS (Arner et al., 2015; Donovan, 2012; Lal & Sachdev, 2015).

Finally, recent literature stated that registration processes, as required by banking regulations, are onerous and time-consuming and act as significant barriers to MMS adoption, while insisting that such measures are inconsistent with the actual level of risk presented by the typical small nominal transactions of mobile money consumers. As such, these authors call for regulations that allow proportional KYC/AML rules as well as remote account registrations (Arner et al., 2015; Lal & Sachdev, 2015).

2.2.3 Benefits of a supportive and enabling regulatory framework

Several authors argued that a supportive and enabling regulatory environment would allow MMOs to cater appropriately for the needs of the low-income segment while growing consumer confidence in the technology. In addition, they

suggested that such a regulatory framework will also encourage new players into the market, thus fostering the development of the MFS industry (Mothobi & Grzybowski, 2017; Rouse, 2017; Shaikh et al., 2017).

However, MFS has proven to be a complex ecosystem, which is primarily due to the lack of a globally accepted framework and disjointed regulatory regimes (S. Asongu & Boateng, 2018; Caluwaerts, 2015). As such, the state and success of regulatory regimes vary significantly across the world.

2.2.4 Successful Implementations

2.2.4.1 Sri Lanka

Initially, the Central Bank of Sri Lanka (CBSL) required all MMS to be bank-led through the National Development Bank (NDB). This required consumers to have a bank account with the NDB, thus subjecting them KYC and AML requirements within the banking regulations, which are indicative of non-proportional registration processes. As such, these regulations proved to hinder the growth and adoption of MFS within Sri Lanka.

After a thorough review of its regulatory regime, the CBSL introduced a set of regulations aimed at promoting MFS adoption by reducing customer friction while removing barriers to entry for MMOs. Some regulation changes included (Lal & Sachdev, 2015):

- Introducing a tiered licencing model, allowing non-banks to qualify as MMOs.
- Removing the consumer requirement of having a bank account.
- Allowing for a proportional, risk-based approach to KYC/AML based on account balances and transactional amounts.
- Allowing for the facilitation of remote customer registration through mobile devices.

Research by Lal and Sachdev (2015) provided evidence that the reformed regulatory regime has had the desired effect, and to date, MFS adoption in Sri Lanka has been increasing.

2.2.4.2 Philippines

The Central Bank in the Philippines worked closely with MNOs to develop MMS such as SMART Money and GCASH (Gupta, 2013). Some of the regulations and policies that were instrumental in fostering the growth of the country's MFS industry included (Lal & Sachdev, 2015):

- Adopting a test-and-learn approach to regulation while providing legal certainty.
- Enabling non-banks to offer MMS and provide agent functionality, such as account registration and CICO transactions.
- Reducing customer friction by allowing various forms of identification to be used to satisfy KYC requirements.

Further to these developments, Ashta (2017) maintained that the introduction of a circular for consumer protection from electronic banking in 2006 was also critical to the rapid development of MFS in the country.

2.2.4.3 Kenya and Tanzania

Lal and Sachdev (2015), Manyika et al. (2016), and Rouse (2017) argued that the MFS explosion within Kenya and Tanzania was mainly owing to their poor formal banking infrastructure as well as a regulatory-friendly environment for MMOs. Furthermore, Ashta (2017) suggested that the countries' relaxed account registration and KYC/AML requirements were also instrumental in the widespread adoption of MMS.

2.2.5 The regulatory environment in South Africa

It is a well-established fact that South Africa's financial services sector is one of the most developed and sophisticated across the SSA region (Rouse, 2017). Unlike other African countries when compared with their low-income counterparts across the world, South Africa boasts a well-developed financial services sector characterised by considerable number of bank branches (e.g. 10.4 branches per 100,000 per people in South Africa versus 2.9 in Ethiopia, 5.4 in Kenya, 2.5 in Tanzania, 9 in Philippines, 14.7 in India and 18.6 in Sri Lanka) and access to

automated teller machines (ATMs) (e.g. 67.9 ATMs per 100,000 per people in South Africa versus 0.5 in Ethiopia, 9.3 in Kenya, 6 in Tanzania, 28.3 in Philippines, 22.1 in India and 17.2 in Sri Lanka) (Reynolds, Klawitter, Biscaye, & Anderson, 2018; World Bank Group, 2017a, 2017b).

Due to the relatively well-established nature of traditional financial services, Porteous (2006) and Winn and De Koker (2013) contended that the country had opted for a conservative approach to MFS regulation, pinpointing restrictions placed on non-banks and consumers as a significant inhibitor to the MFS sector. Ashta (2017) and Rouse (2017), further substantiated that recent regulatory changes further inhibit the growth of MFS by subjecting MMO agents and consumers to Financial Intelligence Centre Act (FICA) and AML requirements, which have proven to be onerous and time-consuming.

Literature strongly suggests that within low-trust and institutionally compromised developing countries, the regulatory environment is fundamental to the success of the MFS industry (Lawack, 2012; Mas, 2015; Porteous, 2006; Reynolds et al., 2018; Rouse, 2017). The failed attempts by Vodacom and MTN to reach a sustainable customer base for their mobile money deployments underline the challenges that exist and provides evidence that government, regulatory bodies, and service providers do not have a good sense for the operating and business model that will deliver success (Jain, 2014; Lal & Sachdev, 2015). Therefore, Lal and Sachdev (2015) strongly advocated for better collaboration between MMOs and regulatory bodies to ensure regulations facilitate rather than hinder the development of MFS.

In other work, Mas (2015) contended the need for MFS regulations to transition from one that merely enables participation by banks and MNOs to one that encourages new entrants and fosters competition amongst a broader set of players. Furthermore, Mas (2015) argued the importance for regulatory bodies and policymakers to develop mechanics which prevent anti-competitive practices while promoting greater security and service levels thereby fostering trust within the consumer segment which in turn should drive MMS adoption.

2.3 Factors Influencing MMS Adoption (Theoretical Frameworks)

This section reviews the most commonly used frameworks in literature to understand the factors influencing the adoption of technology across the world.

C. A. Lin (2003), as well as Cruz, Barretto Filgueiras Neto, Munoz-Gallego, and Laukkanen (2010), postulated that the adoption and dissemination of innovation in information, communications and technology (ICT) could be explained through prominent qualitative structural models such as:

- Theory of reasoned action (Fishbein & Ajzen, 1974),
- Theory of planned behaviour (Ajzen, 1991),
- TAM (Davis, Bagozzi, & Warshaw, 1989), or
- UTAUT (Venkatesh & Davis, 2000).

The theory of reasoned action (TRA) was formulated by Fishbein and Ajzen (1974), which postulated that people's beliefs are influenced and determined by their attitude and subjective norms. The TRA, however, assumes rational thinking and that people will always consider all possible consequences of their actions before adopting a given attitude (S. A. Asongu, 2018). However, Ajzen (1991) argued that this is not always the case and proposed the theory of planned behaviour (TPB). TPB includes a third factor, namely, perceived behavioural control, that factors in scenarios where individuals may have limited situation control.

2.3.1 Technology adoption model

While models such as the TRA and TPB are useful in modelling and providing valuable insights of behavioural intention, they are not explicitly related to user intentions concerning the acceptance of technology (Cruz et al., 2010). As such, Davis et al. (1989) developed the TAM.

The TAM is an extension of the TRA, and considers additional factors of perceived usefulness (PU) and perceived ease of use (PEOU). Davis et al. (1989)

postulated that these are relevant determinants of attitude towards one's acceptance of the technology. As such, the model has become a popular reference framework for several studies regarding the adoption of the internet or mobile technology (S. A. Asongu, 2018; Cruz et al., 2010; Sharma et al., 2017).

However, recent literature seemed to raise some concerns about the limitations of the TAM when investigating the adoption of technology in a consumer context. Nysveen, Pedersen, and Thorbjørnsen (2005) argued that the model is more suited to organisational contexts as opposed to the adoption of technology in a consumer context since it does not consider the cost implication of the technology. Furthermore, they contended that the TAM assumes the availability of a single technology only, while it does not consider the impact of social influence or trust on the user's acceptance of the technology.

2.3.2 Extensions of the TAM

Recognising the shortcomings of the TAM, Venkatesh and Davis (2000) proposed an extension of the TAM, termed TAM 2. They incorporated social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, and result demonstrability). Although TAM 2 provides evidence of a strong linkage between social influence and a user's intention to adopt technology (Venkatesh & Davis, 2000), like the TAM, the framework fails to consider the cost of the technology and still addresses technology acceptance within the organisational context.

Research conducted by Meuter, Bitner, Ostrom, and Brown (2005) found perceived risk and compatibility, one of the characteristics of Roger's (2003) diffusion of innovation (DOI) theory, to be essential antecedents of technology adoption. Therefore, seeking to understand the factors influencing user perception and acceptance of mobile commerce, Wu and Wang (2005) proposed an extension of the TAM 2, which incorporated factors such as compatibility, perceived risk, and cost. The results supported a strong linkage between these factors and adoption intention (Ismail & Masinge, 2012; C. Kim, Mirusmonov, & Lee, 2010).

Other literature by Al-Ajam and Nor (2013), Hanafizadeh, Behboudi, Koshksaray, and Tabar (2014), and G. Kim, Shin, and Lee (2009) found trust to be an essential antecedent to the adoption of mobile banking, while several other authors, namely, Chong (2013) and Chong, Ooi, Lin, and Bao (2012) provided evidence that demographic variables can influence the adoption of technology significantly. As such, Sharma et al. (2017) recently proposed an extension to the TAM that incorporated trust, social influence, compatibility and demographic variables (age, gender, and education) to investigate the key determinants influencing mobile banking adoption. The results indicated that all eight determinants (PU, PEOU, trust, social influence, compatibility, age, gender, and education) were significant influencers of mobile banking adoption.

2.3.3 The unified theory of acceptance and use of technology

Venkatesh, Morris, Davis, and Davis (2003) proposed the UTAUT to predict behavioural intention to adopt the technology and technology use. The model incorporates elements from expectancy theory and intention-based models, such as the TRA, TPB, TAM, DOI theory, motivational model, combined TAM and TPB model, personal computer utilization model, as well as models of social cognitive theory (Oshlyansky, Cairns, & Thimbleby, 2007; Venkatesh et al., 2003; Yu, 2012).

As such, the model postulates that four main constructs, namely, social influence, effort expectancy, performance expectancy, and facilitating conditions directly influence one's behavioural intention to use a technology, which then determines the usage behaviour (Oshlyansky et al., 2007; Venkatesh et al., 2003).

Venkatesh et al. (2003) defined the four primary constructs as follows:

- Effort expectancy pertains to the ease of using the technology;
- Performance expectancy is the degree to which the technology will benefit the user;
- Social influence is associated with the influence that family, friends and colleagues may exert on consumers in convincing them to use the technology;

- Facilitating conditions pertains to the consumers' perception of the supporting resources available to perform a behaviour.

Since its formulation, the UTAUT model has been widely used. Several studies support the validity of the framework revealing that it accounts for approximately 70% variance in behavioural intention to adopt a technology and approximately 50% variance in technology use (Im, Hong, & Kang, 2011; Min, Ji, & Qu, 2008; Oshlyansky et al., 2007; Venkatesh & Zhang, 2010).

However, as with the TAM, the model does not consider technology cost implying that the model is focused primarily on the organisational context.

2.3.4 Extensions of the UTAUT

Recognising the shortcomings of the UTAUT in predicting the adoption and use of technology in a consumer context, Venkatesh, Thong, and Xu (2012), proposed an extension of the UTAUT, termed UTAUT 2, by incorporating three additional constructs, namely, hedonic motivation, price value, and habit (Sharma et al., 2017).

Hedonic motivation is associated with the fun and pleasure that a consumer derives from using the technology; price value pertains to the monetary cost of using the technology; while habit deals with the extent to which consumers perform behaviours automatically (Venkatesh et al., 2012).

Several recent studies on consumer adoption of mobile technologies support the UTAUT 2 model, by providing empirical evidence of a strong linkage between the three additional constructs (hedonic motivation, price value, and habit) with that of behavioural intentions and acceptance of the technology (Alalwan, Dwivedi, & Rana, 2017; Gharaibeh & Arshad, 2018; Preeti & Savita, 2017).

In a recent study conducted to understand the determinants of NFC-based mobile payments, Khalilzadeh et al. (2017) proposed an integrated model by combining the UTAUT and TAM. The results indicated that the model was capable of 20% greater explanatory power and predictive accuracy than the original UTAUT. Furthermore, the results supported previous empirical studies that reported

strong linkages among perceived risk, perceived security, and trust with behavioural intention to adopt a technology (Khalilzadeh et al., 2017).

2.4 The conclusion of the Literature Review

The literature review helped the researcher understand and identify the critical determinants required for widespread adoption of MMS. Prominent technology adoption models were reviewed. Based on the findings of several empirical studies that revealed the superior explanatory power and predictive accuracy, the UTAUT 2 model and the combined UTAUT and TAM model, have been identified as the most appropriate models to use in this study.

Furthermore, the literature review provided supporting evidence of the importance of regulation in fostering or hindering the growth and development of MMS within the MFS industry. Effective regulation becomes especially crucial in low-trust environments, typically emerging markets. South Africa is one such example, where MMS adoption has been a challenge, typified by the failed attempts of Vodacom and MTN to reach a sustainable customer base for their MMS deployments. Lawack (2012) contended that these failed attempts underline the challenges that exist in different markets, and provides evidence that government, regulators, central banks, and service providers do not have a good sense for the regulatory framework, amongst other factors that will lead to success of deployments. To the best of our knowledge, all models and previous MMS studies seemingly overlooked the linkage between PERE and a consumers' behavioural intention to adopt MMS. As such, this study proposes the inclusion of PERE in the combined UTAUT and TAM model (Khalilzadeh et al., 2017).

Furthermore, research conducted by Venkatesh et al. (2012) argued that the critical difference between technology adoption in a consumer context compared to an organisational context is the cost implications on consumers, which employees do not bear. As such, Venkatesh et al. (2012) postulated the inclusion of price value (PV) in the extension of the UTAUT model. The results confirmed a strong linkage between PV and consumers' behavioural intention. As such, PV

was also incorporated in the extension of the combined UTAUT and TAM model proposed in this study.

2.4.1 Research proposition 1

The following latent factors significantly influence consumer adoption of MMS in South Africa:

- Self-efficacy (SE)
- Social influence (SI)
- Risk, related to both performance and privacy (RISK)
- Utilitarian performance expectancy (UPE)
- Hedonic performance expectancy (HPE)
- Effort expectancy (EE)
- Trust (TR)
- Facilitating conditions (FC)
- Security (SEC)
- Attitude (ATT)
- Price value (PV)
- Intention to use (ITU)

2.4.2 Research proposition 2

Consumer adoption of MMS in South Africa is influenced by a latent factor, namely, PERE.

2.4.3 Research proposition 3

The relationships among the above, latent factors are moderated by:

- Gender
- Age
- Income
- Education
- Use of formal banking

Table 1 summaries the hypotheses within each of the research propositions that will be tested in this study.

Table 1: Hypotheses of the research study

#	HYPOTHESIS	SYMBOL REP.
	RESEARCH PROPOSITION 1	
	The FC for using MMS positively influences:	
$H1_A$	a. EE	FC (+) → EE
$H1_B$	b. SEC	FC (+) → SEC
$H1_C$	c. TR	FC (+) → TR
$H1_D$	d. UPE	FC (+) → UPE
$H1_E$	e. HPE	FC (+) → HPE
$H1_F$	f. ATT	FC (+) → ATT
$H1_G$	ATT positively mediates the effect of FC on ITU.	FC → ATT(+)→ ITU
	UPE in using MMS positively influences:	
$H2_A$	a. HPE	UPE (+) → HPE
$H2_B$	b. ATT	UPE (+) → ATT
$H2_C$	ATT positively mediates the effect of UPE on ITU.	UPE → ATT (+) → ITU
	The SI of accepting MMS influences:	
$H3_A$	a. EE	SI (+) → EE
$H3_B$	b. SEC	SI (+) → SEC
$H3_C$	c. TR	SI (+) → TR
$H3_D$	d. UPE	SI (+) → UPE
$H3_E$	e. HPE	SI (+) → HPE
$H3_F$	f. ITU	SI (+) → ITU
	The effect of SI on ATT is positively mediated by:	
$H3_{G1}$	1. UPE	SI (+) → UPE (+) → ATT
$H3_{G2}$	2. HPE	SI (+) → HPE (+) → ATT
	The EE using MMS positively influences:	
$H4_A$	a. UPE	EE (+) → UPE

$H4_B$	b. HPE	EE (+) → HPE
	The effect of EE on ATT is positively mediated by:	
$H4_{C1}$	1. UPE	EE → UPE (+) → ATT
$H4_{C2}$	2. HPE	EE → HPE (+) → ATT
$H5_A$	HPE of using MMS positively influences consumer's ATT.	HPE (+) → ATT
$H5_B$	ATT positively mediates the effect of HPE on ITU.	HPE → ATT (+) → ITU
	SE perceptions of MMS positively influences:	
$H6_A$	a. EE	SE (+) → EE
$H6_B$	b. UPE	SE (+) → UPE
$H6_C$	c. HPE	SE (+) → HPE
$H6_D$	d. ITU	SE (+) → ITU
	The effect of SE on ATT is positively mediated by:	
$H6_{E1}$	1. UPE	SE → UPE (+) → ATT
$H6_{E2}$	2. HPE	SE → HPE (+) → ATT
	The perceived SEC of MMS positively influences:	
$H7_A$	a. EE	SEC (+) → EE
$H7_B$	b. TR	SEC (+) → TR
$H7_C$	c. ATT	SEC (+) → ATT
$H7_D$	d. ITU	SEC (+) → ITU
	The perceived TR of MMS positively influences:	
$H8_A$	a. EE	TR (+) → EE
$H8_B$	b. UPE	TR (+) → UPE
$H8_C$	c. HPE	TR (+) → HPE
	The perceived RISK of MMS negatively influences:	
$H9_A$	a. EE	RISK (-) → EE

H9$_B$	b. SEC	RISK (-) → SEC
H9$_C$	c. TR	RISK (-) → TR
H9$_D$	d. UPE	RISK (-) → UPE
H9$_E$	e. HPE	RISK (-) → HPE
H9$_F$	f. ATT	RISK (-) → ATT
H9$_G$	g. ITU	RISK (-) → ITU
H10	ATT towards MMS positively influences consumer's ITU.	ATT (+) → ITU
	The PV of MMS positively influences:	
H11$_A$	a. EE	PV (+) → EE
H11$_B$	b. SEC	PV (+) → SEC
H11$_C$	c. TR	PV (+) → TR
H11$_D$	d. UPE	PV (+) → UPE
H11$_E$	e. ITU	PV (+) → ITU
H11$_F$	UPE positively mediates the effect of PV on HPE.	PV → UPE (+) → HPE
H11$_G$	UPE positively mediates the effect of PV on ATT.	PV → UPE (+) → ATT
RESEARCH PROPOSITION 2		
	The PERE for MMS positively influences:	
H12$_A$	a. EE	PERE (+) → EE
H12$_B$	b. SEC	PERE (+) → SEC
H12$_C$	c. TR	PERE (+) → TR
H12$_D$	d. ATT	PERE (+) → ATT
H12$_E$	e. ITU	PERE (+) → ITU
H12$_F$	EE positively mediates the effect of PERE on UPE.	PERE → EE (+) → UPE
H12$_G$	EE positively mediates the effect of PERE on HPE.	PERE → EE (+) → HPE
RESEARCH PROPOSITION 3		
H13	*Gender* moderates the relationships among constructs	

H14	*Age* moderates the relationships among constructs	
H15	*Education* moderates the relationships among constructs	
H16	*Income* moderates the relationships among constructs	
H17	*Use of Formal Banking* moderates the relationships among constructs	

Figure 3 illustrates the theoretical model that this research study is based on.

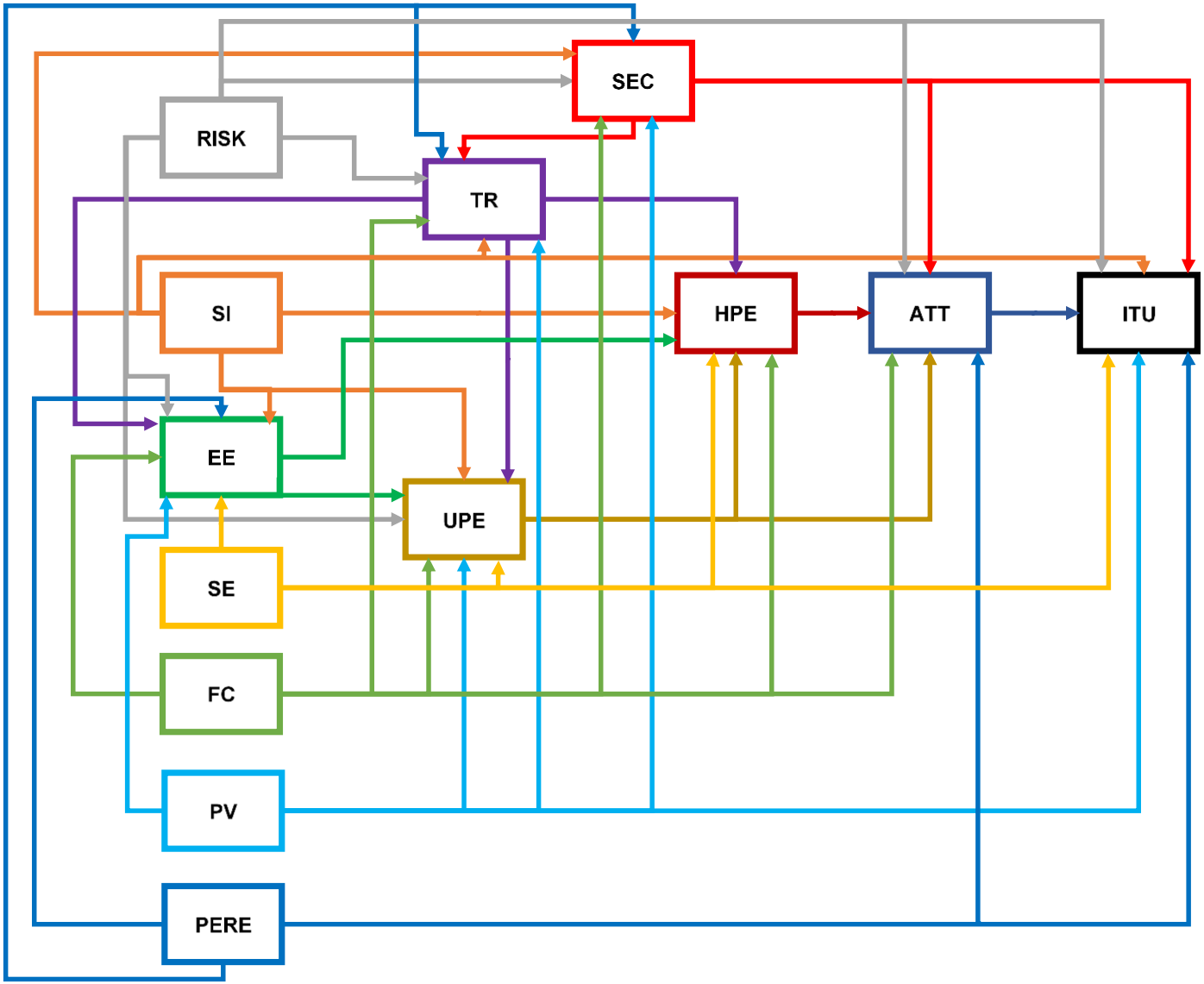


Figure 3: Theoretical (priori) model [adapted from Khalilzadeh et al. (2017) and Venkatesh et al. (2012)]

3 RESEARCH METHODOLOGY

An integral component of research is selecting and justifying the methodology applied to the study. The specific methodology employed can either increase or decrease the sensitivity of results obtained and thereby potentially skew the findings (Golafshani, 2003). This chapter, therefore, serves to describe and provide justification for the research methodology applied to this study.

The researcher discusses the research design, and the population and sample selection, which are followed by the research instrument used. Finally, details about the data collection procedure, the data analysis and interpretation methods, and the limitations of the study are presented.

3.1 Research Methodology

This study used a quantitative methodology in the application of its research. Golafshani (2003) suggested that quantitative research utilises experimental and quantitative measures to challenge the proposed hypotheses. This paradigm of research is preferred because data collected is often measured facts rather than being based on opinions and perceptions as is the case of qualitative research.

The quantitative researcher's use of standardised measures limits the perceptions and responses to a predetermined response. Creswell and Creswell (2018) illustrated that a quantitative researcher uses a postpositive claim in formulating results. Postpositive claims include the use of measurements and observation, a test of theories, and reduction of specific variables and hypotheses. These measurements are carried out by conducting surveys or experimenting. Creswell and Creswell (2018) elaborated that quantitative research can generate numerical data to answer predetermined hypotheses. Frameworks based on a population's adoption of technology can, therefore, be developed to gather results.

Contrarily, qualitative research demonstrates findings not concluded using statistical or quantitative measures (Golafshani, 2003). In other words, qualitative

research may provide suggestive evidence. Here data collection involves methods such as using peer reviews or doing external audits (Creswell & Creswell, 2018).

Although qualitative research may be beneficial in the early stages of research where areas of interest can be highlighted, it does rely on an array of interpretive techniques, which may be based on observations made, and discussions or interviews conducted (Creswell & Creswell, 2018). Therefore, qualitative research proved to be an inferior choice of research methodology for this particular study.

3.2 Research Design

The research design reflects the purpose of the inquiry and generates primary data for a study. Since this study aimed to employ a quantitative research approach, the primary data for the research was collected using a structured questionnaire with a seven-point Likert scale, with 1 corresponding to ‘strongly disagree’ and 7 to ‘strongly agree’, refer to Table 25 in Appendix A.

Before the questionnaire for the primary research study was administered, a pre-test of the questionnaire and a pilot study was conducted on a small sample of ten respondents. Several studies indicate that the inclusion of a pre-test and pilot study aides in improving the quality of the content and reliability of measures by allowing modifications to be made where necessary (Anwar, 2018; Hult, Hurley, & Knight, 2004; Sharma et al., 2017). As such, the feedback received from the pre-test and pilot study was incorporated in the questionnaire before the primary data collection commenced.

The advantages of conducting an online questionnaire are that it is cost-effective and relatively convenient, participants answer the questionnaire online, and multiple variables can be assessed. The Qualtrics system, a questionnaire engine made available to Wits Business School students, was used to create a mobile-device friendly questionnaire and collect data. The anonymous survey link was shared with known tech-savvy participants via e-mail and social media (WhatsApp and LinkedIn).

However, since a significant portion of the lower-income and unbanked population are unknown and live in remote areas, reaching this segment of the population via e-mail is unrealistic. To overcome this, the responses of this segment was solicited by distributing printouts of the questionnaire during field trips to some of the easily accessible low-income areas within Gauteng and KwaZulu-Natal.

Furthermore, the researchers employed a cross-sectional study, which provided a snapshot of a point in time as well as information about change at a societal level rather than at an individual level, as in the case of a longitudinal study approach (Levin, 2006).

3.3 Population and Sample Selection

3.3.1 Population

The population of the study is the group of people to whom the results of the questionnaire will apply (Babones, 2002). In the context of this research study, the population refers to the banked and unbanked sectors within Gauteng and KwaZulu-Natal, South Africa, across gender, age, educational and financial backgrounds. The research excluded respondents who were less than 18 years of age due to the specific legalities around consent.

3.3.2 Sample Selection

Sample refers to a group, or a subset, of the population who participated in the study (Babones, 2002). In this study, the sample included people above the age of 18 and across income and educational groups as well as formal and informal banking segments. To reduce sampling error, the sample consisted of respondents from multiple geographic locations within Gauteng and KwaZulu-Natal, spanning across low-income and high-income residential areas. Research by Sharma et al. (2017) suggested that a minimum sample size of ten samples per independent variable should be obtained. Considering that the research

instrument used in this study incorporated 13 latent variables, a minimum of 130 valid samples were targeted.

3.4 The Research Instrument

As discussed above, data was collected by using a structured questionnaire with a seven-point Likert scale, with 1 corresponding to ‘strongly disagree’ and 7 to ‘strongly agree’. The choice of research instrument was motivated by several similar studies on the factors influencing consumer adoption of mobile technology, which suggested that structured questionnaires are best suited for understanding variation patterns (Chaouali et al., 2017; Venkatesh et al., 2012).

The questionnaire was given to current users and non-users (or potential future users) of MMS. It is said that apart from English, isiZulu ranks among the top languages spoken in South Africa. Therefore, to better understand consumer behavioural intention from different ethnicities, the questionnaire was created in both English and isiZulu. This lent the research study to a more significant portion of the banked and unbanked segment and aided in improving reliability as participants could better understand the questions posed.

As discussed in Section 2.4, the research model used in this study is an extension of the UTAUT and TAM model proposed by Khalilzadeh et al. (2017). It incorporates 13 constructs and five moderating variables. The constructs included are utilitarian performance expectancy, hedonic performance expectancy, effort expectancy, facilitating conditions, social influence, self-efficacy, risk, security, trust, attitude, intention to use and the inclusion of price value, and perceived effectiveness of the regulatory environment.

To preserve content validity, all measurement items were adapted from previous studies on the adoption of mobile technology (Davis et al., 1989; Khalilzadeh et al., 2017; Venkatesh et al., 2003; Venkatesh et al., 2012). The online survey was accessed through the following anonymous link, https://wits.eu.qualtrics.com/jfe/form/SV_55REHTT0bFhGIYt; while the isiZulu printout used during the field trips are illustrated by Figure 13 − Figure 16 in Appendix A.

3.5 Procedure for Data Collection

Along with the questionnaire the participant was given a written or verbal explanation of the purpose of conducting the survey. The participants were assured of the anonymity of the study. The survey contained the university and researcher's contact details in the event of any queries relating to the research.

The self-administered survey was distributed in two phases. Phase 1 involved sending the anonymous Qualtrics survey link via e-mail and social media to 300 contacts of the researcher's personal and professional network, spanning across the following organisations: MTN SA, Standard Bank SA, First National Bank, Nedbank, Huawei, Ericsson, ZTE, Wits Business School, University of KwaZulu-Natal, Gauteng Department of Health, and KwaZulu-Natal Department of Health. Respondents were requested to complete the survey within two weeks. A week after the initial request, follow-up communication was sent as a reminder to the participants. A total of 223 responses were solicited from this phase, representing a response rate of 74.33%.

Phase 2 involved soliciting responses from the low-income segment through on-the-ground field trips within Gauteng and KwaZulu-Natal. These field trips were conducted over weekends (Saturday and Sunday) with two weekends in Gauteng and two weekends in KwaZulu-Natal. Each field trip lasted approximately three hours, yielding on average 18 completed surveys per trip. The trips were conducted at the following large shopping malls: Maponya Mall in Soweto, Umlazi Mega City in Umlazi, and Bridge City Shopping Centre in KwaMashu.

The on-the-ground field trips yielded a total of 144 self-administered printout surveys. Before the researcher captured the data on Qualtrics, the responses were screened for missing data and unengaged respondents. Of the self-administered printout surveys, 21 responses were deemed to be unengaged responses and were discarded, thus resulting in 123 of the 144 responses being captured on Qualtrics. The research study yielded 346 responses in total.

3.6 Data Analysis and Interpretation

After completing data collection, the data set was exported from Qualtrics to Microsoft™ Excel. The data was initially cleaned and screened for missing data, unengaged responses, outliers, skewness and kurtosis. After that, descriptive statistical analysis and multivariate statistical techniques such as factor analysis and structural equation modelling (SEM) were performed.

Factor analysis is widely recognised within literature as an essential and commonly used tool to develop, refine and evaluate measurement models. There are also arguments that factor analysis is the preferred method for analysing and interpreting data that is collected through self-administered surveys (Williams, Onsman, & Brown, 2010).

The use of factor analysis was further justified by its ability to reduce a large number of observed variables into a smaller set of meaningful latent variables by examining the covariation among observed variables and establishing underlying dimensions between measured variables and latent variables (Schreiber, Nora, Stage, Barlow, & King, 2006; Williams et al., 2010). Both types of factor analysis were performed in this research study, namely, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

An array of software packages such as LISREL, SAS, STATA, SmartPLS, SPSS and AMOS are applicable and suitable for testing hypotheses on complex variable relationships (Khalilzadeh et al., 2017). However, research by Venkatesh et al. (2012), H. Lin, Fan, and Chau (2014), and Chaouali et al. (2017) stated that SPSS and AMOS are less restrictive than other available software packages regarding sample size, distributional assumption, and model complexity. As such, this research study used SPSS 25.0 and AMOS 25.0 software packages.

3.6.1 Validity and reliability

Attaining measures of validity and reliability in research is vital to determine the quality of the information that has been captured by the research study (Creswell

& Creswell, 2018). Golafshani (2003) reasoned that it is imperative for attaining both credible and defensible results.

Validity confirms whether the study measured what it intended to measure, and it describes the accuracy of the survey findings (Brink, 1993). Reliability pertains to the extent to which the results are consistent over a period (Brink, 1993).

To test the reliability of the research instrument used in this study, Cronbach's alphas (CA) and composite reliability (CR) measures were employed. These methods are supported by various studies using the quantitative methodology, which indicate that the reliability of the research instrument is validated when CA and CR values of 0.7 or higher are attained (Hair, Black, Babin, Anderson, & Tatham, 2010).

Furthermore, the research study used the average variance extracted (AVE) to test the validity of the constructs incorporated in the research instrument. Research studies report that construct validity is confirmed when AVE values of 0.5 or higher are attained (Chaouali et al., 2017; Venkatesh et al., 2012). Similarly to research conducted by Khalilzadeh et al. (2017), a CFA was performed to test the measurement model's validity and reliability and will be discussed in the subsections that follow.

3.6.2 Exploratory factor analysis

Due to its heuristic nature, an EFA was first performed on the data set to determine the number of significant factors without being prescriptive (Williams et al., 2010). This allowed the researcher to explore the central and significant dimensions, as well as ascertain if the results closely align to the number of factors included in the theoretical measurement model on which the survey was based (Henson & Roberts, 2006; Thompson, 2007).

The five-step EFA protocol proposed by Williams et al. (2010), illustrated in Figure 4, was used by the researcher to develop clear decision pathways.

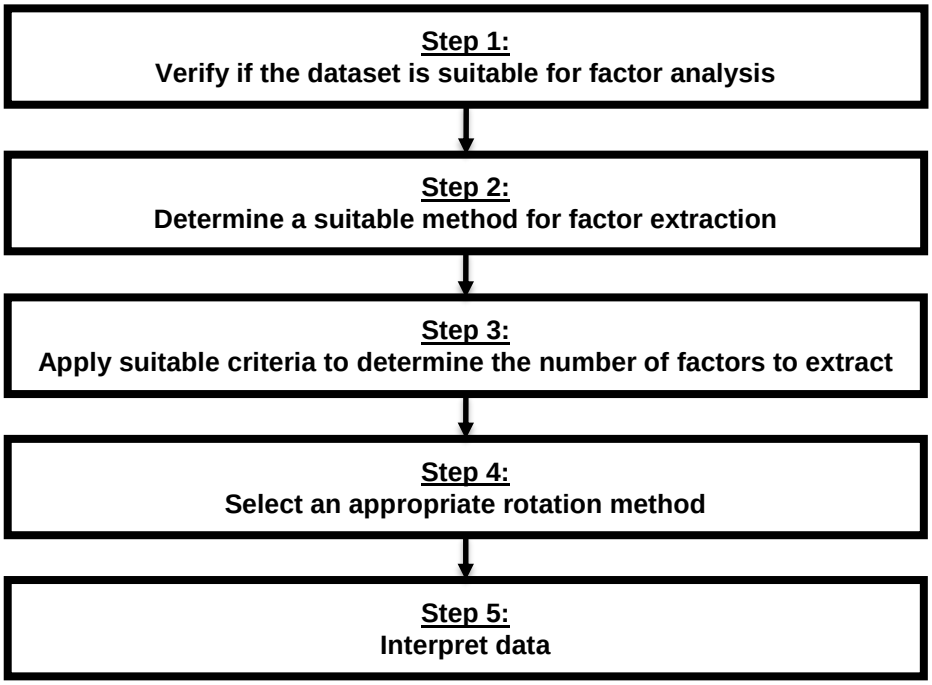


Figure 4: The five-step EFA protocol [adopted from (Williams et al., 2010)]

3.6.2.1 Step 1: Verify if the data set is suitable for factor analysis

Osborne, Costello, and Kellow (2008) and Williams et al. (2010) suggested that the following measures, namely, sample size, factorability of the correlation matrix, Kaiser–Meyer–Olkin (KMO) measure of sampling, and Bartlett's test of sphericity, need to be examined at a minimum before confirming the data set's suitability for factor analysis.

In respect of sample size, literature provides varying opinions and guiding principles, with literature widely citing the work of Comrey and Lee (2013), which postulated sample sizes of 100 as poor, 200 as adequate, 300 as good, and greater than 500 as excellent. Another popular method of ascertaining the suitability of sample size is by determining the sample-to-variable ratio, denoted as *N:p* ratio, where *N* represents the number of respondents or sample size, and *p* represents the number of variables. Tabachnick, Fidell, and Ullman (2007) and Williams et al. (2010) reported that guidelines range from anywhere between 3:1 and 20:1. In other work, Osborne et al. (2008) surveyed two years' worth of research in which factor analysis was used and reported the following practice for the sample-to-variable ratio (Table 2):

Table 2: Sample-to-variable ratio practice in EFA

Sample-to-variable Ratio		*Percentage of Studies (%)*	*Cumulative Percentage (%)*
N:p	2:1 or less	14.7	14.7
	> 2:1; ≤ 5:1	25.8	40.5
	> 5:1; ≤ 10:1	22.7	63.2
	> 10:1; ≤ 20:1	15.4	78.6
	> 20:1; ≤ 100:1	18.4	97.0
	> 100:1	3.0	100

Osborne et al. (2008) warned against the effects of small samples, which include low communalities with cross-loadings and weak variable loadings on factors. As such, they recommended a sample-to-variable ratio of 20:1 or higher.

Considering the above measures, the researcher set a target of attaining at least 300 valid responses, thereby satisfying the recommendations of both Comrey and Lee (2013) and Osborne et al. (2008).

Literature reports that the correlation matrix is a popular method used by researchers to identify relationships between variables (Henson & Roberts, 2006; Williams et al., 2010). Tabachnick et al. (2007) postulated loadings of ±0.3 as weak, ±0.5 as moderate, and ±0.75 as significant while suggesting that the researcher reconsider the choice of factor analysis if the correlation matrix returns no loadings above 0.3.

Furthermore, Tabachnick et al. (2007) and Williams et al. (2010) recommended calculating the KMO index, which ranges from 0 to 1, with the index rankings listed in Table 3. In addition, the authors argued that Bartlett's test of sphericity should yield a significant result ($p < 0.05$), implying that the correlation matrix is not an identity matrix and that variables do relate to one another thereby confirming the data set's suitability for factor analysis.

Table 3: KMO index rankings

KMO Statistics		*Index Ranking*
KMO Index	< 0.50	Unacceptable
	0.50–0.59	Miserable
	0.60–0.69	Mediocre
	0.70–0.79	Middling
	0.80–0.89	Meritorious
	0.90–1.00	Marvellous

3.6.2.2 Step 2: Determine a suitable method for factor extraction

There are numerous methods available for factor extraction within SPSS 25.0, namely, principal components analysis (PCA), unweighted least squares, generalised least squares, maximum likelihood (ML), principal axis factoring (PAF), alpha factoring, and image factoring. Williams et al. (2010) claimed that PCA and PAF are the most commonly used extraction methods within literature, while Thompson (2007) suggested there are no significant differences between these methods when there are 30 or more variables with excellent reliability. In other work, Fabrigar, Wegener, MacCallum, and Strahan (1999) argued that ML is the best choice for relatively normally distributed data and as such this was the method employed by the researcher.

3.6.2.3 Step 3: Apply suitable criteria to determine the number of factors to extract

Several criteria can be applied to determine the number of factors to extract, namely, Kaiser's criteria (eigenvalue > 1), scree test, cumulative variance explained, and parallel analysis, with literature providing no preferred criteria (Williams et al., 2010). Osborne et al. (2008) argued that over-extraction or under-extraction could have adverse effects on the EFA results. Given the numerous choices, Osborne et al. (2008) and Thompson and Daniel (1996) recommended the simultaneous use of multiple criteria. In this study, the researcher made use

of the Kaiser's criteria (eigenvalue > 1), scree test, and cumulative variance explained criteria.

Concerning the cumulative variance explained criterion, literature provides varying opinions regarding the appropriate threshold to implement. Williams et al. (2010) stated that this threshold varies depending on the particular discipline of the study. Research in natural sciences considers 95% as the threshold, while psychology and humanities consider 50–60% as the threshold. Considering the above, the researcher deemed a threshold higher than 70% to be adequate for the total variance explained.

Several authors have argued that the interpretation of scree plots is subjective and highly reliant on the researcher's judgement (Tabachnick et al., 2007; Thompson & Daniel, 1996), while others have contended that subjectiveness is greatly reduced for large sample sizes whereby the *N:p* ratio is higher than 3:1 (Osborne et al., 2008; Williams et al., 2010).

Using the scree plot involves examining the eigenvalue graph and determining the bend or break point of the data, i.e. the point where the graph begins to flatten. This point indicates the number of factors to retain. To reduce errors in determining the number of factors to retain, Osborne et al. (2008) recommended running multiple EFAs – first setting the number of factors as suggested by the scree plot, as well as one factor more and one factor less than the suggestion of the scree plot. The EFA iteration that yields the cleanest factor structure, i.e. few cross-loadings, is the best fit for the data.

3.6.2.4 Step 4: Select an appropriate rotation method

The selection of an appropriate rotation method is essential since the goal of rotation is to maximise high variable loadings while minimising low variable loadings (Williams et al., 2010). As such, rotation yields a simple and clear data structure. There are two types of rotation, namely, orthogonal and oblique, with each type having several options available.

Orthogonal rotations produce uncorrelated factor structures while oblique rotations produce correlated factor structures (Osborne et al., 2008; Williams et

al., 2010). Considering the above, the researcher used orthogonal varimax rotation.

3.6.2.5 Step 5: Interpret data

The final step of an EFA is examining the factor structure by analysing the loadings of the measurement variables under each factor. Osborne et al. (2008) and Williams et al. (2010) argued that the aim of an EFA should be to obtain a simple and clear factor structure, i.e. one with minimal and weak cross-loadings. If messy factor structures are reported, literature supports the exclusion of measurement variables that result in cross-loadings and have weak commonalities due to their failure of achieving unidimensionality (Hair et al., 2010). Although exclusion of measurement variables is supported, Henson and Roberts (2006) contended that at least three measurement variables per factor must be retained to maintain a meaningful interpretation.

Finally, it is worth noting that literature criticises EFA for its the subjectiveness of results (Williams et al., 2010). However, Henson and Roberts (2006) reasoned subjectiveness could be limited by the researcher being systematic and making informed choices concerning latent variables, factor extraction, reduction, and construction.

3.6.3 Confirmatory factor analysis

Having completed the EFA, the researcher proceeded to a CFA using AMOS 25.0. Unlike the EFA, the CFA applies assumptions and expectations based on priori theory to test the measurement model for adequate model fit, variance, validity, reliability, and bias (Williams et al., 2010).

In the research study, the CFA protocol illustrated in Figure 5 was employed.

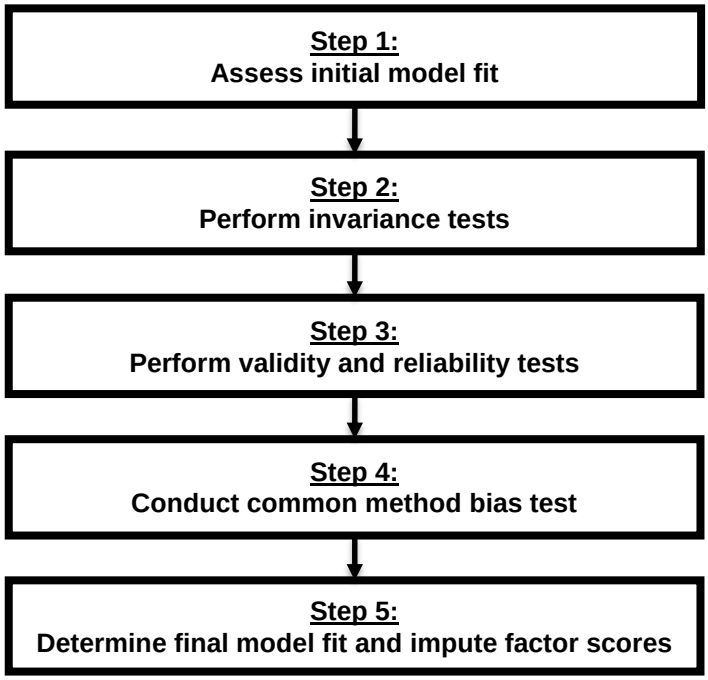


Figure 5: CFA protocol employed

3.6.3.1 Step 1: Assess initial model fit

Numerous indices are available for assessing model fit. Due to their popularity within literature, the following model fit indices were considered in this study (Schreiber et al., 2006):

- The ratio of chi-square to degrees of freedom $(\boldsymbol{\chi^2/df})$
- Standardised root mean square residual (SRMR)
- Comparative fit index (CFI)
- Root mean square error of approximation (RMSEA)
- The *p*-value of close fit (PCLOSE)

The range of values that literature deems acceptable for the above model fit indices are summarised in Table 4 (Hu & Bentler, 1999; Schreiber et al., 2006).

Table 4: CFA – recommended values of model fit indices

FIT INDEX	χ^2/df	SRMR	CFI	RMSEA	PCLOSE
EXCELLENT	≤ 2	≤ 0.08	≥ 0.95	< 0.05	≥ 0.05
ACCEPTABLE	≤ 5	≤ 0.10	≥ 0.90	< 0.08	≥ 0.01

3.6.3.2 Step 2: Perform invariance tests

Since the study used grouping variables (gender, age, education, income, and use of formal banking), it was necessary to perform invariance tests. There are several different types of invariant test, such as scalar, intercept, configural, and metric. However, for this study only configural and metric invariance tests were conducted.

Testing for configural invariance allowed the researcher to verify the structure of the measurement model across different groups, while metric invariance determined if forcing the groups together was substantially different from freely estimating them (Khalilzadeh et al., 2017; Schreiber et al., 2006).

3.6.3.3 Step 3: Perform validity and reliability tests

In terms of testing the measurement model for validity and reliability, the criteria and measures as summarised in Table 5 were used (Hu & Bentler, 1999):

Table 5: Validity and reliability tests

TESTS	AVE	$\sqrt{AVE}$	CR
CONVERGENT	≥ 0.50	–	–
DISCRIMINANT	$>$ MSV	$> inter - factor\ correlation$	–
RELIABILITY	–	–	≥ 0.75

Legend:
MSV - Maximum shared variance

3.6.3.4 Step 4: Conduct a common method bias test

Literature argues the importance of differentiating between the variance of dependent variables (DVs) explained by independent variables (IVs) from the variance of DVs that result from the measurement model, when both dependent and independent variables are measured using the same research instrument (Khalilzadeh et al., 2017; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Podsakoff et al. (2003) suggested performing a common method bias (CMB) test to determine the above and, as such, this test was included in the study.

3.6.3.5 Step 5: Determine the final measurement model and impute factor scores

Finally, literature argues that if a high degree of shared variance is reported, the common latent factor (CLF) must be retained and factor scores should be imputed before proceeding to the SEM analysis (Khalilzadeh et al., 2017).

3.6.4 Covariance-based structural equation modelling

Similarly to research conducted by Khalilzadeh et al. (2017), a covariance-based structural equation modelling (CB-SEM) was conducted to test the hypotheses as summarised in Table 1 in Section 2.4. CB-SEM was preferred over path analysis since it is shown to relax the assumptions of multivariate normality (Anwar, 2018; Morgeson III, Sharma, & Hult, 2015).

In the research study, the SEM protocol illustrated in Figure 6 was employed.

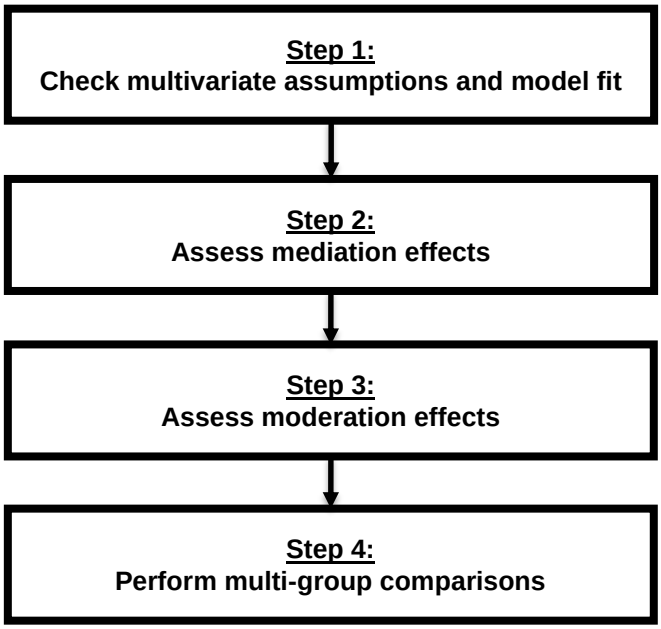


Figure 6: SEM protocol employed

3.6.4.1 Step 1: Check multivariate assumptions and model fit

All SEM assumptions were checked first. The data set was screened for multivariate normality and outliers by running a linear regression and plotting the Cook's distance. As such, cases that reported a Cook's distance higher than the

threshold value were removed from the data set, thereby strengthening the regressions that were observed. After that, the data set was tested for multivariate collinearity issues by analysing the tolerance and variance inflation factor (VIF) measures of each variable. Table 6 summarises the thresholds that were deemed adequate for each test (Hu & Bentler, 1999).

Table 6: Multivariate tests and thresholds

MULTIVARIATE TESTS	COOK'S DISTANCE	TOLERANCE	VIF
NORMALITY	< 1	–	–
COLLINEARITY	–	> 0.1	< 10

In addition to multivariate assumptions, it was necessary to ensure that adequate model fit and coefficient of determination or squared multiple correlations (SMC), R^2, were attained in order to interpret the results from the hypotheses testing confidently. Hu and Bentler (1999) argued that $R^2 > 0.025$, if not, this would be an indication that the relationship being tested is not very meaningful.

3.6.4.2 Step 2: Assess mediation effects

To test the hypotheses summarised in Table 1, the causal model depicted in Figure 3 was constructed in AMSO 25.0. As part of the model, the control variables (gender, age, education, income, and use of formal banking) were included. Residuals were added to all the endogenous variables (EE, TR, UPE, SEC, HPE, ATT, and ITU), while covariance paths were added amongst all exogenous variables (RISK, SI, SE, FC, PV, and PERE) and control variables. Finally, regression paths were added between all control variables and endogenous variables. The causal model was subsequently analysed to determine if an adequate model fit was achieved. After analysing the model fit and standardised regression weights, all non-significant paths between control and endogenous variables, and exogenous and endogenous variables were

removed before proceeding to the calculation and analysis of the mediation effects.

3.6.4.3 Step 3: Assess moderation effects

Using SPSS 25.0, all control, exogenous and endogenous variables were standardised first. Thereafter, product terms were computed for all control and exogenous variables using standardised variables. Using AMOS 25.0, the moderating effects of control variables on all regression paths in the revised model were tested by including the product and control variables as exogenous variables with regression paths to the specific endogenous variable, while adding covariance amongst all exogenous variables. Model fit indices and R^2 were analysed first to determine if adequate measures had been attained. To determine the significance and strength of moderating effects, the regression weights of control and product variables were analysed. In total, 38 regression paths were tested for the five control variables, thereby leading to 190 moderating effects being analysed.

3.6.4.4 Step 4: Perform multi-group comparison

A multi-group comparison was performed on the revised model. This was conducted by forcing the groups together and determining if the returned metrics were substantially different from freely estimating them (Khalilzadeh et al., 2017; Schreiber et al., 2006).

3.7 Limitations of the Study

The limitations of the research study are as follows:

- Limited to South Africa and specially selected residential areas within the provinces of Gauteng and KwaZulu-Natal. Therefore, results might not be representative of the large unbanked population living in rural areas.
- Does not incorporate ethnicity and cultural diversity, which previous studies have indicated influence consumers' adoption of technology (Khalilzadeh et al., 2017); thus, limiting the generalisability of the research.

- Primary data was collected through Qualtrics, which is an online platform. As such, part of the sample might be considered to be biased towards the adoption of technology (information technology, internet or mobile technology) as compared with the general public (Chaouali et al., 2017).
- The research employs a cross-sectional study, and since MFS is rapidly evolving, the evolution can result in changes of behavioural intention to adopt. Chaouali et al. (2017) argued that the use of a longitudinal study might be justified.

4 PRESENTATION OF RESULTS

This chapter presents and briefly discusses the results of the research study. SPSS 25.0 and AMOS 25.0 were used to perform descriptive statistical and multivariate statistical analysis.

4.1 Cleaning and Screening the Data set

As stated above, the data set from Qualtrics was exported into Microsoft™ Excel to clean data and to screen for missing data, unengaged responses, outliers, skewness and kurtosis. A total of 346 responses were received, of which 40 responses were incomplete with more than 10% of the survey being unanswered, as illustrated by Table 7. As suggested by Schreiber et al. (2006), these incomplete responses could be removed from the data set since imputing scores for a large percentage of missing data dilutes the potency of the variable by bringing it towards the central tendency. This dampens the regression and correlations, which weakens the inferences of the research study. Considering the above and noting that the data set size would still be adequate for statistical analysis, these responses were removed from the data set.

Table 7: Percentage progress of responses

	% Survey Completed	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
	10.00	12	3.5	3.5	3.5
	22.00	12	3.5	3.5	6.9
	35.00	5	1.4	1.4	8.4
	47.00	5	1.4	1.4	9.8
	61.00	3	0.9	0.9	10.7
	76.00	1	0.3	0.3	11.0
	88.00	2	0.6	0.6	11.6
	100.00	306	88.4	88.4	100.0
	Total	**346**	**100.0**	**100.0**	

After removing the incomplete responses, the data set was screened for unengaged responses by computing the standard deviation only across the latent

variables. Three cases returned a standard deviation of 0, while five cases returned a standard deviation of less than 0.5. As indicated by the low standard deviation, these cases typified unengaged responses; thus these eight responses were removed from the data set (Schreiber et al., 2006; Williams et al., 2010).

The researcher was unable to identify any outliers in the survey since it consisted mainly of latent variables, which were tested using a Likert scale. Responses were, however, scanned for outliers within the demographic variables, namely, *age* and *education*. No responses were identified as outliers.

Furthermore, variables were tested for skewness and kurtosis issues. Only one variable, *use of formal banking*, reported skewness and kurtosis more significant than 2 (refer to Table 27 in Appendix C) (Hu & Bentler, 1999). This can be explained since South Africa has a well-developed banking sector with extensive infrastructure and products (World Bank Group, 2018).

The final data set was composed of 298 respondents, which was imported into SPSS 25.0 and AMOS 25.0 to conduct the descriptive and multivariate statistical analysis.

4.2 Demographic characteristics of the sample

The demographic characteristics of the sample are illustrated in Table 8.

Table 8: Demographic characteristics of the sample

Variable	*Level*	*N*	*(%)*
Gender	Male	175	58.72
	Female	123	41.28
Age	18 - 24	38	12.75
	25 - 29	62	20.81
	30 - 39	93	31.21
	40 - 49	69	23.15
	50 - 59	25	8.39
	60 or older	11	3.69
Monthly Income	Less than R1,000	20	6.71

	R1,001 - R5,000	72	24.16
	R5,001 - R10,000	38	12.75
	R10,001 - R15,000	21	7.05
	More than R15,001	147	49.33
Education	Less than high school	23	7.72
	High school graduate	104	34.90
	Diploma	54	18.12
	Bachelor's Degree	80	26.85
	Master's Degree	32	10.74
	Doctoral Degree	5	1.68
Use of Formal Banking	Yes	271	90.94
	No	27	9.06

The sample consisted of more male (58.72%) than female respondents (41.28%), while demonstrating a normal distribution across the age group segments, as illustrated by Figure 7. Most respondents were between the ages of 30 and 39 (31.21%) followed by respondents between 40 and 49 (23.15%) and, lastly respondents between 20 and 29 (20.81%).

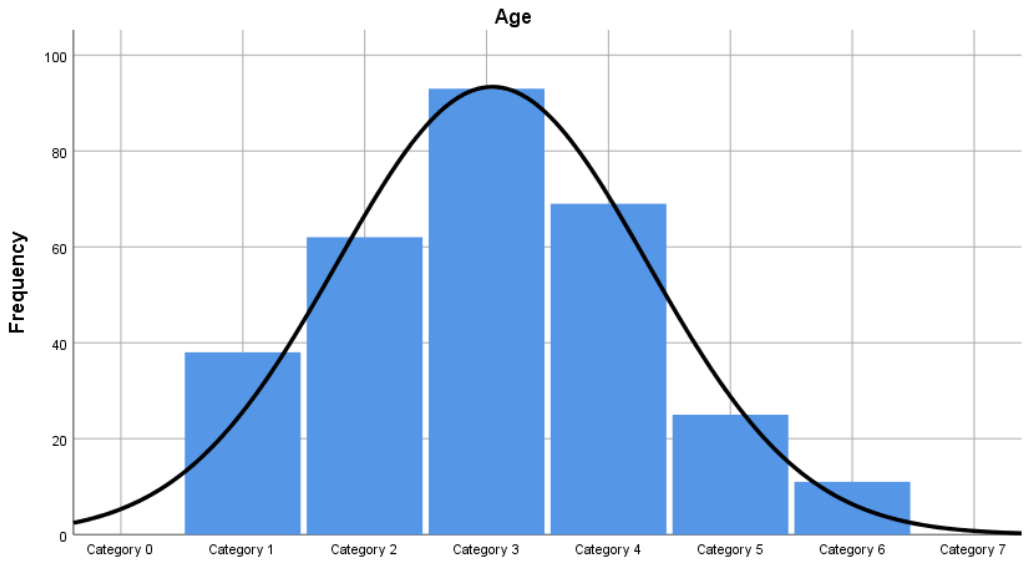


Figure 7: Age profile of the sample

In respect of income, most respondents reported monthly earnings of more than R15 0001 (49.33%), followed by monthly earnings of R1 001–R5 000 (24.16%), and then R5 001–R10 000 (12.75%), as illustrated by Figure 8.

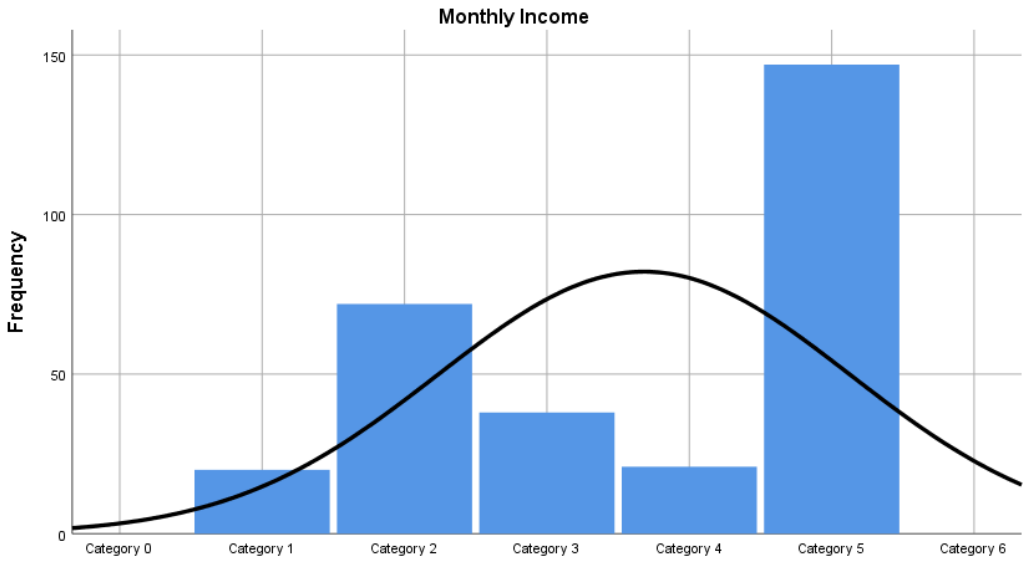


Figure 8: Monthly income profile of the sample

Where education is concerned, most respondents were high school graduates (34.9%), followed by respondents who attained a bachelor's degree (26.85%), and those who attained a diploma (18.12%), as illustrated by Figure 9.

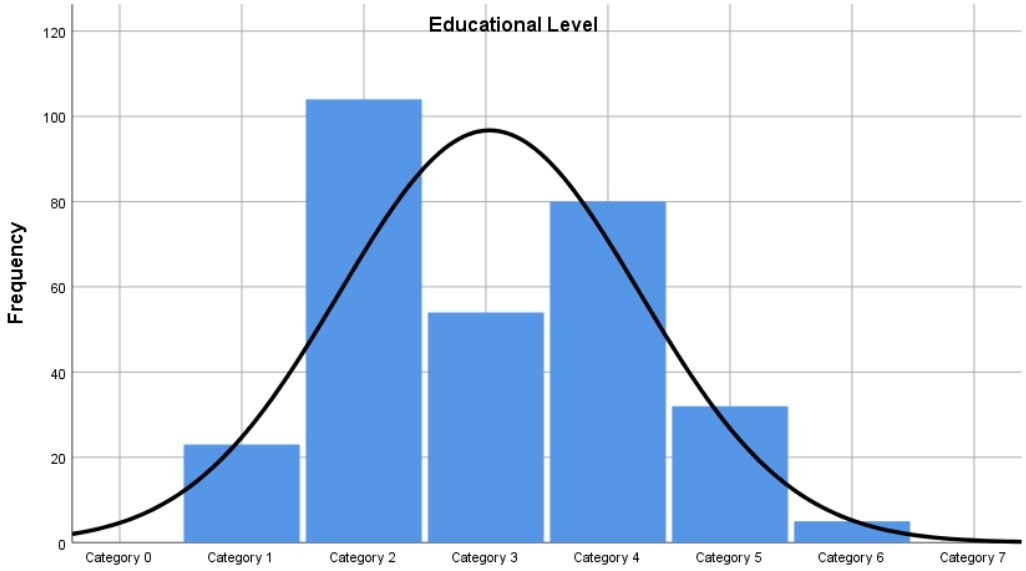


Figure 9: Education profile of the sample

Finally, most respondents reported that they used formal banking (90.94%).

4.3 Measurement Model

4.3.1 Exploratory factor analysis

This subsection presents and discusses the results from the EFA. At the end of the subsection, modification recommendations are presented and supported by statistical measures.

4.3.1.1 Adequacy of the sample

As described in Section 3.6.2.1, the following measures were first assessed to the determine the data set's suitability for factor analysis: i) sample size, ii) correlation matrix, iii) KMO measure of sampling adequacy, and iv) Bartlett's test of sphericity.

The research instrument consisted of 13 latent constructs while the final sample consisted of 298 responses, thus yielding a sample-to-variable ratio of 22.9:1.

As postulated by Tabachnick et al. (2007), the correlation matrix, as illustrated by Table 28–Table 31 in Appendix C, returned acceptable loadings with the majority being above 0.3.

The KMO measure of sampling adequacy yielded a value of 0.934 while Bartlett's test of sphericity yielded a significant value of 0.000, as illustrated by Table 9.

Table 9: EFA – KMO & Bartlett's test results

KMO Measure of Sampling Adequacy		*0.934*
Bartlett's Test of Sphericity	Approx. Chi-Square	11261.670
	df	946
	Sig.	0.000

As supported by literature and presented and discussed in Section 3.6.2.1, the adequacy analysis reported marvellous measures thereby confirming the sample's suitability for factor analysis.

4.3.1.2 Data interpretation

The EFA was initially performed using the ML extraction method with the number of factors extracted based on Kaiser's criteria (eigenvalue > 1) while employing the orthogonal varimax rotation and suppressing coefficients below 0.4.

All commonalities were strong with the exception of the measurement variables, namely, SE_2, SE_3, RISK_1 and FC_4, which reported communalities less than 0.350, as illustrated by Table 32 in Appendix C. Literature reports that such measurement variables must be carefully monitored during the EFA since they lead to factor-loading issues and as such prove to be candidates for removal (Henson & Roberts, 2006; Osborne et al., 2008).

The EFA extracted nine (9) factors which explained 67.68% of the total variance, illustrated by Table 33 in Appendix C, as opposed to the expected 13-factor measurement model; while returning 51 (5.0%) non-redundant residuals with absolute values greater than 0.05.

An interrogation of the rotated factor matrix, illustrated by Table 34 in Appendix C, revealed several divergent validity issues, particularly concerning the following loadings on factor 1:

- ITU_1, ITU_2, ITU_3;
- ATT_1, ATT_2, ATT_3;
- UPE_1, UPE_2, UPE_3;
- HPE_1, HPE_3;
- EE_1, EE_2, EE_3;
- SE_1

The research instrument was examined to gauge if the questions of the measurement variables were similarly postulated or consecutively positioned on the survey. The exercise provided no conclusive evidence supporting the cross-loadings. An examination of the correlation matrix, illustrated by Table 28–Table 31 within Appendix C, revealed a strong correlation between the measured variables of ITU and ATT, thereby supporting its cross-loadings on factor 1. In addition, the above measurement variables all reported strong communalities (>

0.5) while all constructs reported strong reliability (CA > 0.750), illustrated by Table 32 and Table 35 in Appendix C, respectively. In such scenarios, literature strongly recommends against removing these measurement variables and latent variables.

Section 3.6.2.3 provides evidence from literature that supports using multiple methods to determine the number of factors to extract, especially when EFAs return too few factors. Using the scree plot, illustrated in Figure 10, the researcher determined that 13 factors had to be extracted, thus aligning with the measurement model. In addition, literature supports the removal of measurement variables with weak factor loadings and low commonalities, and as such RISK_1 and FC_4 were removed. Removing these measurement variables was further justified by the improvement in reliability of the respective constructs, illustrated by Table 36 and Table 37 in Appendix C.

With these amendments, the resultant EFA extracted 12 factors, which accounted for 75% of the total variance, illustrated by Table 39 in Appendix C. The EFA also reported strong communalities greater than 0.50, illustrated by Table 38 in Appendix C, while, returning 3 (0%) non-redundant residuals with absolute values greater than 0.05. An examination of the rotated factor matrix, illustrated in Table 40 in Appendix C, revealed the following:

1. Convergent validity was achieved for all factors, with literature suggesting that factor loadings of 0.4 are sufficient for samples of 250 or more (Osborne et al., 2008).
2. Discriminant validity was largely achieved with all factors appearing to be distinct and uncorrelated, barring the strong cross-loadings of ITU and ATT measurement variables on factor 1, as well as the correlation of factor 1 and factor 12, illustrated by Table 41 in Appendix C.

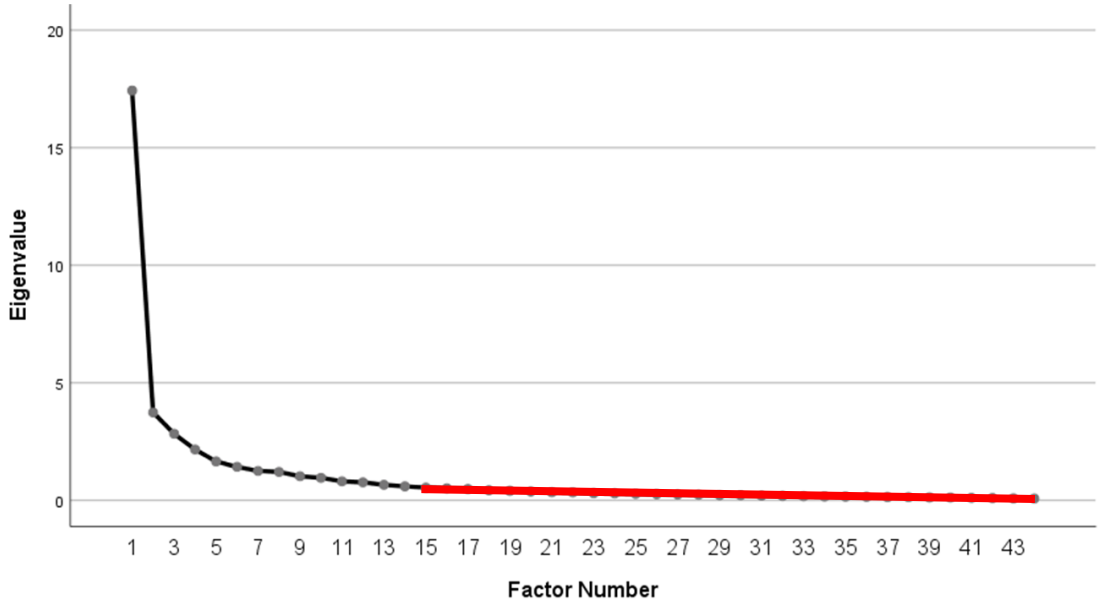


Figure 10: EFA – Scree Plot

4.3.1.3 Modification recommendations

Table 10 tabulates the modification recommendations as noted above for the measurement model and provides the statistical justifications for each.

Table 10: EFA – Modification recommendations

#	*Modification Recommendation*	*Statistical Justification*
MR 1	Aggregate ITU and ATT into a single construct	**Correlation > 0.75;** **Strong cross-loadings on factor 1 > 0.50**
MR 2	Remove measurement variable, RISK_1	**Communality < 0.30 and factor loading < 0.50;** **CA of RISK improves when item is removed**
MR 3	Remove measurement variable, FC_4	**Communality < 0.30 and factor loading < 0.50;** **CA of FC improves when item is removed**
MR 4	Aggregate UPE with ITU and ATT into a single construct	**Factor correlation matrix returns strong correlation (> 0.75) between factor 1 (ITU and ATT) and factor 12 (UPE)**

4.3.2 Confirmatory factor analysis

After analysing the EFA, the initial measurement model was constructed in AMOS 25.0. A CFA was performed to examine the model fit, validity and reliability of the measurement variables (Khalilzadeh et al., 2017).

4.3.2.1 Data interpretation

The model fit indices from the CFA are tabulated in Table 11. The CFA reported CFI, RMSEA and PCLOSE values which were not excellent. However, literature suggests that due to the complexity of the measurement model (i.e. the inclusion of 13 constructs) as well as the sample size the returned values are within an acceptable range (Schreiber et al., 2006).

Except for gender, all demographic groups were deemed too small to use for the configural and metric invariance tests. However, the gender group was biased by 59% to 41% towards males; therefore, the gender group was also deemed unsuitable for the invariance tests. As such, the sample data set was randomly subdivided into two groups using the Microsoft™ Excel random number function. This division yielded two groups of 154 and 144 samples, respectively. A configural invariance test was conducted, which returned adequate model fit indices when analysing a freely estimated model across these two groups, as displayed in Table 11.

Table 11: CFA - Model fit indices

Fit Index	χ^2/df	*SRMR*	*CFI*	*RMSEA*	*PCLOSE*
Excellent	≤ 2	≤ 0.08	≥ 0.95	< 0.05	≥ 0.05
Acceptable	≤ 5	≤ 0.10	≥ 0.90	< 0.08	≥ 0.01
Measurement Model	1.992	0.069	0.925	0.058	0.010
Configural Invariance	1.689	0.072	0.900	0.048	0.825
CLF Model	1.667	0.036	0.952	0.047	0.829

A metric invariance test was conducted by constraining the two groups to be equal and thereafter performing a chi-square (χ^2) difference test between the unconstrained and fully constrained models. This test returned a *p*-value of 0.108, as displayed in Table 12, thereby confirming that the groups are invariant at

model level. An inspection of each group's model paths revealed negligible differences, as illustrated in Table 44 in Appendix D, thereby confirming the groups are also invariant at path level.

Table 12: CFA – Chi-square difference test

Fit Measures	χ^2	df	χ^2/df	*p-value*	*Invariant*
Unconstrained	2782.772	1648	1.689		
Constrained	2843.130	1696	1.676		
Difference	60.358	48.000	0.012	0.109	YES

The measurement model largely attained convergent validity except for measurement variables RISK_1 and FC_4, which returned standard regression weights of less than 0.5, displayed in Table 42 in Appendix D. All constructs reported AVE values greater than 0.50, as displayed in Table 45 in Appendix D.

In addition, the measurement model also largely attained discriminant validity with the exception of constructs, UPE, ATT, and ITU, which returned inter-factor correlations greater than 0.8 with each other, as displayed in Table 43 in Appendix D. Discriminant validity concerns were further noted for ATT and ITU since the square root of their respective AVEs was less than the inter-factor correlation with each other, refer to Table 45 in Appendix D. The measurement model achieved adequate reliability as evidenced by all constructs returning CRs above 0.75, displayed in Table 45 in Appendix D.

A CMB test was performed that compared the unconstrained CLF model with the fully constrained (zero constrained) CLF model. Thereafter, a chi-square difference test was calculated, which revealed that the models were substantially different as evidenced from the significant *p*-value depicted in Table 13. This implied that there was significant shared variance and, as such, the CLF was retained when the factor scores were imputed.

Table 13: CFA – CMB test results

Fit Measures	χ^2	df	χ^2/df	*p-value*	*Invariant*
Unconstrained	1299.997	780	1.667		
Constrained	1641.130	824	1.992		

Difference	341.133	44.000	-0.325	0.000	NO

A CFA was performed on the CLF model, which returned a better model fit than the initial measurement model, as displayed in Table 11. Inspection of the standardised regression weights and correlation measures, illustrated in Table 46 and Table 47 in Appendix D, respectively, supported earlier observation in terms of convergent validity issues with RISK_1 and FC_4, and discriminant validity issues with ATT and ITU.

4.3.2.2 Modification recommendations

Table 14 tabulates the modification recommendations as noted above for the measurement model and provides the statistical justifications for each.

Table 14: CFA – Modification recommendations

#	***Modification Recommendation***	***Statistical Justification***
MR 1	Aggregate ITU and ATT into a single construct	**Correlation > 0.8; Square Root of AVE < Correlation; Correlation (CLF Model) > 0.8**
MR 2	Remove measurement variable, RISK_1	**Standard Regression Weight < 0.5; Standard Regression Weight (CLF model) < 0.5**
MR 3	Remove measurement variable, FC_4	**Standard Regression Weight < 0.5; Standard Regression Weight (CLF model) < 0.5**
MR 4	Aggregate UPE with ITU and ATT into a single construct	**Correlation > 0.8**

4.3.3 CB-SEM

4.3.3.1 Assumptions check

The data set was screened for multivariate normality and outliers by running a linear regression and plotting the Cook's distance with three (3) cases resembling outliers. However, these three (3) cases reported Cook's distances significantly lower than the threshold of 1 and were less than five (5) times other Cook's

distances, as illustrated in Figure 11; therefore, they were retained in the data set (Hu & Bentler, 1999). In addition, multi-collinearity diagnostics returned adequate tolerance and VIF values for all variables, as displayed by Table 48 in Appendix E.

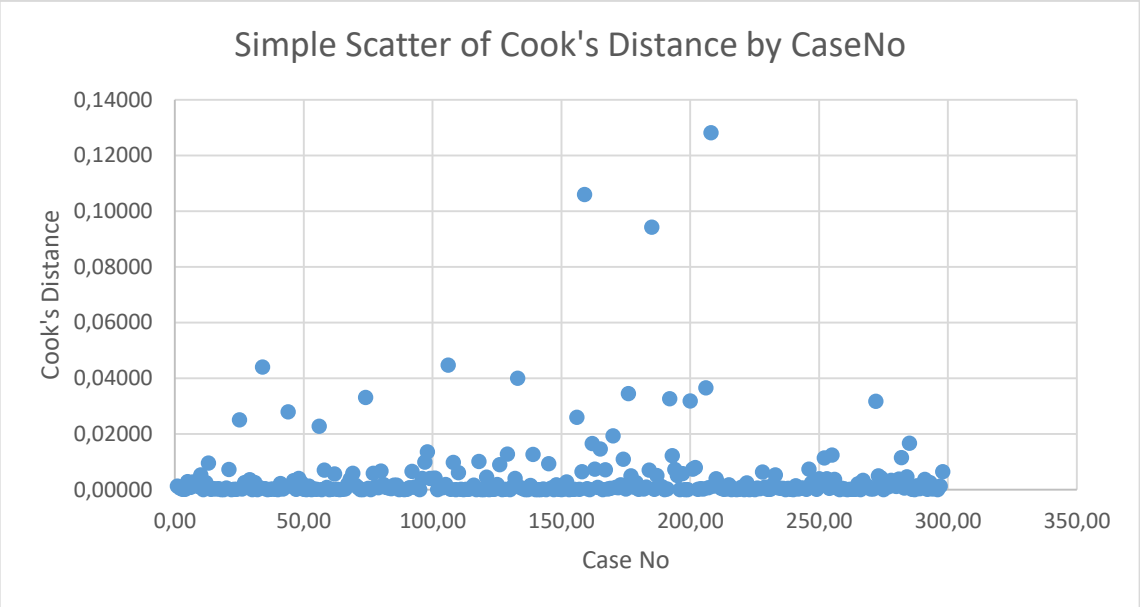


Figure 11: Cook's distance of data set

4.3.3.2 Data interpretation

The causal model returned acceptable model fit indices, as illustrated by Table 15. An interrogation of the model's standardised regression weights, as given in Table 49 in Appendix E, revealed that all paths from the control variables (gender, age, education, income, and use of formal Banking) to the endogenous variables (SEC, TR, EE, UPE, HPE, ATT, and ITU) returned non-significant *p*-values (> 0.05), with the exception of the following paths:

- Gender → TR
- Gender → UPE
- Income → HPE

The following regression paths between exogenous and endogenous variables also reported non-significant *p*-values (> 0.05):

- PV → SEC

- PV → EE
- TR → UPE
- TR → HPE
- SI→ ITU
- PERE → ITU

Thus, all insignificant regression paths were removed, thereby resulting in a "*revised model"*, which returned excellent model fit indices as illustrated by Table 15. Furthermore, the revised model returned significant regressions for all paths, refer to Table 50 in Appendix E, while yielding excellent coefficients of determination for all endogenous variables, as illustrated by Table 16.

Table 15: CB-SEM – Model fit indices

Fit Index	χ^2/df	*SRMR*	*CFI*	*RMSEA*	*PCLOSE*
Excellent	≤ 2	$\leq .08$	$\geq .95$	$< .05$	$\geq .05$
Acceptable	≤ 5	$\leq .10$	$\geq .90$	$< .08$	$\geq .01$
Measurement (Priori) Model	2.856	0.008	0.991	0.079	0.026
Revised Model	1.765	0.018	0.989	0.050	0.449

Table 16: CB-SEM – SMC of endogenous variables (revised model)

SMC (R^2)	*Estimate*	*Lower*	*Upper*	*p-value*
SEC	0.535	0.460	0.598	0.002
TR	0.653	0.576	0.695	0.009
EE	0.734	0.684	0.768	0.005
UPE	0.738	0.684	0.773	0.006
HPE	0.794	0.748	0.822	0.005
ATT	0.856	0.819	0.883	0.003
ITU	0.918	0.894	0.934	0.003

The coefficient of determination of ITU was 0.918, highlighting the proposed model's ability to account for a substantial amount of the endogenous variable's variance. The revised model was then used to determine the indirect or mediation effects. All mediation effects returned significant values at either the 99.9% or 95% confidence levels, as illustrated by Table 51 in Appendix E.

Table 52 and Table 53 summarises the standardised indirect and direct effects of the revised model after ignoring insignificant paths, respectively. The direct and indirect effects returned adequate loadings and Table 54 presents the cumulative standardised effects of exogenous variables on endogenous variables in the revised model. Finally, all hypotheses testing results were summarised and presented in Table 17, which revealed that all hypotheses were fully supported except for:

- H_{3F} and $H_{11B,}$ which were rejected since their respective regression paths returned non-significant results; and
- H_{8B}, $H_{8c,}$ $H_{11A,}$ and $H_{12E,}$ which were partially supported through mediation effects as opposed to the hypothesised direct effect.

Table 17: Direct & mediated hypotheses testing summary

#	IV	MEDIATOR	DV	DIRECT EFFECT	INDIRECT EFFECT	DECISION
$H1_A$	FC	TR	EE	0.399***	0.106***	Supported
$H1_B$	FC		SEC	0.150**	–	Supported
$H1_C$	FC	SEC	TR	0.205***	0.027**	Supported
$H1_D$	FC	EE	UPE	0.268***	0.145***	Supported
$H1_{E1}$	FC	EE	HPE	0.389**	0.285**	Supported
$H1_{E2}$	FC	UPE	HPE	0.389**	0.119**	Supported
$H1_{F1}$	FC	UPE	ATT	0.133***	0.108***	Supported
$H1_{F2}$	FC	HPE	ATT	0.133***	0.122**	Supported
$H1_G$	FC	ATT	ITU	–	0.110**	Supported
$H2_A$	UPE		HPE	0.446**	–	Supported
$H2_B$	UPE	HPE	ATT	0.405***	0.140***	Supported
$H2_C$	UPE	ATT	ITU	–	0.334***	Supported
$H3_A$	SI	TR	EE	0.149***	0.061**	Supported
$H3_B$	SI		SEC	0.158**	–	Supported
$H3_C$	SI	SEC	TR	0.117**	0.029**	Supported
$H3_D$	SI	EE	UPE	0.194**	0.054***	Supported
$H3_{E1}$	SI	EE	HPE	0.157***	0.106**	Supported
$H3_{E2}$	SI	UPE	HPE	0.157***	0.086***	Supported
$H3_F$	SI		ITU	−0.019	–	Rejected

$H3_{G1}$	SI	UPE	ATT	–	0.078***	Supported
$H3_{G2}$	SI	HPE	ATT	–	0.049***	Supported
$H4_{A}$	EE		UPE	0.363**	–	Supported
$H4_{B}$	EE	UPE	HPE	0.713***	0.162***	Supported
$H4_{C1}$	EE	UPE	ATT	–	0.147***	Supported
$H4_{C2}$	EE	HPE	ATT	–	0.224***	Supported
$H5_{A}$	HPE		ATT	0.314***	–	Supported
$H5_{B}$	HPE	ATT	ITU	–	0.259***	Supported
$H6_{A}$	SE		EE	0.343***	–	Supported
$H6_{B}$	SE	EE	UPE	0.102**	0.125***	Supported
$H6_{C1}$	SE	EE	HPE	0.119***	0.245***	Supported
$H6_{C2}$	SE	UPE	HPE	0.119***	0.045**	Supported
$H6_{D}$	SE		ITU	0.082***	–	Supported
$H6_{E1}$	SE	UPE	ATT	–	0.041**	Supported
$H6_{E2}$	SE	HPE	ATT	–	0.037**	Supported
$H7_{A}$	SEC	TR	EE	–	0.095***	Supported
$H7_{B}$	SEC		TR	0.183***	–	Supported
$H7_{C}$	SEC		ATT	0.215**	–	Supported
$H7_{D}$	SEC	ATT	ITU	0.105***	–	Supported
$H8_{A}$	TR		EE	0.519***	–	Supported
$H8_{B}$	TR	EE	UPE	0.000	0.188***	P. Supported
$H8_{C}$	TR	EE	HPE	0.029	0.370***	P. Supported
$H9_{A}$	RISK	TR	EE	−0.092**	−0.099***	Supported
$H9_{B}$	RISK		SEC	−0.195***	–	Supported
$H9_{C}$	RISK	SEC	TR	−0.190***	−0.036***	Supported
$H9_{D}$	RISK	EE	UPE	−0.128***	−0.033**	Supported
$H9_{E1}$	RISK	EE	HPE	–	−0.065**	Supported
$H9_{E2}$	RISK	UPE	HPE	–	−0.057**	Supported
$H9_{F}$	RISK	UPE	ATT	−0.068**	−0.052***	Supported
$H9_{G}$	RISK	ATT	ITU	−0.052***	−0.056**	Supported
H10	ATT		ITU	0.826***	–	Supported
$H11_{A}$	PV	TR	EE	0.102	0.110***	P. Supported
$H11_{B}$	PV		SEC	0.115	–	Rejected
$H11_{C}$	PV		TR	0.211**	–	Supported
$H11_{D}$	PV		UPE	0.159***	–	Supported
$H11_{E}$	PV		ITU	0.114***	–	Supported

$H11_F$	PV	UPE	HPE	–	0.071***	Supported
$H11_G$	PV	UPE	ATT	–	0.064***	Supported
$H12_A$	PERE	TR	EE	0.106**	0.131***	Supported
$H12_B$	PERE		SEC	0.508***	–	Supported
$H12_C$	PERE	SEC	TR	0.252***	0.093***	Supported
$H12_D$	PERE		ATT	0.231***	–	Supported
$H12_E$	PERE	ATT	ITU	−0.037	0.191***	P. Supported
$H12_F$	PERE	EE	UPE	–	0.038**	Supported
$H12_G$	PERE	EE	HPE	–	0.075**	Supported

Significance of Estimates:
*** $p < 0.001$
** $p < 0.050$

The moderation effects of control variables on all 38 regression paths of the revised model were tested. During testing, all models returned adequate model fit and SMC measures, as illustrated by Table 55 and Table 56 in Appendix E. Table 57 illustrates the moderation effects while Figure 12 – Figure 51 illustrates the respective interaction plots, in Appendix E. It is evident that moderation effects are weak, with *age* being the strongest moderator. As such, Table 18 summarises the moderation hypotheses testing outcomes.

Table 18: Moderation hypotheses testing summary

#	CV	# SIGNIFICANT MODERATION EFFECTS	TOTAL REG. PATHS	% MOD. EFFECT	DECISION
H13	Gender	7	38	18.42%	Partially Supported
H14	Age	12	38	31.58%	Partially Supported
H15	Income	9	38	23.68%	Partially Supported
H16	Education	5	38	13.16%	Partially Supported
H17	Use of Formal Banking	2	38	5.26%	Rejected

As was the case with the CFA, the demographic variables were deemed unsuitable for use in the multi-group comparison. As such, the same data set which subdivided the data randomly into two groups for invariance tests in the

CFA was employed again in the CB-SEM multi-group comparison. The chi-square difference test between the unconstrained and constrained models returned a *p*-value of 0.109, as displayed in Table 19, which confirmed that the models were invariant at the model level.

Table 19: CB-SEM – Chi-square difference test

Fit Measures	χ^2	df	χ^2/df	*p-value*	*Invariant*
Unconstrained	180.794	114	1.586		
Constrained	234.348	156	1.502		
Difference	53.554	42.000	0.084	0.109	YES

5 DISCUSSION OF RESULTS

This chapter aims to provide an in-depth analysis of the results which were presented in the previous chapter. The chapter is subdivided into five sections. The first section analyses the demographic characteristics of the sample to ascertain whether the sample was representative of the larger South African population. While, the second, third, and fourth sections discuss the results pertaining to each of the three research propositions. Finally, the last section assesses the proposed model and its explanatory power.

5.1 Demographic characteristics of the sample

Although the sample was biased towards the male segment, it was within a 10% variation of the figures published by Statistics South Africa (2018). The sample's age group segments achieved a maximum variation of 15% from the figures reported by Statistics South Africa (2018).

According to the Organisation for Economic Co-operation and Development (OECD), the average monthly household income in South Africa is approximately R13 000 (@ 1 USD = 14.35 ZAR) (OECD, 2018b). The majority of the sample reported monthly earnings more than R15 001 (49%).

In respect of education levels in South Africa, the OECD reported that approximately 43% of adults attained an education above the secondary school level. The sample was significantly biased with 92.28% of respondents having more than a secondary school education (OECD, 2018a). Finally, most of the sample, 90.94%, reported that they make use of formal banking. This is in contrast with figures reported in the Global Findex survey, which revealed that approximately 70% of South Africa's adult population have formal bank accounts (World Bank Group, 2018).

Considering the above, it must be noted that although the sample for the study was within acceptable variation ranges, it is not truly representative of the South African population. Therefore, the generalisability of the results may be affected, especially the moderation effects of these demographic variables.

5.2 Research Proposition 1

The discussion below pertains to the latent factors of Research Proposition 1 and refers to the hypothesised results in Table 17 and the total standardised effects of the revised model in Table 54 in Appendix E.

The construct FC demonstrated a positive influence on all endogenous variables (SEC, TR, EE, UPE, HPE, ATT, and ITU). The most significant standardised effects were on HPE, UPE, and EE, while the smallest standardised effect was on ITU. These findings are consistent with previous studies that revealed that FC affects consumers' usage behaviour rather than their behavioural intention (Baptista & Oliveira, 2015; Khalilzadeh et al., 2017; Maillet, Mathieu, & Sicotte, 2015). All hypotheses in respect of FC were supported.

UPE returned significant positive effects for HPE, ATT, and ITU, with the strongest standardised effect being on ATT, which was followed by HPE. This suggests that when consumers perceive MMS as useful, they will most likely enjoy their engagements with the system, which in turn influences their attitude and behavioural intention, positively. Khalilzadeh et al. (2017) reported similar findings in their research study and, as such, all UPE hypotheses were fully supported. The strong positive influence of UPE on ATT and ITU also explains the cross-loading between UPE, ATT, and ITU which were reported during the EFA and CFA.

Similarly, to FC, SI reported strong positive effects on HPE, UPE, and EE, while reporting zero impact on ITU. These findings are consistent with previous studies and indicate that SI has the potential to influence the usefulness and enjoyment of MMS positively (Maillet et al., 2015). All SI hypotheses, except for SI → ITU, were supported.

The results demonstrated that EE positively influences UPE, HPE, and ATT thereby supporting all hypotheses. Furthermore, it was noted that the most significant predictor of EE was FC followed by SE, which suggests that consumers' perceptions around the readiness and effectiveness of system infrastructure are more influential on EE than their ability or efficacy pertaining to

the service. These findings were also supported in previous research (Khalilzadeh et al., 2017).

In respect of HPE, the results from this study are consistent with previous research performed by Khalilzadeh et al. (2017), which indicated that HPE influences consumers' behavioural intention, ATT and ITU positively. In addition, the results indicated that HPE was influenced either directly or indirectly by several latent factors (PERE, PV, FC, SE, SI, RISK, TR, EE, and UPE), with the most significant predictor of HPE being that of EE and FC. This suggests that service providers and system developers should seek to make MMS easy to use, thereby driving hedonic performance. In turn, hedonic performance will increase behavioural intention.

The results indicated that SE affects EE, UPE, HPE, ATT and ITU positively, thereby supporting all hypotheses. The most potent effect was on HPE and EE, suggesting that one's efficacy towards MMS significantly influences their enjoyment and the effort required when using the service.

The construct SEC returned positive effects for TR, EE, ATT and ITU, thereby confirming its hypotheses. The most substantial positive effect was on ITU followed by ATT. This implies that the perceived security of MMS will influence behavioural intention positively. As such, system developers, service providers and regulatory bodies should work together to ensure that consumers' security concerns are addressed sufficiently to drive MMS adoption in institutionally compromised developing countries. These findings are consistent with previous research (Khalilzadeh et al., 2017).

In respect of TR, the results demonstrated that TR had a positive impact on EE, UPE, and HPE. However, contrary to research conducted by Khalilzadeh et al. (2017) the impact of TR on UPE and HPE was an indirect effect which was mediated by EE, thereby partially supporting the hypotheses.

The construct RISK was shown to affect all endogenous variables negatively, with the strongest direct effect being on SEC followed by TR. This suggests that consumers' perception of the risk prevalent in MMS affects their perception of the security offered by MMS negatively, which in turn affects their trust in the service

and operator negatively. In addition, RISK was shown to influence HPE, indirectly, suggesting that the more consumers are concerned with privacy or performance risks, the less enjoyment they will extract from using MMS. In turn, this will affect their behavioural intention. All hypotheses related to RISK were supported and consistent with previous studies (Khalilzadeh et al., 2017).

PV reported a positive impact on TR, UPE, HPE, ATT, and ITU. The results showed that the hypothesis of PV → SEC was rejected, while that of PV → EE was partially supported through the mediation of TR. This suggests that customers' perceptions regarding PV of MMS significantly influence their usage behaviour and behavioural intention. These findings are consistent with research conducted by Venkatesh et al. (2012).

The results from EFA and CFA reported strong cross-loadings between ATT and ITU. However, Khalilzadeh et al. (2017) argued that this phenomenon could be defended through the similarity of the variables. Therefore, it is justifiable to maintain these factors as separate latent factors within the structural model. Furthermore, due to the endogenous nature of these variables, discriminant validity issues will not harm the structural model (Khalilzadeh et al., 2017). The results from the study demonstrated that overall ATT has the most potent positive effect on ITU, thereby supporting the hypothesis while remaining consistent with previous research.

5.3 Research Proposition 2

Concerning the construct PERE, results from the EFA and CFA reported high convergent and discriminant validity while the CB-SEM reported strong positive effects on EE, SEC, TR, UPE, HPE, and ATT, thereby supporting all hypotheses. There was no direct effect on ITU; however, there was a significant indirect effect through the mediation of ATT, thereby partially supporting the hypothesis.

The most significant effects of PERE were reported on SEC and TR, which implies that when consumers perceive the regulatory environment as being effective, this affects their perception of the security of MMS and their trust of MMS and the service provider positively. It is therefore crucial that the regulatory

bodies provide an enabling environment for MMS to thrive in South Africa. This is consistent with previous global studies that have been conducted within the financial sector.

5.4 Research Proposition 3

This section provides a discussion pertaining to the moderation effects of the control variables (*gender, age, income, education,* and *use of formal banking*) on the regression paths of the proposed structural model.

As illustrated by Appendix E, Table 55, g*ender* demonstrates moderation effects on seven (7) of the 38 regression paths thereby representing an 18.42% moderation effect on the model. The interaction plots of these moderation effects are illustrated by Figure 17 – Figure 23 in Appendix E. Table 20 summarises and explains these effects after plotting and analysing each of the significant (*p*-value < 0.05) interactions.

Table 20: Moderation effects by *Gender*

PATH	ESTIMATE	MEANING
EE → HPE	0.120**	*Gender* strengthens the positive relationship between EE and HPE
FC → SEC	0.114**	*Gender* strengthens the positive relationship between FC and SEC
FC → TR	0.070**	*Gender* strengthens the positive relationship between FC and TR
FC → UPE	0.088**	*Gender* strengthens the positive relationship between FC and UPE
HPE → ATT	0.126**	*Gender* strengthens the positive relationship between HPE and ATT
RISK → ATT	0.058**	*Gender* dampens the negative relationship between RISK and ATT
SI → UPE	-0.088**	*Gender* dampens the positive relationship between SI and UPE

Significance of Estimates:
*** p < 0.001
** p < 0.050

The results from the moderation effect analysis indicated that *age* had the most significant moderation effect (31.58%) amongst all the control variables, illustrated by Appendix E, Table 55. The interaction plots of these moderation effects are illustrated by Figure 24 – Figure 35 in Appendix E. Table 21 provides explanations for these effects after plotting and analysing each of the significant (*p*-value < 0.05) interactions.

Table 21: Moderation effects by *Age*

PATH	ESTIMATE	MEANING
EE → HPE	0.097**	*Age* strengthens the positive relationship between EE and HPE
FC → EE	-0.061**	*Age* dampens the positive relationship between FC and EE
FC → TR	-0.134**	*Age* dampens the positive relationship between FC and TR
HPE → ATT	0.082**	*Age* strengthens the positive relationship between HPE and ATT
PERE → ATT	-0.083**	*Age* dampens the positive relationship between PERE and ATT
PERE → EE	0.075**	*Age* strengthens the positive relationship between PERE and EE
PERE → SEC	-0.146**	*Age* dampens the positive relationship between PERE and SEC
PV → TR	0.188**	*Age* strengthens the positive relationship between PV and TR
PV → UPE	-0.119**	*Age* dampens the positive relationship between PV and UPE
RISK → ATT	-0.05**	*Age* strengthens the negative relationship between RISK and ATT
RISK → SEC	-0.097**	*Age* strengthens the negative relationship between RISK and SEC
RISK → UPE	-0.065**	*Age* strengthens the negative relationship between RISK and UPE

Significance of Estimates:
*** p < 0.001
** p < 0.050

Income was shown to have the second highest moderation effect (23.68%) amongst all the control variables, illustrated by Appendix E, Table 55. The interaction plots of these moderation effects are illustrated by Figure 36 – Figure 44 in Appendix E. Table 22 provides explanations for these effects after plotting and analysing each of the significant (*p*-value < 0.05) interactions.

Table 22: Moderation effects by *Income*

PATH	ESTIMATE	MEANING
FC → TR	-0.098**	*Income* dampens the positive relationship between FC and TR
PERE → ATT	-0.073**	*Income* dampens the positive relationship between SI and SEC
PERE → SEC	0.114**	*Income* strengthens the positive relationship between PERE and SEC
PV → TR	0.156**	*Income* strengthens the positive relationship between PV and TR
SE → EE	-0.124**	*Income* dampens the positive relationship between SE and EE
SI → SEC	0.117**	*Income* strengthens the positive relationship between SI and SEC
SI → UPE	0.089**	*Income* strengthens the positive relationship between SI and UPE
UPE → ATT	0.126**	*Income* strengthens the positive relationship between UPE and ATT
UPE → HPE	-0.119**	*Income* dampens the positive relationship between UPE and HPE

Significance of Estimates:
*** p < 0.001
** p < 0.050

Education demonstrated moderate moderation effect (13.16%), illustrated by Appendix E, Table 55. The interaction plots of these moderation effects are illustrated in Figure 45 – Figure 49 in Appendix E. Explanations for the significant (*p*-value < 0.05) interactions are tabulated in Table 23.

Table 23: Moderation effects by *Education*

PATH	ESTIMATE	MEANING
ATT → ITU	0.068**	*Education* strengthens the positive relationship between ATT and ITU
FC → ATT	-0.061**	*Education* dampens the positive relationship between FC and ATT
PV → ITU	-0.052**	*Education* dampens the positive relationship between PV and ITU
PV → TR	0.109**	*Education* strengthens the positive relationship between PV and TR
SI → UPE	0.088**	*Education* strengthens the positive relationship between SI and UPE

Significance of Estimates:
*** p < 0.001
** p < 0.050

The *Use of Formal Banking* indicated the lowest moderation effect (5.26%) amongst the control variables, illustrated by Appendix E, Table 55. The interaction plots of these moderation effects are illustrated in Figure 50 and Figure 51 in Appendix E. The explanation for the significant (*p*-value < 0.05) interactions are tabulated in Table 24.

Table 24: Moderation effects by *Use of Formal Banking*

PATH	ESTIMATE	MEANING
FC → UPE	0.123***	*Use of formal banking* strengthens the positive relationship between PV and TR
SI → SEC	0.134**	*Use of formal banking* strengthens the positive relationship between SI and SEC

Significance of Estimates:
*** p < 0.001
** p < 0.050

Considering the discussion in Section 5.1 pertaining to the representability of the sample and the low moderation effect of *Use of Formal Banking*, its hypothesis was rejected. While owing to their moderate effect, the moderation hypotheses for the other demographic variables were partially supported and thus consistent with previous studies (Khalilzadeh et al., 2017; Venkatesh et al., 2012).

5.5 Proposed model

The results of the study indicate that the revised model accounts for 91.8% of the variance pertaining to the behavioural intention of consumers in South Africa to adopt MMS. This is a remarkable improvement in terms of explanatory and predictive ability, considering the UTAUT2 model proposed by Venkatesh et al. (2012) was only capable of explaining 74% of the variance while the extended UTAUT model proposed by Khalilzadeh et al. (2017) accounted for 87.1% of the variance pertaining to behavioural intention. As such, the revised model of this study demonstrates a 24.05% and 5.40% improvement on the models proposed by Venkatesh et al. (2012) and Khalilzadeh et al. (2017), respectively. The significant improvement over the UTUAT2 model is mainly due to the structure of the model and its arrangement of the latent factors (six levels of mediation). As argued by Khalilzadeh et al. (2017), the real world presents complex causal interrelationships, and therefore the simplistic nature of the UTUAT2 model is not adequate. Changing the structure of the model to accommodate six levels of mediation was also supported by research performed by Mohammadi (2015). The improvement over the model proposed by Khalilzadeh et al. (2017) is due to the inclusion of the latent factors PERE and PV. The latent factor PERE demonstrates significant positive direct effects on ATT and SEC which in turn report strong positive effects on ITU. While, PV is reports moderate positive indirect and direct effects on ATT and ITU, respectively. As such, we propose the use of the revised model in future studies pertaining to consumer adoption of technology, illustrated in Figure 12.

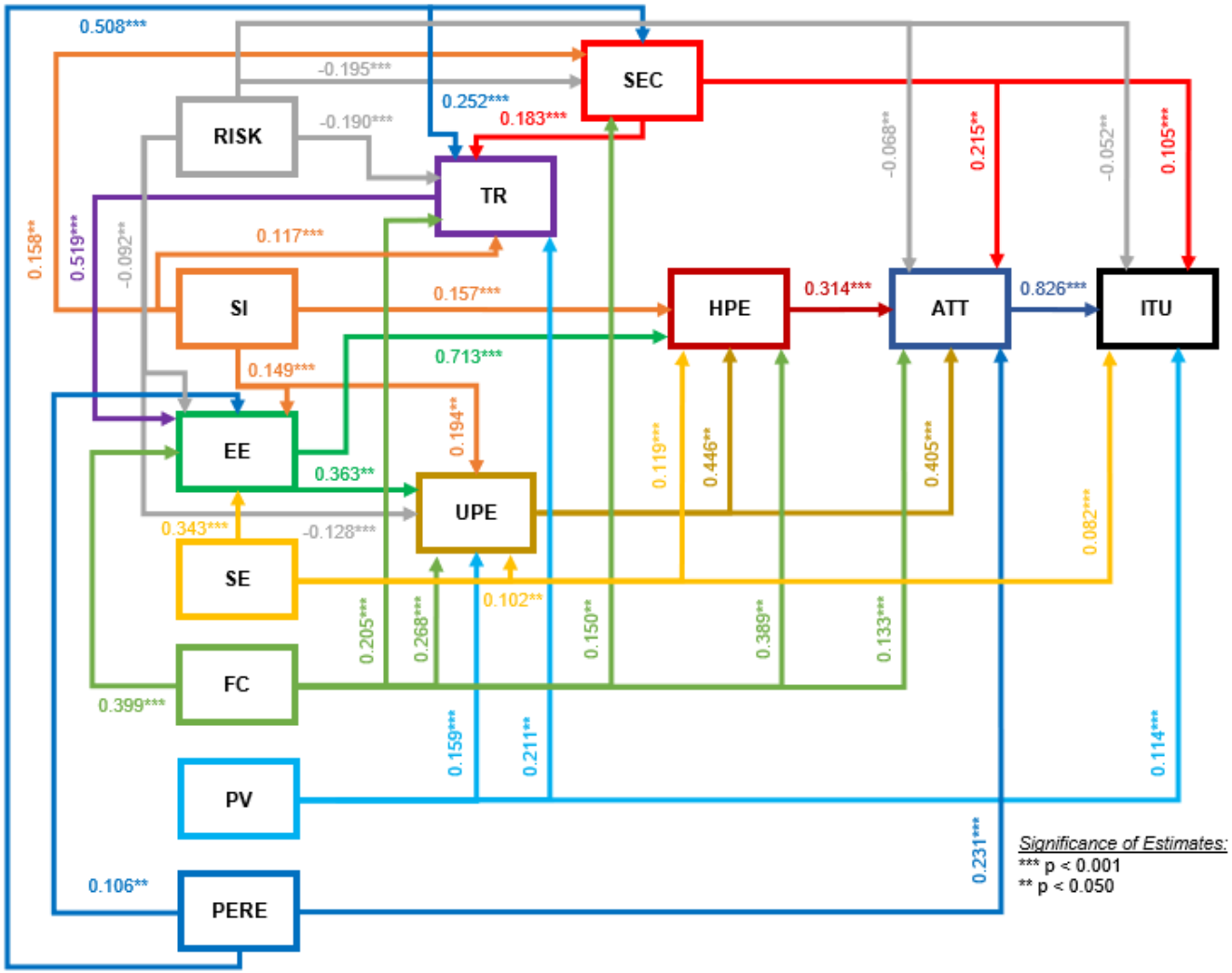


Figure 12: Proposed extension to the UTUAT model

6 CONCLUSION

This chapter concludes the research report by summarising the main objectives, outcomes, and critical contributions of the study as well as provides recommendations for future research.

6.1 Summary of the research study

The primary objective of the study was to investigate the factors influencing consumers' behavioural intention to adopt MMS in South Africa, with the specific aim of establishing and investigating a linkage between PERE and a consumer's behavioural intention to adopt MMS. In addition, the study investigated if behavioural intention to adopt MMS was affected by gender, age, income, education, and the use of formal banking.

Literature widely supported the use of the UTAUT2 model to predict behavioural intention to adopt technology and usage behaviour due to several studies demonstrating the model's explanatory and predictive power. Recent research conducted by Khalilzadeh et al. (2017) proposed an extension to the UTAUT model which demonstrated significant improvement in explanatory and predictive power. However, previous studies centred around MMS seemingly overlook the influence of PERE on behavioural intention. As such, this study sought to extend the model proposed by Khalilzadeh et al. (2017).

Excellent results were achieved from the EFA and CFA with minimal discriminant and convergent validity issues reported. CB-SEM results fully supported all hypotheses with the exception of three which were rejected and eight which were partially supported. As such, the results of the study offered several implications which will be discussed in the section to follow.

6.2 Theoretical, policy, and practical implementation contributions

6.2.1 Theoretical contribution

The study confirmed the importance of PERE and PV on behavioural intention to adopt MMS within low-trust and institutionally compromised developing countries, like South Africa. The empirical results demonstrated that PERE directly influences ATT and SEC, positively. In turn, these latent factors directly influence consumers' behavioural intention; while PV is shown to indirectly and directly influence ATT and ITU, respectively. Contrary to the research by Khalilzadeh et al. (2017) the study suggested that TR indirectly influences UPE and HPE through the mediation of EE and therefore supported the removal of regression paths from TR to UPE and HPE.

As such, the proposed model achieved superior explanatory and predictive power by demonstrating that it accounted for 91.8% of the variance pertaining to consumers' behavioural intention to adopt MMS in South Africa. This represented a 5.40% improvement on the model proposed by Khalilzadeh et al. (2017) while achieving a 24.05% improvement on the UTAUT2 model proposed by Venkatesh et al. (2012).

Therefore, the research study contributes towards the literature on the UTAUT model providing strong empirical evidence of the positive influence PERE and PV have on consumers' behavioural intention to adopt MMS.

6.2.2 Policy contribution

The empirical results from the study demonstrate the positive direct, and indirect influence PERE has on critical constructs of the model. The most significant effects of PERE were on SEC and TR. This implies when consumers perceive the regulatory environment as being effective their perception of the security of MMS is positively influenced. In turn, this enhances consumers' trust in the service and service providers. Other key constructs which influence consumers' behavioural intention significantly, were SEC and RISK. Therefore, the study also

confirms the importance of security and risk on consumers' behavioural intention to adopt MMS in institutionally compromised developing countries. The study, therefore, contributes to policy by suggesting that system developers, service providers and regulatory bodies should work together to ensure that consumers' security concerns are sufficiently addressed; while regulatory bodies need to provide an enabling environment for MMS to thrive.

6.2.3 Practical implementation contribution

The study demonstrated the proposed model's explanatory and predictive power pertaining to behavioural intention and usage. As such, service providers can utilise the tool to understand better the factors which need to be considered when assessing market risk and readiness as well as through the product and system design lifecycle of MMS. For example, the empirical results suggest that service providers and system developers should seek to make MMS easy to use thereby driving hedonic performance which in turn will increase behavioural intention.

6.3 Recommendations for future research

To the best of our knowledge, this study was the first to investigate PERE on behavioural intention to adopt MMS. However, there were several limitations which if addressed through the recommendations below will increase the generalisability of future studies.

6.3.1 Increased sample more representative of the population

The study made use of a limited sample due to time and cost constraints. The study was limited to selected residential areas within Gauteng and KwaZulu-Natal and as such did not extensively cover the rural areas of the country where a significant portion of the unbanked and older population reside. This explains some of the sample bias towards the banked and younger age group segments. As discussed in Section 5.1, although the sample was deemed adequate for the study, it was not truly representative of the South African population and may,

therefore, affect the generalisability of the results, especially the moderation effects of the demographic variables.

6.3.2 Capture ethnicity and cultural diversity

Research conducted by Sharma et al. (2017) demonstrated the strong influence cultural characteristics exhibited on behavioural intention. However, similarly to research conducted by Khalilzadeh et al. (2017), this study did not capture the ethnicity and cultural diversity of respondents.

6.3.3 Better distribution amongst methods for data collection

This study made use of both online and hardcopy surveys. However, the sample was biased towards online respondents who represented 64.45% of the sample. As such, part of the sample might be considered to have a bias towards the adoption of technology as compared to the general public (Chaouali et al., 2017). It is recommended that future studies try to achieve a more even distribution amongst the different data collection methods employed.

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8 APPENDICES

8.1 Appendix A: Research Instrument

Table 25: Mobile money services questionnaire

#	Research Question	Variable	Response Options	Source(s) derived from…
Sub Problem 1				
1	I could use MMS … (SE1) if there is a built-in help function within the mobile application. (SE2) if someone else had helped me. (SE3) if someone showed me how to use it first.	Self-Efficacy (SE)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Compeau and Higgins (1995) and Khalilzadeh et al. (2017)
2	(SI1) People who influence my behaviour think I should use MMS. (SI2) People who are important to me believe I should use MMS. (SI3) I will use MMS due to the number of my friends using the services.	Social Influence (SI)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Gharaibeh and Arshad (2018), Khalilzadeh et al. (2017), Morosan and DeFranco (2016), Sharma et al. (2017), and Venkatesh et al. (2003)

#	Research Question	Variable	Response Options	Source(s) derived from…
Sub Problem 1				
3	(RISK1) There is a chance that something can negatively affect the performance of MMS. (RISK2) I believe MMS can create problems with my money payments. (RISK3) I believe it is a risk to sign up for MMS. (RISK4) There is a chance of losing control of the privacy of my personal information by using MMS. (RISK5) Signing up for MMS would result in a loss of privacy since my personal information would be used without my knowledge. (RISK6) I believe MMS providers cannot keep my personal information from exposure.	Risk (RISK)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Featherman and Pavlou (2003) and Khalilzadeh et al. (2017)
4	(UPE1) I find MMS useful in processing payments. (UPE2) Using MMS allows me to achieve my banking needs. (UPE3) I can save time by using MMS.	Utilitarian Performance Expectancy (UPE)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Khalilzadeh et al. (2017) and Yang (2010)
5	I believe using MMS… (HPE1) will be fun. (HPE2) will be enjoyable. (HPE3) will be pleasant.	Hedonic Performance Expectancy (HPE)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Khalilzadeh et al. (2017) and Yang (2010)

#	Research Question	Variable	Response Options	Source(s) derived from…
Sub Problem 1				
6	(EE1) I believe using MMS will be easy for me. (EE2) Interaction with MMS would be clear and understandable. (EE3) Becoming skilful with MMS is easy.	Effort Expectancy (EE)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Gharaibeh and Arshad (2018), Khalilzadeh et al. (2017), Morosan and DeFranco (2016), and Venkatesh et al. (2003)
7	I believe mobile money service providers … (TR1) keep their promise. (TR2) place customers' interest first. (TR3) are trustworthy. (TR4) will do everything possible to ensure the security of the transactions.	Trust (TR)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Jarvenpaa, Tractinsky, and Saarinen (1999), Khalilzadeh et al. (2017), and Sharma et al. (2017)
8	(FC1) I have the resources necessary to use MMS. (FC2) I have the knowledge necessary to use MMS. (FC3) MMS is compatible with the other technology I use. (FC4) I can seek assistance from others when I encounter difficulties with using MMS.	Facilitating Condition (FC)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Gharaibeh and Arshad (2018), Khalilzadeh et al. (2017), Morosan and DeFranco (2016), Sharma et al. (2017), and Venkatesh et al. (2003)
9	(SEC1) I would feel secure linking my debit/credit card to MMS. (SEC2) MMS are safe ways to send sensitive information. (SEC3) MMS are safe platforms to store sensitive information.	Security (SEC)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Khalilzadeh et al. (2017)

#	Research Question	Variable	Response Options	Source(s) derived from…
Sub Problem 1				
10	(ATT1) Using MMS in everyday life is a good idea. (ATT2) I like the idea of using MMS. (ATT3) Using MMS in daily transactional needs would be a pleasant experience.	Attitude (ATT)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Ajzen (1991) and Khalilzadeh et al. (2017)
11	(ITU1) I intend to use MMS. (ITU2) I recommend others to use MMS. (ITU3) I will take advantage of MMS for my banking needs.	Intention to Use (ITU)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Davis et al. (1989) and Khalilzadeh et al. (2017)
12	(PV1) MMS is reasonably priced. (PV2) MMS is excellent value for money. (PV3) At the current price, MMS offers good value.	Price Value (PV)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Venkatesh et al. (2012)

#	Research Question	Variable	Response Options	Source(s) derived from…
Sub Problem 1				
Sub Problem 2				
13	(PERE1) I feel that South African laws and regulations protect the privacy of my personal information. (PERE2) I feel that South African laws & regulations protect me from any loss of money as a result of the inadequacies of mobile money service providers. (PERE3) I feel that South African laws and regulations protect me from high fees and costs.	Perceived Efficiency of Regulatory Environment (PERE)	7-point Likert Scale; 1 – Strongly disagree, 2 – Disagree, 3- More/Less disagree, 4 – Undecided, 5 – More/Less agree, 6 – Agree, 7 – Strongly Agree	Gefen, Karahanna, and Straub (2003)

	Faka uphawu emabhokisini afanele kakhulu *(Place tick in the most appropriate box)*							
1	Buthini ubulili bakho? *(What is your Gender?)*		Owesilisa *(Male)*			Owesifazane *(Female)*		
2	Uneminyaka emingaki? *(What is your Age Group?)*	18 – 24	25 – 29	30 – 39		40 – 49	50 – 59	60 +
3	Uhola malini ngenyanga? *(What is your approximate monthly income?)*	Ngaphansi kuka R1,000 *(Less than R1,000)*	R1,0001 – R5,000	R5,001 – R10,000		R10,001 – R15,000	Ngaphezu kuka R15,001 *(More than R15,001)*	
4	Lithini izinga lemfundo yakho? *(What is your current educational level?)*	Lingaphansi kwamabanga aphezulu esikole *(Less than high school)*	Ngiye esikoleni esiphakeme *(High school graduate)*	i-Diploma *(Diploma)*		i-Bachelor's Degree *(Bachelor's Degree)*	i-Master's Degree *(Master's Degree)*	i-Doctoral Degree *(Doctoral Degree)*
5	Inayo I akhawunti yasebhange? *(Do you have a formal bank account?)*		Yebo *(Yes)*				Cha *(No)*	

	Faka uphawu emabhokisini afanele kakhulu *(Place tick in the most appropriate box)*	**Ngivuma impela** *(Strongly Agree)*	**Ngiyavuma** *(Agree)*	**Ngandlela thile ngiyavuma** *(Somewhat Agree)*	**Angivumi futhi angiphikisi** *(Neither Agree nor Disagree)*	**Ngandlela thile angivumi** *(Somewhat Disagree)*	**Angivumi** *(Disagree)*	**Angivumi nhlobo** *(Strongly Disagree)*
1	Ngingasebenzisa izinsizakalo zemali yeselula, uma ngabe idivayisi inesistimu yokusiza eyakhelwe ngaphakathi. *(I could use mobile money services, if there is a built-in help function within the mobile application.)*							
2	Ngingayisebenzisa izinsizakalo zemali yeselula uma kube nomuntu ongangisiza. *(I could use mobile money services if someone else had helped me.)*							
3	Ngingayisebenzisa izinsizakalo zemali yeselula uma kube nomuntu ongibonisayo ukuthi isetsenziswa kanjani kuqala. *(I could use mobile money services if someone showed me how to use it first.)*							
4	Abantu abanomthelela endleleni engiziphatha ngayo bacabanga ukuthi kufanele ngisebenzise izinsizakalo zemali yeselula. *(People who influence my behaviour think I should use mobile money services.)*							
5	Abantu ababalulekile kimi bakholelwa ukuthi kufanele ngisebenzise izinsizakalo zemali yeselula. *(People who are important to me believe I should use mobile money services.)*							

Figure 13: isiZulu printout survey used during data collection (Page 1 of 4)

	Faka uphawu emabhokisini afanele kakhulu *(Place tick in the most appropriate box)*	Ngivuma impela *(Strongly Agree)*	Ngiyavuma *(Agree)*	Ngandlela thile ngiyavuma *(Somewhat Agree)*	Angivumi futhi angiphikisi *(Neither Agree nor Disagree)*	Ngandlela thile angivumi *(Somewhat Disagree)*	Angivumi *(Disagree)*	Angivumi nhlobo *(Strongly Disagree)*
6	Ngizosebenzisa izinsizakalo zezimali zamaselula ngenxa yenani labangane bami besebenzisa leyo nsizakalo. *(I will use mobile money services due to the number of my friends using the services.)*							
7	Kunethuba lokuthi into ethile iphazamise ukusebenza izinsizakalo zemali yeselula. *(There is a chance that something can negatively affect the performance of mobile money services.)*							
8	Ngikholelwa ukuthi izinsizakalo zemali yeselula ingadala izinkinga ngemali yami yokukhokha. *(I believe mobile money services can create problems with my money payments.)*							
9	Ngikholelwa ukuthi kuyingozi ukungena izinsizakalo zemali yeselula. *(I believe it is a risk to sign up for mobile money services.)*							
10	Kunethuba lokuthi ngingakwazu ukulawula ubumfihlo bemininingwane yami yomuntu siqu ngokusebenzisa izinsizakalo zemali yeselula. *(There is a chance of losing control of the privacy of my personal information by using mobile money services.)*							
11	Ukungena izinsizakalo zemali yeselula kungaphumela ekulahlekelweni ubumfihlo njengoba imininingwane yami yomuntu siqu izosetshenziswa ngaphandle kolwazi lwami. *(Signing up for mobile money services would result in a loss of privacy since my personal information would be used without my knowledge.)*							
12	Ngikholelwa ukuthi abahlinzeki bemasevisi emali enziwa ngemobile ngeke bakwazi ukugcina imininingwane yami yomuntu siqu iyimfihlo. *(I believe mobile money service providers cannot keep my personal information from exposure.)*							
13	Izinsizakalo zemali yeselula ngiyithola iwusizo ekwenzeni izinkokhelo. *(I find mobile money services useful in processing payments.)*							
14	Ukusebenzisa izinsizakalo zemali yeselula kungivumela ukuba ngifinyelele izidingo zami zebhange. *(Using mobile money services allows me to achieve my banking needs.)*							
15	Ngiyakwazi ukusindisa isikhathi usebenzisa izinsizakalo zezimali zamaselula. *(I can save time by using mobile money services.)*							
16	Ngikholelwa ukuthi ukusebenzisa izinsizakalo zemali yeselula kuzobamnandi. *(I believe using mobile money services will be fun.)*							
17	Ngikholelwa ukuthi ukusebenzisa izinsizakalo zemali yeselula kuzojabulisa. *(I believe using mobile money services will be enjoyable.)*							
18	Ngikholelwa ukuthi ukusebenzisa izinsizakalo zemali yeselula kuzothokozisa. *(I believe using mobile money services will be pleasant.)*							

Figure 14: isiZulu printout survey used during data collection (Page 2 of 4)

	Faka uphawu emabhokisini afanele kakhulu *(Place tick in the most appropriate box)*	Ngivuma impela *(Strongly Agree)*	Ngiyavuma *(Agree)*	Ngandlela thile ngiyavuma *(Somewhat Agree)*	Angivumi futhi angiphikisi *(Neither Agree nor Disagree)*	Ngandlela thile angivumi *(Somewhat Disagree)*	Angivumi *(Disagree)*	Angivumi nhlobo *(Strongly Disagree)*
19	Ngikholelwa ukuthi kuzoba lula kimi ukusebenzisa izinsizakalo zemali yeselula. *(I believe using mobile money services will be easy for me.)*							
20	Ukusebenzisa izinsizakalo zemali yeselula kuzocaca futhi kuqondakale. *(Interaction with mobile money services would be clear and understandable.)*							
21	Ukuba nekhono lokusebebzisa izinsizakalo zemali yeselula kulula. *(Becoming skilful with mobile money services is easy.)*							
22	Ngikholelwa ukuthi abahlinzeki bamasevisi emali enziwa ngemobile bazogcina isithembiso sabo. *(I believe mobile money service providers keep their promise.)*							
23	Ngikholelwa ukuthi abahlinzeki bemali yeselula bazobeka kuqala izithakazelo zabathengi kuqala. *(I believe mobile money service providers place the customers' interest first.)*							
24	Ngikholelwa ukuthi abahlinzeki bamasevisi emali enziwa ngemobile bayathembeka. *(I believe mobile money service providers are trustworthy.)*							
25	Ngikholelwa ukuthi abahlinzeki bamasevisi emali enziwa ngemobile bazokwenza konke abangakwenza ukuqinisekisa ukuvikeleka kwezimali. *(I believe mobile money service providers will do everything possible to ensure the security of the transactions.)*							
26	Nginezinto ezidingekayo ukuze ngisebenzise izinsizakalo zemali yeselula. *(I have the resources necessary to use mobile money services.)*							
27	Nginolwazi oludingekayo ukuze ngisebenzise izinsizakalo zemali yeselula. *(I have the knowledge necessary to use mobile money services.)*							
28	Isevisi yezezimali yeselula iyahambisana nobuchwepheshe engiyisebenzisayo. *(Mobile money services are compatible with the other technology I use.)*							
29	Ngingacela usizo kwabanye uma ngibhekana nobunzima ngokusebenzisa izinsizakalo zemali yeselula. *(I can seek assistance from others when I encounter difficulties with using mobile money services.)*							
30	Ngizwa ngiphephile ukuxhuma ikhadi lami lebhange izinsizakalo zemali yeselula. *(I would feel secure linking my debit/credit card to mobile money services.)*							
31	Izinsizakalo zezimali zamaselula ziyindlela ephephile yokuthumela ulwazi olubalulekile. *(Mobile money services are safe ways to send sensitive information.)*							
32	Izinsizakalo zezimali zamaselula ziyindlela ebelulekile yokugcina ukwaziswa okubalulekile. *(Mobile money services are safe platforms to store sensitive information.)*							

Figure 15: isiZulu printout survey used during data collection (Page 3 of 4)

	Faka uphawu emabhokisini afanele kakhulu *(Place tick in the most appropriate box)*	Ngivuma impela *(Strongly Agree)*	Ngiyavuma *(Agree)*	Ngandlela thile ngiyavuma *(Somewhat Agree)*	Angivumi futhi angiphikisi *(Neither Agree nor Disagree)*	Ngandlela thile angivumi *(Somewhat Disagree)*	Angivumi *(Disagree)*	Angivumi nhlobo *(Strongly Disagree)*
33	Ukusebenzisa izinsizakalo zemali yeselula ekuphileni kwansuku zonke umbono omuhle. *(Using mobile money services in everyday life is a good idea.)*							
34	Ngiyawuthanda umbono wokusebenzisa izinsizakalo zemali yeselula. *(I like the idea of using mobile money services.)*							
35	Ukusebenzisa izinsizakalo zezimali zamaselula ukwenza izidingo zami zebhange zansuku zonke kuyinto enhle. *(Using mobile money services for daily banking needs would be a pleasant experience.)*							
36	Ngihlela ukusebenzisa izinsizakalo zemali yeselula. *(I intend to use mobile money services.)*							
37	Ngincoma izinsizakalo zezimali zamaselula kwabanye ukuthi zizisebenzise. *(I recommend others to use mobile money services.)*							
38	Ngizosebenzisa izinsizakalo zemali yeselula ekwenzeni izidingo zami zebhange. *(I will take advantage of mobile money services for my banking needs.)*							
39	Izinsizakalo zemali yeselula ayibizi kakhulu. *(Mobile money services are reasonably priced.)*							
40	Izinsizakalo zemali yeselula inamanani amahle. *(Mobile money services are excellent value for money.)*							
41	Ngamanani amanje, amasevisi wezezimali ezihamba phambili anhle. *(At the current price, mobile money services offer good value.)*							
42	Nginomuzwa wokuthu imithetho nezimiso zaseNingizimu Afrika zivikela ubumfihlo bemininingwane yami yomuntu siqu. *(I feel that South African laws and regulations protect the privacy of my personal information.)*							
43	Nginomuzwa wokuthi imithetho nezimiso zaseNingizimu Afrika zingivikela ekulahlekelweni imali njengomphumela wokuhluleka kwabahlinzeki bamasevisi emali eyenziwa ngemobile. *(I feel that South African laws & regulations protect me from any loss of money as a result of the inadequacies of mobile money service providers.)*							
44	Nginomuzwa wokuthi imithetho nemithethonqubo yaseNingizimu Afrika ingivikela ezindlekweni eziphezulu kanye namanani ezinsizakalo zezimali. *(I feel that South African laws and regulations protect me from high fees and costs.)*							

Ngiyabonga!
(Thank you!)

Figure 16: isiZulu printout survey used during data collection (Page 4 of 4)

8.2 Appendix B: Consistency Matrix

Table 26: Consistency matrix

Problem or scope of project stated here					
Sub-problem	**Literature Review**	**Research propositions**	**Source of data**	**Type of data**	**Analysis**

To investigate and evaluate the driving factors that influence consumers' behavioural intention to adopt MMS in SA.	Ajzen (1991) Al-Ajam and Nor (2013) Alalwan et al. (2017) C. Kim et al. (2010) Chong (2013) Chong et al. (2012) Cruz et al. (2010) Davis et al. (1989) Fishbein and Ajzen (1974) G. Kim et al. (2009) Gharaibeh and Arshad (2018) Hanafizadeh et al. (2014) Im et al. (2011) Ismail and Masinge (2012) Khalilzadeh et al. (2017) Meuter et al. (2005) Min et al. (2008) Nysveen et al. (2005) Otchere et al. (2017) Preeti and Savita (2017) Rogers (2003) S. A. Asongu (2018) Sharma (2015)	The following latent factors significantly influence consumer adoption of MMS in South Africa: • SE • SI • RISK • UPE • HPE • EE • TR • FC • SEC • ATT • ITU • PV	Questions as per the research instrument in Table 25.	Ordinal data	EFA, CFA, and CB-SEM.

Problem or scope of project stated here					
Sub-problem	**Literature Review**	**Research propositions**	**Source of data**	**Type of data**	**Analysis**
	Sharma et al. (2017) Venkatesh and Davis (2000) Venkatesh and Zhang (2010) Venkatesh et al. (2003) Venkatesh et al. (2012) Wu and Wang (2005)				

Problem or scope of project stated here					
Sub-problem	**Literature Review**	**Research propositions**	**Source of data**	**Type of data**	**Analysis**
To investigate and evaluate if the PERE influences the consumers' behavioural intention to adopt MMS in SA.	Ashta (2017) Donovan (2012) Ehrbeck and Tarazi (2011) Gupta (2013) Lal and Sachdev (2015) Lawack (2012) Mothobi and Grzybowski (2017) Otchere et al. (2017) Porteous (2006) S. Asongu and Boateng (2018) Shaikh et al. (2017) Winn and De Koker (2013)	Consumer adoption of MMS in SA is influenced by a latent factor, namely, PERE.	Questions as per the research instrument in Table 25.	Ordinal Data	EFA, CFA, and CB-SEM.

Problem or scope of project stated here					
Sub-problem	**Literature Review**	**Research propositions**	**Source of data**	**Type of data**	**Analysis**
To investigate and evaluate if gender, age, income, education and the use of formal banking affect consumers' behavioural intention to adopt MMS in South Africa.	Khalilzadeh et al. (2017) Sharma et al. (2017) Venkatesh et al. (2012)	The relationships among the above latent factors are moderated by: • Gender • Age • Income • Education • Use of formal banking	Questions as per the research instrument in Table 25.	Ordinal Data	CB-SEM (Moderation / Interaction Effects)

8.3 Appendix C: EFA

Table 27: Skewness & Kurtosis of data set

					Check for Skewness Issues				Check for Kurtosis Issues			
Variable	N		Skewness	Kurtosis	3 x Std. Error of Skewness	|Skewness| > 3 x Std. Error of Skewness	|Skewness| > 1	|Skewness| > 2	3 x Std. Error of Kurtosis	|Kurtosis| > 3 x Std. Error of Kurtosis	|Kurtosis| > 1	|Kurtosis| > 2
	Valid	Missing										
Gender	298	0	0.356	-1.886	0.424	0.356	0.356	0.356	0.844	1.886	1.886	1.886
Age	298	0	0.217	-0.416	0.424	0.217	0.217	0.217	0.844	0.416	0.416	0.416
Income	298	0	-0.449	-1.419	0.424	0.449	0.449	0.449	0.844	1.419	1.419	1.419
Education	298	0	0.260	-0.849	0.424	0.260	0.260	0.260	0.844	0.849	0.849	0.849
Formal_Banking	298	0	-2.867	6.261	0.424	2.867	2.867	2.867	0.844	6.261	6.261	6.261
SE_1	298	0	1.339	1.816	0.424	1.339	1.339	1.339	0.844	1.816	1.816	1.816
SE_2	298	0	0.868	-0.013	0.424	0.868	0.868	0.868	0.844	0.013	0.013	0.013
SE_3	298	0	1.323	1.264	0.424	1.323	1.323	1.323	0.844	1.264	1.264	1.264
SI_1	298	0	0.433	-0.733	0.424	0.433	0.433	0.433	0.844	0.733	0.733	0.733
SI_2	298	0	0.570	-0.561	0.424	0.570	0.570	0.570	0.844	0.561	0.561	0.561
SI_3	298	0	0.324	-0.783	0.424	0.324	0.324	0.324	0.844	0.783	0.783	0.783
RISK_1	298	0	0.822	0.608	0.424	0.822	0.822	0.822	0.844	0.608	0.608	0.608
RISK_2	298	0	0.186	-0.855	0.424	0.186	0.186	0.186	0.844	0.855	0.855	0.855
RISK_3	298	0	-0.026	-0.798	0.424	0.026	0.026	0.026	0.844	0.798	0.798	0.798
RISK_4	298	0	0.396	-0.623	0.424	0.396	0.396	0.396	0.844	0.623	0.623	0.623
RISK_5	298	0	0.219	-0.855	0.424	0.219	0.219	0.219	0.844	0.855	0.855	0.855
RISK_6	298	0	0.173	-0.763	0.424	0.173	0.173	0.173	0.844	0.763	0.763	0.763
UPE_1	298	0	0.881	0.538	0.424	0.881	0.881	0.881	0.844	0.538	0.538	0.538
UPE_2	298	0	0.662	-0.123	0.424	0.662	0.662	0.662	0.844	0.123	0.123	0.123
UPE_3	298	0	1.162	1.052	0.424	1.162	1.162	1.162	0.844	1.052	1.052	1.052
HPE_1	298	0	0.529	0.131	0.424	0.529	0.529	0.529	0.844	0.131	0.131	0.131

HPE_2	298	0	0.506	-0.085	0.424	0.506	0.506	0.506	0.844	0.085	0.085	0.085
HPE_3	298	0	0.588	0.016	0.424	0.588	0.588	0.588	0.844	0.016	0.016	0.016
EE_1	298	0	1.017	1.172	0.424	1.017	1.017	1.017	0.844	1.172	1.172	1.172
EE_2	298	0	0.860	0.957	0.424	0.860	0.860	0.860	0.844	0.957	0.957	0.957
EE_3	298	0	0.889	0.787	0.424	0.889	0.889	0.889	0.844	0.787	0.787	0.787
TR_1	298	0	0.351	0.081	0.424	0.351	0.351	0.351	0.844	0.081	0.081	0.081
TR_2	298	0	0.411	-0.148	0.424	0.411	0.411	0.411	0.844	0.148	0.148	0.148
TR_3	298	0	0.319	-0.119	0.424	0.319	0.319	0.319	0.844	0.119	0.119	0.119
TR_4	298	0	0.497	-0.053	0.424	0.497	0.497	0.497	0.844	0.053	0.053	0.053
FC_1	298	0	1.292	1.554	0.424	1.292	1.292	1.292	0.844	1.554	1.554	1.554
FC_2	298	0	1.032	0.766	0.424	1.032	1.032	1.032	0.844	0.766	0.766	0.766
FC_3	298	0	0.779	0.383	0.424	0.779	0.779	0.779	0.844	0.383	0.383	0.383
FC_4	298	0	0.771	0.280	0.424	0.771	0.771	0.771	0.844	0.280	0.280	0.280
SEC_1	298	0	0.555	-0.590	0.424	0.555	0.555	0.555	0.844	0.590	0.590	0.590
SEC_2	298	0	0.441	-0.324	0.424	0.441	0.441	0.441	0.844	0.324	0.324	0.324
SEC_3	298	0	0.357	-0.356	0.424	0.357	0.357	0.357	0.844	0.356	0.356	0.356
ATT_1	298	0	0.792	0.580	0.424	0.792	0.792	0.792	0.844	0.580	0.580	0.580
ATT_2	298	0	1.042	1.055	0.424	1.042	1.042	1.042	0.844	1.055	1.055	1.055
ATT_3	298	0	0.817	0.504	0.424	0.817	0.817	0.817	0.844	0.504	0.504	0.504
ITU_1	298	0	0.785	0.118	0.424	0.785	0.785	0.785	0.844	0.118	0.118	0.118
ITU_2	298	0	0.591	-0.163	0.424	0.591	0.591	0.591	0.844	0.163	0.163	0.163
ITU_3	298	0	0.963	0.471	0.424	0.963	0.963	0.963	0.844	0.471	0.471	0.471
PV_1	298	0	0.245	0.309	0.424	0.245	0.245	0.245	0.844	0.309	0.309	0.309
PV_2	298	0	0.118	0.197	0.424	0.118	0.118	0.118	0.844	0.197	0.197	0.197
PV_3	298	0	0.184	0.267	0.424	0.184	0.184	0.184	0.844	0.267	0.267	0.267
PERE_1	298	0	0.580	-0.174	0.424	0.580	0.580	0.580	0.844	0.174	0.174	0.174
PERE_2	298	0	0.314	-0.595	0.424	0.314	0.314	0.314	0.844	0.595	0.595	0.595
PERE_3	298	0	0.230	-0.670	0.424	0.230	0.230	0.230	0.844	0.670	0.670	0.670

Table 28: EFA – Correlation matrix (Segment 1 of 4)

	SE_1	SE_2	SE_3	SI_1	SI_2	SI_3	RISK_1	RISK_2	RISK_3	RISK_4	RISK_5	RISK_6
SE_1	1.000	0.465	0.471	0.374	0.337	0.319	0.018	-0.224	-0.237	-0.100	-0.098	-0.149
SE_2	0.465	1.000	0.700	0.404	0.363	0.356	-0.030	0.012	-0.005	-0.096	0.106	0.028
SE_3	0.471	0.700	1.000	0.423	0.367	0.358	0.030	0.020	-0.008	-0.012	0.144	0.077
SI_1	0.374	0.404	0.423	1.000	0.799	0.571	0.044	0.020	-0.028	-0.019	0.018	-0.009
SI_2	0.337	0.363	0.367	0.799	1.000	0.585	0.012	0.024	-0.004	-0.031	-0.004	-0.052
SI_3	0.319	0.356	0.358	0.571	0.585	1.000	0.077	0.022	0.014	-0.076	0.006	-0.021
RISK_1	0.018	-0.030	0.030	0.044	0.012	0.077	1.000	0.345	0.289	0.438	0.254	0.246
RISK_2	-0.224	0.012	0.020	0.020	0.024	0.022	0.345	1.000	0.742	0.586	0.581	0.477
RISK_3	-0.237	-0.005	-0.008	-0.028	-0.004	0.014	0.289	0.742	1.000	0.679	0.618	0.527
RISK_4	-0.100	-0.096	-0.012	-0.019	-0.031	-0.076	0.438	0.586	0.679	1.000	0.677	0.588
RISK_5	-0.098	0.106	0.144	0.018	-0.004	0.006	0.254	0.581	0.618	0.677	1.000	0.695
RISK_6	-0.149	0.028	0.077	-0.009	-0.052	-0.021	0.246	0.477	0.527	0.588	0.695	1.000
UPE_1	0.466	0.217	0.238	0.323	0.312	0.267	0.005	-0.363	-0.391	-0.257	-0.333	-0.303
UPE_2	0.536	0.270	0.258	0.339	0.334	0.257	-0.002	-0.264	-0.324	-0.166	-0.245	-0.223
UPE_3	0.473	0.232	0.231	0.314	0.338	0.234	0.028	-0.211	-0.259	-0.128	-0.256	-0.203
HPE_1	0.418	0.294	0.297	0.351	0.380	0.274	-0.018	-0.214	-0.264	-0.195	-0.166	-0.237
HPE_2	0.402	0.279	0.298	0.345	0.343	0.259	0.025	-0.204	-0.255	-0.218	-0.206	-0.214
HPE_3	0.450	0.291	0.317	0.354	0.338	0.290	0.008	-0.306	-0.332	-0.242	-0.238	-0.213
EE_1	0.433	0.179	0.234	0.151	0.215	0.165	0.013	-0.393	-0.355	-0.222	-0.324	-0.243
EE_2	0.389	0.214	0.278	0.220	0.212	0.262	0.074	-0.272	-0.298	-0.214	-0.257	-0.236
EE_3	0.386	0.197	0.218	0.147	0.143	0.186	0.030	-0.290	-0.294	-0.220	-0.292	-0.239
TR_1	0.337	0.202	0.231	0.281	0.283	0.203	-0.103	-0.332	-0.329	-0.250	-0.301	-0.345
TR_2	0.380	0.189	0.235	0.272	0.277	0.229	-0.066	-0.233	-0.247	-0.207	-0.215	-0.255
TR_3	0.311	0.188	0.170	0.263	0.277	0.216	-0.132	-0.335	-0.322	-0.277	-0.314	-0.324
TR_4	0.325	0.149	0.127	0.234	0.260	0.147	-0.116	-0.357	-0.369	-0.270	-0.340	-0.275

	SE_1	SE_2	SE_3	SI_1	SI_2	SI_3	RISK_1	RISK_2	RISK_3	RISK_4	RISK_5	RISK_6
FC_1	0.255	-0.030	0.011	0.065	0.056	0.006	0.113	-0.240	-0.235	-0.107	-0.251	-0.123
FC_2	0.230	-0.022	-0.093	0.044	0.084	0.091	0.085	-0.288	-0.254	-0.116	-0.283	-0.141
FC_3	0.331	-0.011	-0.019	0.086	0.097	0.048	0.103	-0.259	-0.232	-0.079	-0.289	-0.158
FC_4	0.189	0.085	0.050	0.176	0.175	0.122	0.068	-0.200	-0.241	-0.052	-0.177	-0.099
SEC_1	0.321	0.143	0.144	0.278	0.282	0.221	-0.149	-0.373	-0.417	-0.303	-0.404	-0.318
SEC_2	0.272	0.189	0.177	0.256	0.245	0.247	-0.139	-0.255	-0.291	-0.264	-0.292	-0.317
SEC_3	0.230	0.193	0.137	0.291	0.264	0.267	-0.123	-0.226	-0.222	-0.242	-0.291	-0.309
ATT_1	0.387	0.177	0.189	0.267	0.290	0.159	-0.047	-0.379	-0.354	-0.182	-0.313	-0.264
ATT_2	0.465	0.276	0.235	0.322	0.307	0.193	-0.049	-0.373	-0.413	-0.252	-0.324	-0.258
ATT_3	0.508	0.251	0.299	0.322	0.317	0.216	-0.055	-0.360	-0.369	-0.216	-0.298	-0.269
ITU_1	0.477	0.228	0.265	0.308	0.335	0.241	-0.065	-0.349	-0.336	-0.214	-0.310	-0.326
ITU_2	0.509	0.285	0.289	0.315	0.285	0.214	-0.057	-0.382	-0.419	-0.255	-0.325	-0.312
ITU_3	0.538	0.285	0.307	0.307	0.359	0.293	-0.075	-0.338	-0.376	-0.242	-0.279	-0.323
PV_1	0.310	0.136	0.211	0.269	0.244	0.185	0.104	-0.181	-0.174	-0.091	-0.115	-0.124
PV_2	0.369	0.166	0.235	0.307	0.275	0.209	0.021	-0.302	-0.293	-0.188	-0.171	-0.176
PV_3	0.355	0.176	0.253	0.317	0.303	0.243	0.058	-0.170	-0.187	-0.111	-0.087	-0.095
PERE_1	0.257	0.156	0.203	0.265	0.290	0.200	-0.128	-0.257	-0.201	-0.192	-0.302	-0.282
PERE_2	0.279	0.263	0.264	0.249	0.260	0.199	-0.134	-0.235	-0.238	-0.221	-0.243	-0.277
PERE_3	0.256	0.315	0.304	0.300	0.327	0.214	-0.085	-0.162	-0.140	-0.111	-0.152	-0.184

Table 29: EFA – Correlation matrix (Segment 2 of 4)

	UPE_1	UPE_2	UPE_3	HPE_1	HPE_2	HPE_3	EE_1	EE_2	EE_3	TR_1	TR_2	TR_3	TR_4
SE_1	0.466	0.536	0.473	0.418	0.402	0.450	0.433	0.389	0.386	0.337	0.380	0.311	0.325
SE_2	0.217	0.270	0.232	0.294	0.279	0.291	0.179	0.214	0.197	0.202	0.189	0.188	0.149
SE_3	0.238	0.258	0.231	0.297	0.298	0.317	0.234	0.278	0.218	0.231	0.235	0.170	0.127
SI_1	0.323	0.339	0.314	0.351	0.345	0.354	0.151	0.220	0.147	0.281	0.272	0.263	0.234
SI_2	0.312	0.334	0.338	0.380	0.343	0.338	0.215	0.212	0.143	0.283	0.277	0.277	0.260
SI_3	0.267	0.257	0.234	0.274	0.259	0.290	0.165	0.262	0.186	0.203	0.229	0.216	0.147
RISK_1	0.005	-0.002	0.028	-0.018	0.025	0.008	0.013	0.074	0.030	-0.103	-0.066	-0.132	-0.116
RISK_2	-0.363	-0.264	-0.211	-0.214	-0.204	-0.306	-0.393	-0.272	-0.290	-0.332	-0.233	-0.335	-0.357
RISK_3	-0.391	-0.324	-0.259	-0.264	-0.255	-0.332	-0.355	-0.298	-0.294	-0.329	-0.247	-0.322	-0.369
RISK_4	-0.257	-0.166	-0.128	-0.195	-0.218	-0.242	-0.222	-0.214	-0.220	-0.250	-0.207	-0.277	-0.270
RISK_5	-0.333	-0.245	-0.256	-0.166	-0.206	-0.238	-0.324	-0.257	-0.292	-0.301	-0.215	-0.314	-0.340
RISK_6	-0.303	-0.223	-0.203	-0.237	-0.214	-0.213	-0.243	-0.236	-0.239	-0.345	-0.255	-0.324	-0.275
UPE_1	1.000	0.791	0.730	0.558	0.577	0.670	0.606	0.567	0.508	0.516	0.496	0.425	0.478
UPE_2	0.791	1.000	0.736	0.555	0.529	0.591	0.549	0.489	0.498	0.476	0.453	0.435	0.465
UPE_3	0.730	0.736	1.000	0.581	0.597	0.655	0.607	0.499	0.495	0.465	0.427	0.395	0.470
HPE_1	0.558	0.555	0.581	1.000	0.859	0.780	0.552	0.540	0.503	0.535	0.479	0.477	0.441
HPE_2	0.577	0.529	0.597	0.859	1.000	0.859	0.589	0.591	0.578	0.540	0.484	0.480	0.443
HPE_3	0.670	0.591	0.655	0.780	0.859	1.000	0.665	0.643	0.608	0.531	0.506	0.464	0.512
EE_1	0.606	0.549	0.607	0.552	0.589	0.665	1.000	0.692	0.704	0.550	0.470	0.441	0.533
EE_2	0.567	0.489	0.499	0.540	0.591	0.643	0.692	1.000	0.777	0.550	0.498	0.476	0.466
EE_3	0.508	0.498	0.495	0.503	0.578	0.608	0.704	0.777	1.000	0.533	0.453	0.520	0.515
TR_1	0.516	0.476	0.465	0.535	0.540	0.531	0.550	0.550	0.533	1.000	0.780	0.699	0.636
TR_2	0.496	0.453	0.427	0.479	0.484	0.506	0.470	0.498	0.453	0.780	1.000	0.728	0.626
TR_3	0.425	0.435	0.395	0.477	0.480	0.464	0.441	0.476	0.520	0.699	0.728	1.000	0.750
TR_4	0.478	0.465	0.470	0.441	0.443	0.512	0.533	0.466	0.515	0.636	0.626	0.750	1.000

	UPE_1	UPE_2	UPE_3	HPE_1	HPE_2	HPE_3	EE_1	EE_2	EE_3	TR_1	TR_2	TR_3	TR_4
FC_1	0.331	0.343	0.383	0.221	0.234	0.332	0.472	0.404	0.468	0.285	0.283	0.349	0.451
FC_2	0.472	0.404	0.407	0.176	0.177	0.297	0.480	0.369	0.412	0.236	0.235	0.308	0.422
FC_3	0.458	0.479	0.422	0.221	0.226	0.303	0.428	0.337	0.366	0.266	0.227	0.274	0.357
FC_4	0.303	0.312	0.248	0.199	0.174	0.230	0.326	0.278	0.275	0.282	0.284	0.285	0.349
SEC_1	0.561	0.512	0.500	0.376	0.403	0.457	0.415	0.462	0.464	0.433	0.430	0.461	0.485
SEC_2	0.420	0.406	0.318	0.369	0.373	0.371	0.292	0.367	0.342	0.474	0.460	0.495	0.437
SEC_3	0.393	0.365	0.321	0.355	0.359	0.363	0.283	0.354	0.297	0.452	0.463	0.493	0.420
ATT_1	0.645	0.610	0.645	0.576	0.585	0.647	0.650	0.556	0.547	0.550	0.501	0.526	0.595
ATT_2	0.635	0.617	0.617	0.628	0.631	0.670	0.634	0.536	0.510	0.522	0.494	0.521	0.570
ATT_3	0.653	0.672	0.584	0.649	0.648	0.677	0.615	0.564	0.550	0.559	0.495	0.504	0.529
ITU_1	0.636	0.629	0.600	0.591	0.593	0.633	0.599	0.566	0.528	0.581	0.556	0.537	0.561
ITU_2	0.675	0.648	0.617	0.599	0.628	0.658	0.623	0.596	0.560	0.575	0.534	0.520	0.528
ITU_3	0.660	0.684	0.625	0.596	0.609	0.652	0.607	0.554	0.525	0.549	0.528	0.535	0.539
PV_1	0.433	0.387	0.446	0.334	0.386	0.393	0.384	0.396	0.350	0.411	0.437	0.409	0.371
PV_2	0.492	0.456	0.500	0.390	0.421	0.511	0.452	0.429	0.361	0.466	0.478	0.441	0.428
PV_3	0.434	0.414	0.465	0.383	0.406	0.438	0.396	0.433	0.373	0.451	0.485	0.442	0.408
PERE_1	0.334	0.284	0.344	0.359	0.353	0.316	0.323	0.272	0.309	0.458	0.424	0.497	0.451
PERE_2	0.329	0.306	0.323	0.394	0.370	0.371	0.322	0.297	0.350	0.479	0.438	0.508	0.449
PERE_3	0.274	0.264	0.297	0.367	0.353	0.367	0.278	0.288	0.277	0.425	0.442	0.426	0.383

Table 30: EFA – Correlation matrix (Segment 3 of 4)

	FC_1	FC_2	FC_3	FC_4	SEC_1	SEC_2	SEC_3	ATT_1	ATT_2	ATT_3	ITU_1	ITU_2	ITU_3
SE_1	0.255	0.230	0.331	0.189	0.321	0.272	0.230	0.387	0.465	0.508	0.477	0.509	0.538
SE_2	-0.030	-0.022	-0.011	0.085	0.143	0.189	0.193	0.177	0.276	0.251	0.228	0.285	0.285
SE_3	0.011	-0.093	-0.019	0.050	0.144	0.177	0.137	0.189	0.235	0.299	0.265	0.289	0.307
SI_1	0.065	0.044	0.086	0.176	0.278	0.256	0.291	0.267	0.322	0.322	0.308	0.315	0.307
SI_2	0.056	0.084	0.097	0.175	0.282	0.245	0.264	0.290	0.307	0.317	0.335	0.285	0.359
SI_3	0.006	0.091	0.048	0.122	0.221	0.247	0.267	0.159	0.193	0.216	0.241	0.214	0.293
RISK_1	0.113	0.085	0.103	0.068	-0.149	-0.139	-0.123	-0.047	-0.049	-0.055	-0.065	-0.057	-0.075
RISK_2	-0.240	-0.288	-0.259	-0.200	-0.373	-0.255	-0.226	-0.379	-0.373	-0.360	-0.349	-0.382	-0.338
RISK_3	-0.235	-0.254	-0.232	-0.241	-0.417	-0.291	-0.222	-0.354	-0.413	-0.369	-0.336	-0.419	-0.376
RISK_4	-0.107	-0.116	-0.079	-0.052	-0.303	-0.264	-0.242	-0.182	-0.252	-0.216	-0.214	-0.255	-0.242
RISK_5	-0.251	-0.283	-0.289	-0.177	-0.404	-0.292	-0.291	-0.313	-0.324	-0.298	-0.310	-0.325	-0.279
RISK_6	-0.123	-0.141	-0.158	-0.099	-0.318	-0.317	-0.309	-0.264	-0.258	-0.269	-0.326	-0.312	-0.323
UPE_1	0.331	0.472	0.458	0.303	0.561	0.420	0.393	0.645	0.635	0.653	0.636	0.675	0.660
UPE_2	0.343	0.404	0.479	0.312	0.512	0.406	0.365	0.610	0.617	0.672	0.629	0.648	0.684
UPE_3	0.383	0.407	0.422	0.248	0.500	0.318	0.321	0.645	0.617	0.584	0.600	0.617	0.625
HPE_1	0.221	0.176	0.221	0.199	0.376	0.369	0.355	0.576	0.628	0.649	0.591	0.599	0.596
HPE_2	0.234	0.177	0.226	0.174	0.403	0.373	0.359	0.585	0.631	0.648	0.593	0.628	0.609
HPE_3	0.332	0.297	0.303	0.230	0.457	0.371	0.363	0.647	0.670	0.677	0.633	0.658	0.652
EE_1	0.472	0.480	0.428	0.326	0.415	0.292	0.283	0.650	0.634	0.615	0.599	0.623	0.607
EE_2	0.404	0.369	0.337	0.278	0.462	0.367	0.354	0.556	0.536	0.564	0.566	0.596	0.554
EE_3	0.468	0.412	0.366	0.275	0.464	0.342	0.297	0.547	0.510	0.550	0.528	0.560	0.525
TR_1	0.285	0.236	0.266	0.282	0.433	0.474	0.452	0.550	0.522	0.559	0.581	0.575	0.549
TR_2	0.283	0.235	0.227	0.284	0.430	0.460	0.463	0.501	0.494	0.495	0.556	0.534	0.528
TR_3	0.349	0.308	0.274	0.285	0.461	0.495	0.493	0.526	0.521	0.504	0.537	0.520	0.535
TR_4	0.451	0.422	0.357	0.349	0.485	0.437	0.420	0.595	0.570	0.529	0.561	0.528	0.539

	FC_1	FC_2	FC_3	FC_4	SEC_1	SEC_2	SEC_3	ATT_1	ATT_2	ATT_3	ITU_1	ITU_2	ITU_3
FC_1	1.000	0.699	0.641	0.373	0.366	0.169	0.200	0.414	0.371	0.350	0.361	0.335	0.341
FC_2	0.699	1.000	0.674	0.372	0.416	0.256	0.242	0.402	0.369	0.325	0.347	0.369	0.363
FC_3	0.641	0.674	1.000	0.394	0.356	0.218	0.200	0.432	0.398	0.420	0.376	0.361	0.398
FC_4	0.373	0.372	0.394	1.000	0.270	0.253	0.249	0.365	0.383	0.324	0.305	0.331	0.269
SEC_1	0.366	0.416	0.356	0.270	1.000	0.657	0.629	0.541	0.470	0.481	0.527	0.547	0.537
SEC_2	0.169	0.256	0.218	0.253	0.657	1.000	0.861	0.481	0.447	0.497	0.457	0.514	0.466
SEC_3	0.200	0.242	0.200	0.249	0.629	0.861	1.000	0.486	0.421	0.437	0.429	0.477	0.411
ATT_1	0.414	0.402	0.432	0.365	0.541	0.481	0.486	1.000	0.821	0.762	0.742	0.722	0.682
ATT_2	0.371	0.369	0.398	0.383	0.470	0.447	0.421	0.821	1.000	0.798	0.763	0.741	0.701
ATT_3	0.350	0.325	0.420	0.324	0.481	0.497	0.437	0.762	0.798	1.000	0.770	0.770	0.753
ITU_1	0.361	0.347	0.376	0.305	0.527	0.457	0.429	0.742	0.763	0.770	1.000	0.845	0.832
ITU_2	0.335	0.369	0.361	0.331	0.547	0.514	0.477	0.722	0.741	0.770	0.845	1.000	0.787
ITU_3	0.341	0.363	0.398	0.269	0.537	0.466	0.411	0.682	0.701	0.753	0.832	0.787	1.000
PV_1	0.233	0.215	0.244	0.273	0.427	0.346	0.396	0.432	0.443	0.431	0.464	0.472	0.488
PV_2	0.295	0.285	0.275	0.307	0.465	0.408	0.408	0.484	0.506	0.532	0.541	0.581	0.545
PV_3	0.254	0.223	0.222	0.276	0.439	0.368	0.404	0.453	0.444	0.469	0.488	0.531	0.517
PERE_1	0.178	0.174	0.174	0.202	0.487	0.517	0.542	0.478	0.419	0.433	0.479	0.452	0.422
PERE_2	0.170	0.143	0.167	0.208	0.458	0.510	0.545	0.490	0.467	0.448	0.482	0.476	0.435
PERE_3	0.126	0.099	0.116	0.244	0.362	0.442	0.473	0.458	0.473	0.450	0.450	0.433	0.412

Table 31: EFA – Correlation matrix (Segment 4 of 4)

	PV_1	PV_2	PV_3	PERE_1	PERE_2	PERE_3
SE_1	0.310	0.369	0.355	0.257	0.279	0.256
SE_2	0.136	0.166	0.176	0.156	0.263	0.315
SE_3	0.211	0.235	0.253	0.203	0.264	0.304
SI_1	0.269	0.307	0.317	0.265	0.249	0.300
SI_2	0.244	0.275	0.303	0.290	0.260	0.327
SI_3	0.185	0.209	0.243	0.200	0.199	0.214
RISK_1	0.104	0.021	0.058	-0.128	-0.134	-0.085
RISK_2	-0.181	-0.302	-0.170	-0.257	-0.235	-0.162
RISK_3	-0.174	-0.293	-0.187	-0.201	-0.238	-0.140
RISK_4	-0.091	-0.188	-0.111	-0.192	-0.221	-0.111
RISK_5	-0.115	-0.171	-0.087	-0.302	-0.243	-0.152
RISK_6	-0.124	-0.176	-0.095	-0.282	-0.277	-0.184
UPE_1	0.433	0.492	0.434	0.334	0.329	0.274
UPE_2	0.387	0.456	0.414	0.284	0.306	0.264
UPE_3	0.446	0.500	0.465	0.344	0.323	0.297
HPE_1	0.334	0.390	0.383	0.359	0.394	0.367
HPE_2	0.386	0.421	0.406	0.353	0.370	0.353
HPE_3	0.393	0.511	0.438	0.316	0.371	0.367
EE_1	0.384	0.452	0.396	0.323	0.322	0.278
EE_2	0.396	0.429	0.433	0.272	0.297	0.288
EE_3	0.350	0.361	0.373	0.309	0.350	0.277
TR_1	0.411	0.466	0.451	0.458	0.479	0.425
TR_2	0.437	0.478	0.485	0.424	0.438	0.442
TR_3	0.409	0.441	0.442	0.497	0.508	0.426
TR_4	0.371	0.428	0.408	0.451	0.449	0.383

	PV_1	PV_2	PV_3	PERE_1	PERE_2	PERE_3
FC_1	0.233	0.295	0.254	0.178	0.170	0.126
FC_2	0.215	0.285	0.223	0.174	0.143	0.099
FC_3	0.244	0.275	0.222	0.174	0.167	0.116
FC_4	0.273	0.307	0.276	0.202	0.208	0.244
SEC_1	0.427	0.465	0.439	0.487	0.458	0.362
SEC_2	0.346	0.408	0.368	0.517	0.510	0.442
SEC_3	0.396	0.408	0.404	0.542	0.545	0.473
ATT_1	0.432	0.484	0.453	0.478	0.490	0.458
ATT_2	0.443	0.506	0.444	0.419	0.467	0.473
ATT_3	0.431	0.532	0.469	0.433	0.448	0.450
ITU_1	0.464	0.541	0.488	0.479	0.482	0.450
ITU_2	0.472	0.581	0.531	0.452	0.476	0.433
ITU_3	0.488	0.545	0.517	0.422	0.435	0.412
PV_1	1.000	0.808	0.817	0.378	0.392	0.409
PV_2	0.808	1.000	0.843	0.396	0.433	0.431
PV_3	0.817	0.843	1.000	0.432	0.466	0.478
PERE_1	0.378	0.396	0.432	1.000	0.805	0.686
PERE_2	0.392	0.433	0.466	0.805	1.000	0.777
PERE_3	0.409	0.431	0.478	0.686	0.777	1.000

Table 32: EFA – Communalities

	Initial	Extraction
SE_1	0.548	0.400
SE_2	0.624	0.299
SE_3	0.619	0.330
SI_1	0.720	0.790
SI_2	0.715	0.768
SI_3	0.478	0.448
RISK_1	0.350	0.277
RISK_2	0.669	0.625
RISK_3	0.726	0.705
RISK_4	0.708	0.732
RISK_5	0.712	0.672
RISK_6	0.595	0.513
UPE_1	0.780	0.668
UPE_2	0.758	0.642
UPE_3	0.718	0.616
HPE_1	0.786	0.789
HPE_2	0.859	0.918
HPE_3	0.845	0.837
EE_1	0.730	0.654
EE_2	0.715	0.563
EE_3	0.736	0.572
TR_1	0.730	0.742
TR_2	0.735	0.760
TR_3	0.743	0.744
TR_4	0.683	0.660
FC_1	0.655	0.651
FC_2	0.692	0.738
FC_3	0.612	0.608
FC_4	0.328	0.258
SEC_1	0.662	0.621
SEC_2	0.808	0.887
SEC_3	0.804	0.849
ATT_1	0.788	0.731
ATT_2	0.812	0.744
ATT_3	0.791	0.773
ITU_1	0.836	0.818
ITU_2	0.815	0.806
ITU_3	0.794	0.767
PV_1	0.759	0.780
PV_2	0.819	0.853
PV_3	0.802	0.862
PERE_1	0.730	0.739
PERE_2	0.783	0.865
PERE_3	0.699	0.710

Extraction Method: Maximum Likelihood.

Table 33: EFA – Total variance explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.429	39.611	39.611	16.973	38.574	38.574	8.335	18.943	18.943
2	3.738	8.496	48.107	2.231	5.070	43.645	3.778	8.586	27.529
3	2.835	6.442	54.549	3.252	7.390	51.035	3.401	7.729	35.258
4	2.165	4.920	59.469	1.686	3.831	54.866	3.164	7.191	42.449
5	1.656	3.764	63.234	1.535	3.490	58.356	2.614	5.941	48.390
6	1.427	3.242	66.476	1.455	3.307	61.663	2.585	5.876	54.266
7	1.255	2.853	69.329	0.901	2.049	63.712	2.547	5.788	60.054
8	1.211	2.753	72.082	1.002	2.277	65.989	1.939	4.406	64.460
9	1.026	2.332	74.414	0.746	1.694	67.683	1.418	3.223	67.683
10	0.959	2.180	76.594						
11	0.809	1.838	78.432						
12	0.770	1.749	80.181						
13	0.661	1.502	81.683						
14	0.596	1.355	83.038						
15	0.543	1.234	84.272						
16	0.513	1.166	85.438						
17	0.487	1.108	86.545						
18	0.429	0.975	87.521						
19	0.406	0.922	88.443						
20	0.376	0.854	89.297						
21	0.345	0.784	90.081						
22	0.342	0.777	90.858						
23	0.303	0.688	91.545						
24	0.298	0.676	92.221						

25	0.277	0.630	92.852						
26	0.267	0.606	93.458						
27	0.248	0.564	94.023						
28	0.240	0.544	94.567						
29	0.225	0.510	95.078						
30	0.219	0.498	95.575						
31	0.201	0.458	96.033						
32	0.190	0.431	96.464						
33	0.180	0.409	96.873						
34	0.169	0.383	97.256						
35	0.161	0.367	97.623						
36	0.150	0.341	97.965						
37	0.140	0.318	98.282						
38	0.134	0.305	98.587						
39	0.126	0.287	98.874						
40	0.123	0.279	99.153						
41	0.107	0.244	99.397						
42	0.101	0.229	99.625						
43	0.087	0.197	99.823						
44	0.078	0.177	100.000						

Extraction Method: Maximum Likelihood.

Table 34: EFA - Rotated factor matrix

	Factor								
	1	2	3	4	5	6	7	8	9
ITU_1	0.778								
ATT_3	0.768								
ITU_2	0.764								
ITU_3	0.745								
ATT_2	0.730								
ATT_1	0.688								
UPE_2	0.646								
HPE_3	0.643								0.524
UPE_1	0.620								
HPE_1	0.607								0.531
UPE_3	0.597								
EE_1	0.576								
EE_2	0.495								
SE_1	0.477								
EE_3	0.460								
RISK_4		0.836							
RISK_3		0.775							
RISK_5		0.756							
RISK_2		0.712							
RISK_6		0.667							
RISK_1		0.461							
FC_2			0.814						
FC_1			0.748						
FC_3			0.710						
FC_4									

SI_1				0.857					
SI_2				0.844					
SI_3				0.637					
SE_2				0.448					
SE_3				0.440					
PV_3					0.800				
PV_2					0.783				
PV_1					0.779				
PERE_2						0.819			
PERE_1						0.730			
PERE_3						0.722			
TR_2							0.705		
TR_3							0.662		
TR_1							0.651		
TR_4							0.539		
SEC_2								0.802	
SEC_3								0.770	
SEC_1								0.457	
HPE_2	0.618								0.645

Extraction Method: Maximum Likelihood.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 13 iterations.

Table 35: Reliability of constructs

Construct	Cronbach's Alpha
SE	0.785
SI	0.849
RISK	0.870
UPE	0.901
HPE	0.937
EE	0.887
TR	0.905
SEC	0.878
ATT	0.920
ITU	0.932
PV	0.933
PERE	0.901

Table 36: Reliability of RISK

	N of Items	Cronbach's Alpha
RISK	6.000	0.870

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RISK_1	18.82	44.046	0.377	0.890
RISK_2	17.80	36.072	0.708	0.841
RISK_3	17.67	35.030	0.750	0.833
RISK_4	18.18	34.694	0.777	0.828
RISK_5	18.01	34.889	0.744	0.834
RISK_6	17.92	36.711	0.653	0.851

Table 37: Reliability of FC

	N of Items	Cronbach's Alpha
FC	4.000	0.813

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FC_1	7.87	9.896	0.705	0.729
FC_2	7.69	9.549	0.720	0.721
FC_3	7.78	10.784	0.705	0.736
FC_4	7.39	11.855	0.428	0.858

Table 38: EFA 2 – Communalities

	Initial	Extraction
SE_1	0.545	0.523
SE_2	0.622	0.685
SE_3	0.618	0.690
SI_1	0.720	0.766
SI_2	0.714	0.852
SI_3	0.469	0.475
RISK_2	0.658	0.638
RISK_3	0.718	0.732
RISK_4	0.669	0.723
RISK_5	0.710	0.715
RISK_6	0.594	0.579
UPE_1	0.779	0.812
UPE_2	0.757	0.799
UPE_3	0.714	0.720
HPE_1	0.786	0.778
HPE_2	0.858	0.981
HPE_3	0.844	0.821
EE_1	0.729	0.714
EE_2	0.713	0.813
EE_3	0.736	0.771
TR_1	0.729	0.745
TR_2	0.734	0.768
TR_3	0.742	0.766
TR_4	0.681	0.689
FC_1	0.648	0.730
FC_2	0.691	0.738
FC_3	0.603	0.625
SEC_1	0.655	0.636
SEC_2	0.807	0.914
SEC_3	0.803	0.830
ATT_1	0.788	0.827
ATT_2	0.810	0.848
ATT_3	0.791	0.776
ITU_1	0.836	0.921
ITU_2	0.815	0.817
ITU_3	0.791	0.796
PV_1	0.756	0.775
PV_2	0.819	0.863
PV_3	0.802	0.862
PERE_1	0.730	0.762
PERE_2	0.782	0.879
PERE_3	0.696	0.711

Extraction Method: Maximum Likelihood.

Table 39: EFA 2 – Total variance explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.256	41.085	41.085	16.119	38.378	38.378	3.832	9.124	9.124
2	3.646	8.681	49.766	2.413	5.745	44.123	3.787	9.016	18.140
3	2.663	6.340	56.106	3.059	7.284	51.407	3.172	7.552	25.692
4	2.062	4.909	61.015	2.003	4.769	56.177	3.110	7.405	33.097
5	1.608	3.828	64.843	1.454	3.462	59.639	2.974	7.081	40.178
6	1.426	3.396	68.238	1.171	2.789	62.428	2.785	6.632	46.810
7	1.250	2.977	71.216	1.386	3.300	65.729	2.662	6.337	53.147
8	1.198	2.852	74.068	1.062	2.529	68.258	2.384	5.677	58.823
9	1.003	2.389	76.457	0.945	2.250	70.508	2.060	4.905	63.728
10	0.918	2.186	78.643	0.884	2.104	72.612	1.980	4.714	68.443
11	0.703	1.675	80.318	0.514	1.223	73.835	1.477	3.518	71.960
12	0.669	1.593	81.911	0.480	1.142	74.978	1.282	3.053	75.013
13	0.579	1.379	83.289	0.373	0.887	75.865	0.358	0.852	75.865
14	0.519	1.237	84.526						
15	0.489	1.164	85.690						
16	0.455	1.083	86.773						
17	0.410	0.977	87.750						
18	0.381	0.907	88.656						
19	0.348	0.829	89.486						
20	0.342	0.814	90.300						
21	0.305	0.727	91.027						
22	0.298	0.710	91.737						
23	0.280	0.666	92.403						
24	0.273	0.650	93.053						

25	0.249	0.592	93.646						
26	0.245	0.584	94.229						
27	0.230	0.547	94.777						
28	0.223	0.532	95.309						
29	0.205	0.488	95.796						
30	0.193	0.459	96.255						
31	0.184	0.439	96.694						
32	0.169	0.402	97.096						
33	0.163	0.389	97.485						
34	0.152	0.362	97.847						
35	0.142	0.338	98.184						
36	0.139	0.330	98.514						
37	0.128	0.304	98.818						
38	0.123	0.293	99.111						
39	0.107	0.256	99.366						
40	0.101	0.240	99.606						
41	0.087	0.208	99.814						
42	0.078	0.186	100.000						

Extraction Method: Maximum Likelihood.

Table 40: EFA 2 - Rotated factor matrix

	Factor												
	1	2	3	4	5	6	7	8	9	10	11	12	13
ITU_1	0.750												
ITU_2	0.619												
ATT_2	0.606												
ITU_3	0.601												
ATT_3	0.593												
ATT_1	0.568												
RISK_4		-0.830											
RISK_3		-0.796											
RISK_5		-0.774											
RISK_2		-0.724											
RISK_6		-0.679											
FC_2			0.806										
FC_1			0.798										
FC_3			0.724										
HPE_2				0.859									
HPE_1				0.702									
HPE_3				0.664									
PV_3					0.819								
PV_2					0.811								
PV_1					0.793								
TR_2						0.722							
TR_3						0.691							
TR_1						0.655							
TR_4						0.579							
PERE_2							0.828						

PERE_1							0.752						
PERE_3							0.709						
SI_2								0.871					
SI_1								0.797					
SI_3								0.596					
SEC_2									0.830				
SEC_3									0.761				
SEC_1									0.465				
SE_2										0.760			
SE_3										0.742			
SE_1										0.490			
EE_2											0.664		
EE_3											0.613		
EE_1											0.438		
UPE_2												0.566	
UPE_1												0.555	
UPE_3												0.480	

Extraction Method: Maximum Likelihood.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 23 iterations.

Table 41: EFA 2 - Factor correlation matrix

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.000	0.460	0.504	0.685	0.594	0.668	0.552	0.395	0.538	0.381	0.666	0.769	0.408
2	0.460	1.000	0.368	0.316	0.244	0.429	0.322	0.044	0.400	0.006	0.411	0.413	0.271
3	0.504	0.368	1.000	0.317	0.357	0.438	0.247	0.124	0.307	0.039	0.565	0.582	0.444
4	0.685	0.316	0.317	1.000	0.471	0.581	0.417	0.416	0.376	0.406	0.665	0.651	0.468
5	0.594	0.244	0.357	0.471	1.000	0.534	0.489	0.350	0.435	0.322	0.484	0.536	0.342
6	0.668	0.429	0.438	0.581	0.534	1.000	0.584	0.350	0.534	0.272	0.624	0.544	0.386
7	0.552	0.322	0.247	0.417	0.489	0.584	1.000	0.358	0.598	0.252	0.386	0.371	0.284
8	0.395	0.044	0.124	0.416	0.350	0.350	0.358	1.000	0.350	0.487	0.240	0.407	0.116
9	0.538	0.400	0.307	0.376	0.435	0.534	0.598	0.350	1.000	0.179	0.404	0.466	0.187
10	0.381	0.006	0.039	0.406	0.322	0.272	0.252	0.487	0.179	1.000	0.301	0.342	0.200
11	0.666	0.411	0.565	0.665	0.484	0.624	0.386	0.240	0.404	0.301	1.000	0.643	0.408
12	0.769	0.413	0.582	0.651	0.536	0.544	0.371	0.407	0.466	0.342	0.643	1.000	0.427
13	0.408	0.271	0.444	0.468	0.342	0.386	0.284	0.116	0.187	0.200	0.408	0.427	1.000

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.

8.4 Appendix D: CFA

Table 42: CFA – Standardised regression weights

			Estimate
SE_3	<---	SE	0.847
SE_2	<---	SE	0.806
SE_1	<---	SE	0.593
SI_3	<---	SI	0.651
SI_2	<---	SI	0.883
SI_1	<---	SI	0.903
RISK_3	<---	RISK	0.826
RISK_2	<---	RISK	0.774
RISK_1	<---	RISK	0.393
UPE_3	<---	UPE	0.834
UPE_2	<---	UPE	0.879
UPE_1	<---	UPE	0.891
HPE_3	<---	HPE	0.908
HPE_2	<---	HPE	0.947
HPE_1	<---	HPE	0.890
EE_3	<---	EE	0.859
EE_2	<---	EE	0.853
EE_1	<---	EE	0.844
TR_3	<---	TR	0.861
TR_2	<---	TR	0.847
TR_1	<---	TR	0.853
FC_3	<---	FC	0.796
FC_2	<---	FC	0.854
FC_1	<---	FC	0.803
SEC_3	<---	SEC	0.918
SEC_2	<---	SEC	0.929
SEC_1	<---	SEC	0.714
ATT_3	<---	ATT	0.889
ATT_2	<---	ATT	0.902
ATT_1	<---	ATT	0.883
ITU_3	<---	ITU	0.887
ITU_2	<---	ITU	0.910
ITU_1	<---	ITU	0.925
PV_3	<---	PV	0.924
PV_2	<---	PV	0.916
PV_1	<---	PV	0.881
PERE_3	<---	PERE	0.828
PERE_2	<---	PERE	0.935
PERE_1	<---	PERE	0.854
TR_4	<---	TR	0.797
FC_4	<---	FC	0.475
RISK_4	<---	RISK	0.805
RISK_5	<---	RISK	0.812
RISK_6	<---	RISK	0.717

Significance of Estimates:

$p < 0.001$

Table 43: CFA – Correlations

			Estimate
SE	<-->	SI	0.557
SE	<-->	RISK	0.000
SE	<-->	UPE	0.402
SE	<-->	HPE	0.428
SE	<-->	EE	0.368
SE	<-->	TR	0.317
SE	<-->	FC	0.270
SE	<-->	SEC	0.255
SE	<-->	ATT	0.383
SE	<-->	ITU	0.426
SE	<-->	PV	0.312
SE	<-->	PERE	0.359
SI	<-->	RISK	0.009
SI	<-->	UPE	0.421
SI	<-->	HPE	0.426
SI	<-->	EE	0.248
SI	<-->	TR	0.359
SI	<-->	FC	0.110
SI	<-->	SEC	0.337
SI	<-->	ATT	0.378
SI	<-->	ITU	0.392
SI	<-->	PV	0.359
SI	<-->	PERE	0.339
RISK	<-->	UPE	0.385
RISK	<-->	HPE	0.311
RISK	<-->	EE	0.401
RISK	<-->	TR	0.435
RISK	<-->	FC	0.313
RISK	<-->	SEC	0.390
RISK	<-->	ATT	0.435
RISK	<-->	ITU	0.436
RISK	<-->	PV	0.224
RISK	<-->	PERE	0.314
UPE	<-->	HPE	0.726
UPE	<-->	EE	0.719
UPE	<-->	TR	0.625
UPE	<-->	FC	0.582
UPE	<-->	SEC	0.500
UPE	<-->	ATT	0.813
UPE	<-->	ITU	0.809
UPE	<-->	PV	0.564
UPE	<-->	PERE	0.398
HPE	<-->	EE	0.747
HPE	<-->	TR	0.633
HPE	<-->	FC	0.316
HPE	<-->	SEC	0.445
HPE	<-->	ATT	0.769
HPE	<-->	ITU	0.733
HPE	<-->	PV	0.490
HPE	<-->	PERE	0.442
EE	<-->	TR	0.696
EE	<-->	FC	0.598
EE	<-->	SEC	0.438
EE	<-->	ATT	0.751
EE	<-->	ITU	0.737
EE	<-->	PV	0.514
EE	<-->	PERE	0.406

TR	<-->	FC	0.445
TR	<-->	SEC	0.609
TR	<-->	ATT	0.701
TR	<-->	ITU	0.712
TR	<-->	PV	0.575
TR	<-->	PERE	0.608
FC	<-->	SEC	0.330
FC	<-->	ATT	0.537
FC	<-->	ITU	0.492
FC	<-->	PV	0.349
FC	<-->	PERE	0.221
SEC	<-->	ATT	0.577
SEC	<-->	ITU	0.570
SEC	<-->	PV	0.481
SEC	<-->	PERE	0.627
ATT	<-->	ITU	0.914
ATT	<-->	PV	0.578
ATT	<-->	PERE	0.576
ITU	<-->	PV	0.624
ITU	<-->	PERE	0.563
PV	<-->	PERE	0.528

Significance of Estimates:

$p < 0.001$

Table 44: CFA – Standardised regression weights (metric invariance test)

Group 1 - Default model				Group 2 - Default model				Delta
			Estimate				Estimate	
SE_2	<-	SE	0.843	SE_2	<-	SE	0.777	0.066
UPE_3	<-	UPE	0.810	UPE_3	<-	UPE	0.874	0.064
SI_2	<-	SI	0.859	SI_2	<-	SI	0.921	0.062
RISK_3	<-	RISK	0.796	RISK_3	<-	RISK	0.853	0.057
ATT_2	<-	ATT	0.874	ATT_2	<-	ATT	0.929	0.055
ITU_2	<-	ITU	0.881	ITU_2	<-	ITU	0.935	0.054
RISK_1	<-	RISK	0.357	RISK_1	<-	RISK	0.406	0.049
HPE_3	<-	HPE	0.928	HPE_3	<-	HPE	0.886	0.042
RISK_5	<-	RISK	0.794	RISK_5	<-	RISK	0.836	0.042
PV_1	<-	PV	0.900	PV_1	<-	PV	0.860	0.040
TR_4	<-	TR	0.772	TR_4	<-	TR	0.811	0.039
RISK_6	<-	RISK	0.703	RISK_6	<-	RISK	0.742	0.039
TR_1	<-	TR	0.836	TR_1	<-	TR	0.870	0.034
FC_2	<-	FC	0.875	FC_2	<-	FC	0.841	0.034
SI_1	<-	SI	0.920	SI_1	<-	SI	0.889	0.031
TR_3	<-	TR	0.836	TR_3	<-	TR	0.866	0.030
SEC_3	<-	SEC	0.904	SEC_3	<-	SEC	0.934	0.030
ATT_3	<-	ATT	0.905	ATT_3	<-	ATT	0.876	0.029
ITU_3	<-	ITU	0.904	ITU_3	<-	ITU	0.875	0.029
SI_3	<-	SI	0.648	SI_3	<-	SI	0.674	0.026
RISK_2	<-	RISK	0.762	RISK_2	<-	RISK	0.788	0.026
PERE_3	<-	PERE	0.840	PERE_3	<-	PERE	0.814	0.026
SE_1	<-	SE	0.583	SE_1	<-	SE	0.606	0.023
UPE_2	<-	UPE	0.863	UPE_2	<-	UPE	0.886	0.023
UPE_1	<-	UPE	0.900	UPE_1	<-	UPE	0.878	0.022
EE_2	<-	EE	0.838	EE_2	<-	EE	0.860	0.022
SE_3	<-	SE	0.842	SE_3	<-	SE	0.863	0.021
ATT_1	<-	ATT	0.870	ATT_1	<-	ATT	0.890	0.020
PV_3	<-	PV	0.935	PV_3	<-	PV	0.916	0.019
PERE_2	<-	PERE	0.947	PERE_2	<-	PERE	0.928	0.019
EE_3	<-	EE	0.861	EE_3	<-	EE	0.843	0.018
HPE_1	<-	HPE	0.899	HPE_1	<-	HPE	0.883	0.016
FC_4	<-	FC	0.475	FC_4	<-	FC	0.487	0.012
TR_2	<-	TR	0.850	TR_2	<-	TR	0.839	0.011
FC_3	<-	FC	0.802	FC_3	<-	FC	0.791	0.011
SEC_1	<-	SEC	0.707	SEC_1	<-	SEC	0.717	0.010
RISK_4	<-	RISK	0.804	RISK_4	<-	RISK	0.795	0.009
ITU_1	<-	ITU	0.928	ITU_1	<-	ITU	0.921	0.007
SEC_2	<-	SEC	0.932	SEC_2	<-	SEC	0.927	0.005
PERE_1	<-	PERE	0.855	PERE_1	<-	PERE	0.860	0.005
HPE_2	<-	HPE	0.950	HPE_2	<-	HPE	0.946	0.004
FC_1	<-	FC	0.802	FC_1	<-	FC	0.806	0.004
PV_2	<-	PV	0.910	PV_2	<-	PV	0.914	0.004
EE_1	<-	EE	0.851	EE_1	<-	EE	0.854	0.003

Significance of Estimates:

$p < 0.001$

Table 45: CFA – Validity measures

	CR	AVE	MSV	MaxR(H)	SE	SI	RISK	UPE	HPE	EE	TR	FC	SEC	ATT	ITU	PV	PERE
SE	0.798	0.573	0.310	0.832	**0.757**												
SI	0.858	0.673	0.310	0.897	0.557	**0.820**											
RISK	0.872	0.543	0.190	0.896	0.000	-0.009	**0.737**										
UPE	0.902	0.754	0.661	0.905	0.402	0.421	-0.385	**0.868**									
HPE	0.939	0.838	0.592	0.945	0.428	0.426	-0.311	0.726	**0.915**								
EE	0.888	0.726	0.564	0.888	0.368	0.248	-0.401	0.719	0.747	**0.852**							
TR	0.905	0.705	0.508	0.908	0.317	0.359	-0.435	0.625	0.633	0.696	**0.840**						
FC	0.829	0.559	0.358	0.867	0.027	0.110	-0.313	0.582	0.316	0.598	0.445	**0.747**					
SEC	0.893	0.739	0.393	0.927	0.255	0.337	-0.390	0.500	0.445	0.438	0.609	0.330	**0.860**				
ATT	0.921	0.795	0.835	0.921	0.383	0.378	-0.435	0.813	0.769	0.751	0.701	0.537	0.577	**0.892**			
ITU	0.933	0.823	0.835	0.935	0.426	0.392	-0.436	0.809	0.733	0.737	0.712	0.492	0.570	0.914	**0.907**		
PV	0.933	0.823	0.389	0.936	0.312	0.359	-0.224	0.564	0.490	0.514	0.575	0.349	0.481	0.578	0.624	**0.907**	
PERE	0.906	0.764	0.393	0.922	0.359	0.339	-0.314	0.398	0.442	0.406	0.608	0.221	0.627	0.576	0.563	0.528	**0.874**

Significance of Estimates:

$p < 0.001$

Table 46: CFA (CLF model) – Standard regression weights

			Estimate
SE_3	<---	SE	0.850
SE_2	<---	SE	0.813
SE_1	<---	SE	0.546
SI_3	<---	SI	0.642
SI_2	<---	SI	0.863
SI_1	<---	SI	0.888
RISK_3	<---	RISK	0.609
RISK_2	<---	RISK	0.551
RISK_1	<---	RISK	0.495
UPE_3	<---	UPE	0.506
UPE_2	<---	UPE	0.574
UPE_1	<---	UPE	0.511
HPE_3	<---	HPE	0.703
HPE_2	<---	HPE	0.859
HPE_1	<---	HPE	0.781
EE_3	<---	EE	0.684
EE_2	<---	EE	0.697
EE_1	<---	EE	0.482
TR_3	<---	TR	0.756
TR_2	<---	TR	0.774
TR_1	<---	TR	0.739
FC_3	<---	FC	0.427
FC_2	<---	FC	0.556
FC_1	<---	FC	0.540
SEC_3	<---	SEC	0.898
SEC_2	<---	SEC	0.874
SEC_1	<---	SEC	0.557
ATT_3	<---	ATT	0.613
ATT_2	<---	ATT	0.594
ATT_1	<---	ATT	0.556
ITU_3	<---	ITU	0.612
ITU_2	<---	ITU	0.638
ITU_1	<---	ITU	0.683
PV_3	<---	PV	0.831
PV_2	<---	PV	0.749
PV_1	<---	PV	0.775
PERE_3	<---	PERE	0.799
PERE_2	<---	PERE	0.891
PERE_1	<---	PERE	0.799
TR_4	<---	TR	0.582
FC_4	<---	FC	0.199
RISK_4	<---	RISK	0.778
RISK_5	<---	RISK	0.636
RISK_6	<---	RISK	0.619
SE_3	<---	CLF	0.450
SE_2	<---	CLF	0.400
SE_1	<---	CLF	0.459
SI_3	<---	CLF	0.106
SI_2	<---	CLF	0.184
SI_1	<---	CLF	0.167
RISK_3	<---	CLF	-0.567
RISK_2	<---	CLF	-0.559
RISK_1	<---	CLF	-0.018
UPE_3	<---	CLF	0.665
UPE_2	<---	CLF	0.673
UPE_1	<---	CLF	0.726
HPE_3	<---	CLF	0.582

HPE_2	<---	CLF	0.433
HPE_1	<---	CLF	0.426
EE_3	<---	CLF	0.547
EE_2	<---	CLF	0.531
EE_1	<---	CLF	0.695
TR_3	<---	CLF	0.413
TR_2	<---	CLF	0.378
TR_1	<---	CLF	0.434
FC_3	<---	CLF	0.656
FC_2	<---	CLF	0.665
FC_1	<---	CLF	0.606
SEC_3	<---	CLF	0.256
SEC_2	<---	CLF	0.292
SEC_1	<---	CLF	0.550
ATT_3	<---	CLF	0.648
ATT_2	<---	CLF	0.677
ATT_1	<---	CLF	0.685
ITU_3	<---	CLF	0.641
ITU_2	<---	CLF	0.646
ITU_1	<---	CLF	0.631
PV_3	<---	CLF	0.421
PV_2	<---	CLF	0.529
PV_1	<---	CLF	0.419
PERE_3	<---	CLF	0.228
PERE_2	<---	CLF	0.286
PERE_1	<---	CLF	0.300
TR_4	<---	CLF	0.556
FC_4	<---	CLF	0.430
RISK_4	<---	CLF	-0.329
RISK_5	<---	CLF	-0.496
RISK_6	<---	CLF	-0.357

Significance of Estimates:

$p < 0.001$

Table 47: CFA (CLF model) – Correlations

			Estimate
SE	<-->	SI	0.545
SE	<-->	RISK	0.770
SE	<-->	UPE	0.494
SE	<-->	HPE	0.412
SE	<-->	EE	0.374
SE	<-->	TR	0.295
SE	<-->	FC	-0.132
SE	<-->	SEC	0.222
SE	<-->	ATT	0.437
SE	<-->	ITU	0.468
SE	<-->	PV	0.286
SE	<-->	PERE	0.337
SI	<-->	RISK	0.009
SI	<-->	UPE	0.448
SI	<-->	HPE	0.380
SI	<-->	EE	0.162
SI	<-->	TR	0.308
SI	<-->	FC	-0.079
SI	<-->	SEC	0.297
SI	<-->	ATT	0.362
SI	<-->	ITU	0.366
SI	<-->	PV	0.309
SI	<-->	PERE	0.300
RISK	<-->	UPE	0.145
RISK	<-->	HPE	-0.032
RISK	<-->	EE	-0.009
RISK	<-->	TR	-0.192
RISK	<-->	FC	0.284
RISK	<-->	SEC	-0.252
RISK	<-->	ATT	-0.004
RISK	<-->	ITU	-0.053
RISK	<-->	PV	0.092
RISK	<-->	PERE	-0.174
UPE	<-->	HPE	0.597
UPE	<-->	EE	0.380
UPE	<-->	TR	0.414
UPE	<-->	FC	-0.124
UPE	<-->	SEC	0.402
UPE	<-->	ATT	0.542
UPE	<-->	ITU	0.578
UPE	<-->	PV	0.309
UPE	<-->	PERE	0.260
HPE	<-->	EE	0.611
HPE	<-->	TR	0.496
HPE	<-->	FC	-0.166
HPE	<-->	SEC	0.332

HPE	<-->	ATT	0.673
HPE	<-->	ITU	0.602
HPE	<-->	PV	0.309
HPE	<-->	PERE	0.343
EE	<-->	TR	0.538
EE	<-->	FC	0.129
EE	<-->	SEC	0.305
EE	<-->	ATT	0.472
EE	<-->	ITU	0.480
EE	<-->	PV	0.268
EE	<-->	PERE	0.273
TR	<-->	FC	0.061
TR	<-->	SEC	0.537
TR	<-->	ATT	0.550
TR	<-->	ITU	0.573
TR	<-->	PV	0.429
TR	<-->	PERE	0.546
FC	<-->	SEC	0.109
FC	<-->	ATT	-0.154
FC	<-->	ITU	-0.145
FC	<-->	PV	-0.095
FC	<-->	PERE	0.480
SEC	<-->	ATT	0.519
SEC	<-->	ITU	0.492
SEC	<-->	PV	0.385
SEC	<-->	PERE	0.585
ATT	<-->	ITU	0.825
ATT	<-->	PV	0.350
ATT	<-->	PERE	0.546
ITU	<-->	PV	0.435
ITU	<-->	PERE	0.509
PV	<-->	PERE	0.455

Significance of Estimates:

$p < 0.001$

8.5 Appendix E: CB-SEM

Table 48: CB-SEM – Collinearity statistics

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.033	0.118		-0.276	0.782		
	PV	0.103	0.026	0.088	3.916	0.000	0.522	1.916
	ATT	0.822	0.043	0.780	19.043	0.000	0.158	6.323
	SEC	-0.013	0.022	-0.013	-0.577	0.564	0.485	2.064
	FC	-0.122	0.040	-0.089	-3.066	0.002	0.314	3.187
	TR	0.073	0.034	0.065	2.116	0.035	0.280	3.573
	EE	0.071	0.051	0.059	1.405	0.161	0.148	6.751
	HPE	-0.113	0.039	-0.109	-2.873	0.004	0.183	5.453
	UPE	0.172	0.043	0.156	4.035	0.000	0.177	5.650
	RISK	-0.030	0.020	-0.032	-1.547	0.123	0.633	1.579
	SI	-0.014	0.027	-0.012	-0.514	0.608	0.460	2.175
	SE	0.056	0.025	0.054	2.219	0.027	0.444	2.251

a. Dependent Variable: ITU

Table 49: CB-SEM – Regression weights (measurement / priori model)

			Regression Weights				Standardised Regression Weights	
			Estimate	Std. Error	z-Score	p-value	Std. Estimate	p-value
SEC	<-	RISK	-0.200	0.045	-4.444	***	-0.196	0.001
SEC	<-	SI	0.135	0.055	2.455	0.014	0.111	0.032
SEC	<-	FC	0.261	0.073	3.575	***	0.179	0.001
SEC	<-	PV	0.142	0.063	2.254	0.024	0.115	0.084
SEC	<-	PERE	0.442	0.052	8.500	***	0.437	0.001
SEC	<-	Formal_Banking	-0.201	0.191	-1.052	0.293	-0.045	0.324
SEC	<-	Education	0.050	0.057	0.877	0.381	0.048	0.409
SEC	<-	Income	0.093	0.053	1.755	0.082	0.105	0.088
SEC	<-	Age	-0.025	0.044	-0.568	0.577	-0.024	0.586
SEC	<-	Gender	0.153	0.104	1.471	0.142	0.059	0.134
TR	<-	RISK	-0.161	0.034	-4.735	***	-0.187	0.001
TR	<-	SEC	0.163	0.043	3.791	***	0.194	0.001
TR	<-	SI	0.136	0.040	3.400	***	0.133	0.004
TR	<-	FC	0.218	0.055	3.964	***	0.178	0.001
TR	<-	PV	0.215	0.047	4.574	***	0.206	0.002
TR	<-	PERE	0.227	0.043	5.279	***	0.268	0.001
TR	<-	Formal_Banking	-0.062	0.140	-0.443	0.657	-0.017	0.670
TR	<-	Education	-0.053	0.042	-1.262	0.201	-0.061	0.200
TR	<-	Income	-0.009	0.039	-0.231	0.810	-0.013	0.763
TR	<-	Age	-0.028	0.032	-0.875	0.377	-0.034	0.427
TR	<-	Gender	-0.160	0.076	-2.105	0.037	-0.073	0.034
EE	<-	SE	0.283	0.034	8.324	***	0.331	0.000
EE	<-	FC	0.411	0.045	9.133	***	0.362	0.002
EE	<-	TR	0.451	0.045	10.022	***	0.488	0.001
EE	<-	RISK	-0.077	0.028	-2.750	0.006	-0.096	0.014
EE	<-	SI	0.144	0.038	3.789	***	0.153	0.001
EE	<-	PV	0.098	0.039	2.513	0.011	0.102	0.107
EE	<-	PERE	0.105	0.034	3.088	0.002	0.134	0.007
EE	<-	Formal_Banking	0.184	0.112	1.643	0.101	0.053	0.064
EE	<-	Education	0.007	0.033	0.212	0.845	0.008	0.851
EE	<-	Income	-0.040	0.031	-1.290	0.196	-0.059	0.133
EE	<-	Age	0.033	0.026	1.269	0.208	0.042	0.209
EE	<-	Gender	-0.028	0.062	-0.452	0.659	-0.014	0.615
UPE	<-	RISK	-0.109	0.031	-3.516	***	-0.125	0.001
UPE	<-	SI	0.200	0.043	4.651	***	0.193	0.001
UPE	<-	EE	0.400	0.063	6.349	***	0.364	0.001
UPE	<-	TR	0.000	0.052	0.000	0.997	0.000	0.999
UPE	<-	SE	0.092	0.041	2.244	0.024	0.098	0.034
UPE	<-	FC	0.329	0.056	5.875	***	0.264	0.001
UPE	<-	PV	0.168	0.042	4.000	***	0.159	0.001
UPE	<-	Formal_Banking	-0.077	0.124	-0.621	0.534	-0.020	0.466
UPE	<-	Education	0.030	0.037	0.811	0.412	0.034	0.393
UPE	<-	Income	-0.017	0.035	-0.486	0.626	-0.022	0.585
UPE	<-	Age	0.019	0.029	0.655	0.503	0.022	0.483
UPE	<-	Gender	-0.144	0.069	-2.087	0.037	-0.065	0.025
HPE	<-	SI	0.157	0.041	3.829	***	0.144	0.001
HPE	<-	EE	0.800	0.063	12.698	***	0.688	0.001
HPE	<-	TR	0.031	0.045	0.689	0.494	0.029	0.497
HPE	<-	UPE	0.480	0.052	9.231	***	0.453	0.001
HPE	<-	SE	0.105	0.038	2.763	0.006	0.106	0.005
HPE	<-	FC	0.517	0.055	9.400	***	0.392	0.002
HPE	<-	Formal_Banking	0.126	0.116	1.086	0.277	0.031	0.214
HPE	<-	Education	-0.034	0.034	-1.000	0.323	-0.036	0.298
HPE	<-	Income	0.078	0.032	2.438	0.016	0.098	0.007

HPE	<-	Age	-0.007	0.027	-0.259	0.803	-0.007	0.774
HPE	<-	Gender	0.124	0.064	1.938	0.054	0.053	0.049
ATT	<-	UPE	0.424	0.047	9.021	***	0.405	0.001
ATT	<-	HPE	0.305	0.036	8.472	***	0.308	0.001
ATT	<-	SEC	0.195	0.029	6.724	0.003	0.200	0.001
ATT	<-	RISK	-0.060	0.023	-2.609	0.010	-0.066	0.017
ATT	<-	FC	0.168	0.043	3.907	***	0.129	0.002
ATT	<-	PERE	0.190	0.028	6.786	***	0.212	0.001
ATT	<-	Formal_Banking	0.144	0.096	1.500	0.134	0.036	0.084
ATT	<-	Education	-0.029	0.029	-1.000	0.308	-0.031	0.365
ATT	<-	Income	0.008	0.027	0.296	0.752	0.011	0.799
ATT	<-	Age	-0.020	0.022	-0.909	0.375	-0.022	0.381
ATT	<-	Gender	0.014	0.053	0.264	0.795	0.006	0.795
ITU	<-	SI	-0.021	0.026	-0.808	0.403	-0.019	0.377
ITU	<-	PV	0.147	0.026	5.654	***	0.126	0.001
ITU	<-	PERE	-0.035	0.024	-1.458	0.148	-0.037	0.187
ITU	<-	ATT	0.883	0.029	30.448	***	0.839	0.001
ITU	<-	SEC	0.090	0.023	3.913	0.002	0.097	0.001
ITU	<-	RISK	-0.052	0.019	-2.737	0.007	-0.055	0.015
ITU	<-	SE	0.093	0.023	4.043	***	0.091	0.001
ITU	<-	Formal_Banking	-0.154	0.076	-2.026	0.064	-0.037	0.068
ITU	<-	Education	-0.019	0.022	-0.864	0.385	-0.020	0.449
ITU	<-	Income	0.040	0.021	1.905	0.050	0.049	0.083
ITU	<-	Age	-0.003	0.017	-0.176	0.863	-0.003	0.847
ITU	<-	Gender	0.035	0.042	0.833	0.411	0.014	0.381

*** $p < 0.001$

Table 50: CB-SEM – Regression weights (revised model)

			Regression Weights				Standardised Regression Weights	
			Estimate	Std. Error	z-Score	p-value	Estimate	p-value
SEC	<-	RISK	-0.200	0.046	-4.348	***	-0.195	0.001
SEC	<-	SI	0.191	0.052	3.673	***	0.158	0.002
SEC	<-	FC	0.220	0.063	3.492	***	0.150	0.002
SEC	<-	PERE	0.513	0.046	11.152	***	0.508	0.001
TR	<-	RISK	-0.163	0.034	-4.794	***	-0.190	0.001
TR	<-	SEC	0.153	0.042	3.643	***	0.183	0.001
TR	<-	SI	0.119	0.040	2.975	0.003	0.117	0.008
TR	<-	FC	0.251	0.048	5.229	***	0.205	0.001
TR	<-	PV	0.220	0.046	4.783	***	0.211	0.002
TR	<-	PERE	0.214	0.043	4.977	***	0.252	0.001
TR	<-	Gender	-0.144	0.075	-1.920	0.054	-0.066	0.047
EE	<-	SE	0.293	0.034	8.618	***	0.343	0.001
EE	<-	FC	0.452	0.040	11.300	***	0.399	0.001
EE	<-	TR	0.480	0.044	10.909	***	0.519	0.001
EE	<-	RISK	-0.073	0.028	-2.607	0.010	-0.092	0.021
EE	<-	SI	0.140	0.038	3.684	***	0.149	0.001
EE	<-	PERE	0.083	0.032	2.594	0.011	0.106	0.019
UPE	<-	RISK	-0.111	0.030	-3.700	***	-0.128	0.001
UPE	<-	SI	0.200	0.040	5.000	***	0.194	0.001
UPE	<-	EE	0.398	0.054	7.370	***	0.363	0.001
UPE	<-	SE	0.095	0.040	2.375	0.018	0.102	0.027
UPE	<-	FC	0.332	0.052	6.385	***	0.268	0.001
UPE	<-	PV	0.167	0.038	4.395	***	0.159	0.001
UPE	<-	Gender	-0.134	0.067	-2.000	0.047	-0.060	0.028
HPE	<-	SI	0.171	0.040	4.275	***	0.157	0.001
HPE	<-	EE	0.829	0.054	15.352	***	0.713	0.001
HPE	<-	UPE	0.473	0.051	9.275	***	0.446	0.001
HPE	<-	SE	0.118	0.037	3.189	0.002	0.119	0.001
HPE	<-	FC	0.513	0.055	9.327	***	0.389	0.002
HPE	<-	Income	0.062	0.024	2.583	0.010	0.077	0.009
ATT	<-	UPE	0.424	0.046	9.217	***	0.405	0.001
ATT	<-	HPE	0.310	0.035	8.857	***	0.314	0.001
ATT	<-	RISK	-0.062	0.023	-2.696	0.006	-0.068	0.015
ATT	<-	SEC	0.185	0.024	7.708	***	0.215	0.001
ATT	<-	FC	0.173	0.039	4.436	***	0.133	0.001
ATT	<-	PERE	0.208	0.023	9.043	***	0.231	0.001
ITU	<-	PV	0.133	0.024	5.542	***	0.114	0.001
ITU	<-	ATT	0.868	0.025	34.720	***	0.826	0.001
ITU	<-	SEC	0.109	0.026	4.192	***	0.105	0.001
ITU	<-	RISK	-0.049	0.019	-2.579	0.008	-0.052	0.013
ITU	<-	SE	0.084	0.020	4.200	***	0.082	0.001

*** $p < 0.001$

Table 51: CB-SEM – Indirect / mediation effects (revised model)

Indirect Path	Estimate	Lower	Upper	p-value	Standardized Estimate
Income --> HPE --> ATT	0.019	0.008	0.033	0.006	0.024**
Gender --> TR --> EE	-0.069	-0.137	-0.015	0.038	-0.034**
Gender --> UPE --> HPE	-0.063	-0.123	-0.019	0.021	-0.027**
Gender --> UPE --> ATT	-0.057	-0.105	-0.016	0.023	-0.024**
PERE --> SEC --> TR	0.078	0.041	0.130	0.001	0.093***
PERE --> TR --> EE	0.102	0.062	0.150	0.001	0.131***
PERE --> EE --> UPE	-0.033	-0.066	-0.010	0.013	0.038**
PERE --> EE --> HPE	-0.069	-0.117	-0.020	0.019	0.075**
PERE --> ATT --> ITU	0.180	0.136	0.224	0.001	0.191***
PV --> TR --> EE	0.105	0.055	0.170	0.001	0.110***
PV --> UPE --> HPE	0.079	0.045	0.123	0.001	0.071***
PV --> UPE --> ATT	0.071	0.041	0.109	0.001	0.064***
FC --> SEC --> TR	0.034	0.015	0.065	0.001	0.027***
FC --> TR --> EE	0.121	0.079	0.174	0.001	0.106***
FC --> EE --> UPE	0.180	0.129	0.244	0.001	0.145***
FC --> EE --> HPE	0.375	0.290	0.470	0.001	0.285**
FC --> UPE --> HPE	0.157	0.102	0.224	0.001	0.119***
FC --> UPE --> ATT	0.141	0.096	0.203	0.001	0.108***
FC --> HPE --> ATT	-0.159	-0.213	-0.109	0.001	0.122**
FC --> ATT --> ITU	0.150	0.079	0.210	0.002	0.110**
SE --> EE --> UPE	0.116	0.074	0.170	0.001	0.125***
SE --> EE --> HPE	0.243	0.184	0.305	0.001	0.245***
SE --> UPE --> HPE	0.045	0.012	0.087	0.028	0.045**
SE --> UPE --> ATT	0.040	0.012	0.081	0.021	0.041**
SE --> HPE --> ATT	-0.037	-0.061	-0.018	0.001	0.037***
SI --> SEC --> TR	0.029	0.011	0.059	0.002	0.029***
SI --> TR --> EE	0.057	0.024	0.101	0.005	0.061**
SI --> EE --> UPE	-0.056	-0.088	-0.030	0.001	0.054***
SI --> EE --> HPE	-0.116	-0.170	-0.063	0.001	0.106**
SI --> UPE --> HPE	0.094	0.056	0.144	0.001	0.086***
SI --> UPE --> ATT	0.085	0.052	0.121	0.001	0.078***
SI --> HPE --> ATT	0.053	0.031	0.081	0.001	0.049***
RISK --> SEC --> TR	-0.031	-0.056	-0.015	0.000	-0.036***
RISK --> TR --> EE	-0.078	-0.115	-0.049	0.000	-0.099***
RISK --> EE --> UPE	-0.029	-0.058	-0.009	0.015	-0.033**
RISK --> EE --> HPE	-0.060	-0.105	-0.021	0.017	-0.065**
RISK --> UPE --> HPE	-0.053	-0.089	-0.025	0.001	-0.057***
RISK --> UPE --> ATT	-0.047	-0.075	-0.024	0.001	-0.052***
RISK --> ATT --> ITU	-0.054	-0.091	-0.016	0.016	-0.056**
SEC --> TR --> EE	0.073	0.036	0.121	0.001	0.095***
SEC --> ATT --> ITU	0.118	0.106	0.128	0.001	0.120***
TR --> EE --> UPE	0.191	0.130	0.269	0.001	0.188***
TR --> EE --> HPE	0.397	0.317	0.491	0.001	0.370***
EE --> UPE --> HPE	0.188	0.128	0.265	0.001	0.162***
EE --> UPE --> ATT	0.169	0.113	0.243	0.001	0.147***
EE --> HPE --> ATT	0.257	0.186	0.338	0.001	0.224***
UPE --> HPE --> ATT	0.146	0.105	0.200	0.001	0.140***
UPE --> ATT --> ITU	0.368	0.288	0.458	0.001	0.334***
HPE --> ATT --> ITU	0.269	0.207	0.334	0.001	0.259***

Significance of Estimates:

*** p < 0.001

** p < 0.050

Table 52: CB-SEM – Total standardised indirect effects (revised model)

ENDOGENOUS VARIABLES	EXOGENOUS VARIABLES											
	PERE	PV	FC	SE	SI	RISK	SEC	TR	EE	UPE	HPE	ATT
SEC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TR	0.093	0.000	0.027	0.000	0.029	-0.036	0.000	0.000	0.000	0.000	0.000	0.000
EE	0.131	0.110	0.106	0.000	0.061	-0.099	0.095	0.000	0.000	0.000	0.000	0.000
UPE	0.038	0.000	0.145	0.125	0.054	-0.033	0.000	0.188	0.000	0.000	0.000	0.000
HPE	0.075	0.071	0.404	0.290	0.192	-0.122	0.000	0.370	0.162	0.000	0.000	0.000
ATT	0.000	0.064	0.230	0.078	0.127	-0.052	0.000	0.000	0.371	0.140	0.000	0.000
ITU	0.191	0.000	0.110	0.000	0.000	-0.056	0.120	0.000	0.000	0.334	0.259	0.000

NB: Effects after ignoring non-significant values

Table 53: CB-SEM – Total standardised direct effects (revised model)

ENDOGENOUS VARIABLES	EXOGENOUS VARIABLES											
	PERE	PV	FC	SE	SI	RISK	SEC	TR	EE	UPE	HPE	ATT
SEC	0.508	0.000	0.150	0.000	0.158	-0.195	0.000	0.000	0.000	0.000	0.000	0.000
TR	0.252	0.211	0.205	0.000	0.117	-0.190	0.183	0.000	0.000	0.000	0.000	0.000
EE	0.106	0.000	0.399	0.343	0.149	-0.092	0.000	0.519	0.000	0.000	0.000	0.000
UPE	0.000	0.159	0.268	0.102	0.194	-0.128	0.000	0.000	0.363	0.000	0.000	0.000
HPE	0.000	0.000	0.389	0.119	0.157	0.000	0.000	0.000	0.713	0.446	0.000	0.000
ATT	0.231	0.000	0.133	0.000	0.000	-0.068	0.215	0.000	0.000	0.405	0.314	0.000
ITU	0.000	0.114	0.000	0.082	0.000	-0.052	0.105	0.000	0.000	0.000	0.000	0.826

NB: Effects after ignoring non-significant values

Table 54: CB-SEM – Total standardised effects (revised model)

ENDOGENOUS VARIABLES	EXOGENOUS VARIABLES											
	PERE	PV	FC	SE	SI	RISK	SEC	TR	EE	UPE	HPE	ATT
SEC	0.508	0.000	0.150	0.000	0.158	-0.195	0.000	0.000	0.000	0.000	0.000	0.000
TR	0.345	0.211	0.232	0.000	0.146	-0.226	0.183	0.000	0.000	0.000	0.000	0.000
EE	0.237	0.110	0.505	0.343	0.210	-0.191	0.095	0.519	0.000	0.000	0.000	0.000
UPE	0.038	0.159	0.413	0.227	0.248	-0.161	0.000	0.188	0.363	0.000	0.000	0.000
HPE	0.075	0.071	0.793	0.409	0.349	-0.122	0.000	0.370	0.875	0.446	0.000	0.000
ATT	0.231	0.064	0.363	0.078	0.127	-0.120	0.215	0.000	0.371	0.545	0.314	0.000
ITU	0.191	0.114	0.110	0.082	0.000	-0.108	0.225	0.000	0.000	0.334	0.259	0.826

NB: Effects after ignoring non-significant values

Table 55: CB-SEM – Moderation effects (model fit indices)

Fit Index	χ^2/df	*SRMR*	*CFI*	*RMSEA*	*PCLOSE*
Excellent	≤ 2	$\leq .08$	$\geq .95$	$< .05$	$\geq .05$
Acceptable	≤ 5	$\leq .10$	$\geq .90$	$< .08$	$\geq .01$
Model fit when determining moderation effects of CVs on SEC					
Gender	1.783	0.020	0.984	0.051	0.417
Age	1.851	0.022	0.983	0.054	0.315
Income	2.200	0.026	0.976	0.064	0.036
Education	1.814	0.021	0.983	0.052	0.368
Use of Formal Banking	1.671	0.019	0.987	0.048	0.601
Model fit when determining moderation effects of CVs on TR					
Gender	1.773	0.022	0.983	0.051	0.432
Age	1.829	0.020	0.983	0.053	0.339
Income	2.196	0.026	0.975	0.063	0.029
Education	1.867	0.023	0.981	0.054	0.282
Use of Formal Banking	1.629	0.019	0.987	0.046	0.682
Model fit when determining moderation effects of CVs on EE					
Gender	1.697	0.020	0.985	0.048	0.565
Age	1.807	0.020	0.983	0.052	0.373
Income	2.185	0.027	0.976	0.063	0.031
Education	1.713	0.022	0.985	0.049	0.536
Use of Formal Banking	1.548	0.018	0.989	0.043	0.802
Model fit when determining moderation effects of CVs on UPE					
Gender	1.977	0.020	0.979	0.057	0.150
Age	1.907	0.021	0.982	0.055	0.228
Income	2.205	0.027	0.976	0.064	0.026
Education	1.674	0.019	0.986	0.048	0.605
Use of Formal Banking	1.725	0.020	0.986	0.049	0.515
Model fit when determining moderation effects of CVs on HPE					
Gender	2.182	0.025	0.978	0.063	0.037
Age	1.878	0.020	0.984	0.054	0.272
Income	2.231	0.034	0.978	0.064	0.024
Education	1.916	0.028	0.983	0.056	0.223
Use of Formal Banking	1.834	0.023	0.985	0.053	0.334

Model fit when determining moderation effects of CVs on ATT					
Gender	2.071	0.023	0.979	0.060	0.085
Age	1.963	0.021	0.982	0.057	0.171
Income	2.250	0.028	0.976	0.065	0.02
Education	1.766	0.020	0.985	0.051	0.444
Use of Formal Banking	1.732	0.019	0.986	0.050	0.502
Model fit when determining moderation effects of CVs on ITU					
Gender	1.865	0.021	0.983	0.054	0.295
Age	1.976	0.021	0.981	0.057	0.166
Income	2.222	0.030	0.977	0.064	0.03
Education	2.001	0.025	0.981	0.058	0.143
Use of Formal Banking	1.670	0.019	0.987	0.047	0.603

Table 56: CB-SEM – SMC of DVs when assessing moderation effects

SMC (R^2)	R^2_{SEC}	R^2_{TR}	R^2_{EE}	R^2_{UPE}	R^2_{HPE}	R^2_{ATT}	R^2_{ITU}
Gender	0.547	0.658	0.745	0.747	0.802	0.862	0.918
Age	0.555	0.682	0.742	0.749	0.793	0.865	0.917
Income	0.558	0.675	0.745	0.745	0.802	0.863	0.920
Education	0.542	0.662	0.736	0.747	0.793	0.863	0.919
Use of Formal Banking	0.544	0.655	0.740	0.742	0.794	0.858	0.919

Table 57: CB-SEM – Moderation effects (revised model)

PATH	CONTROL VARIABLE				
	GENDER	AGE	INCOME	EDUCATION	FORMAL BANKING
	Estimate	Estimate	Estimate	Estimate	Estimate
EE → HPE	0.12**	0.097*	0.045	0.020	-0.047
FC → TR	0.070*	-0.134**	-0.098**	-0.064	0.055
FC → SEC	0.114**	0.081	-0.086	-0.034	-0.054
FC → EE	-0.053	-0.061*	-0.001	0.036	0.032
RISK → TR	0.033	0.011	0.005	-0.040	0.076
SEC → TR	-0.014	-0.061	0.042	0.020	-0.006
SI → TR	-0.003	-0.052	-0.004	-0.010	0.022
PERE → ATT	0.017	-0.083**	-0.073**	-0.043	0.066
HPE → ATT	0.126**	0.082*	0.013	-0.054	-0.009
PERE → TR	0.049	0.062	0.032	0.007	0.049
PERE → SEC	-0.024	-0.146**	0.114*	0.029	-0.101
ATT → ITU	-0.035	-0.004	0.049	0.068**	-0.053
TR → EE	-0.050	0.025	0.067	-0.016	0.050
RISK → EE	0.029	0.018	-0.031	-0.013	0.015
SI → EE	-0.020	0.057	0.053	0.033	-0.049
PERE → EE	0.021	0.075**	-0.053	-0.024	-0.061
SE → EE	0.004	-0.072	-0.124**	-0.047	0.020
SI → SEC	-0.077	-0.050	0.117*	0.051	0.134*
EE → UPE	-0.051	0.076	0.071	0.042	-0.039
SE → UPE	0.073	0.086	-0.045	0.037	-0.083
FC → UPE	0.088*	-0.065	0.009	0.005	0.123**
FC → ATT	0.034	-0.058	-0.002	-0.061*	-0.017
SI → HPE	-0.012	-0.034	0.002	-0.008	0.020
SEC → ATT	0.051	-0.045	-0.034	0.022	-0.011
PV → UPE	-0.031	-0.119**	-0.021	-0.022	-0.042
UPE → ATT	-0.085	0.049	0.126**	0.186	0.029
SE → HPE	0.029	-0.009	0.048	0.005	0.024
FC → HPE	-0.061	-0.012	-0.021	-0.017	-0.017
UPE → HPE	0.015	-0.082	-0.119**	-0.070	-0.015
RISK → ATT	0.058**	-0.05*	-0.003	0.025	0.009
RISK → SEC	0.021	-0.097*	0.003	-0.002	-0.069
PV → ITU	0.027	0.026	0.009	-0.052*	-0.022
RISK → UPE	0.059	-0.065*	-0.043	-0.040	0.017
PV → TR	0.008	0.188***	0.156**	0.109**	-0.010
SI → UPE	-0.088**	-0.021	0.089*	0.088**	0.054
RISK → ITU	-0.018	-0.003	-0.029	-0.022	-0.039
SEC → ITU	0.010	-0.005	-0.031	0.012	0.013
SE → ITU	0.003	0.004	0.020	-0.007	0.021
COUNT OF SIGNFICANT MODERATION EFFECTS	7.000	12.000	9.000	5.000	2.000
% MODERATION EFFECTS	**18.42%**	**31.58%**	**23.68%**	**13.16%**	**5.26%**

Significance of Estimates:

*** p < 0.001

** p < 0.050

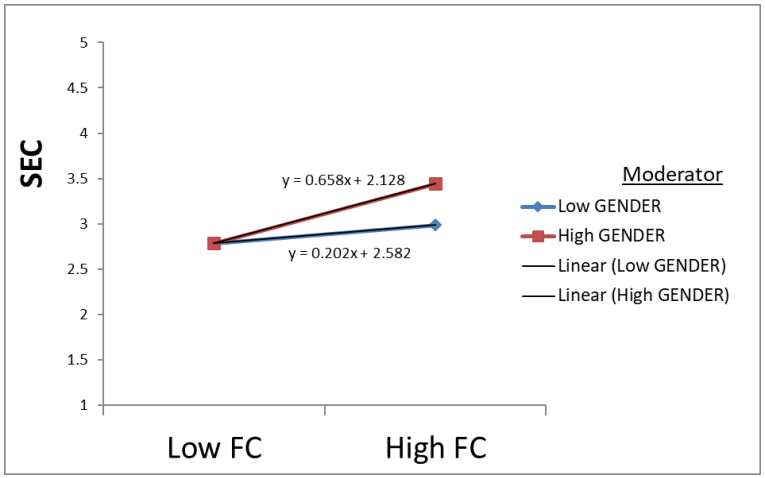


Figure 17: Interaction plot of *Gender* on FC → SEC

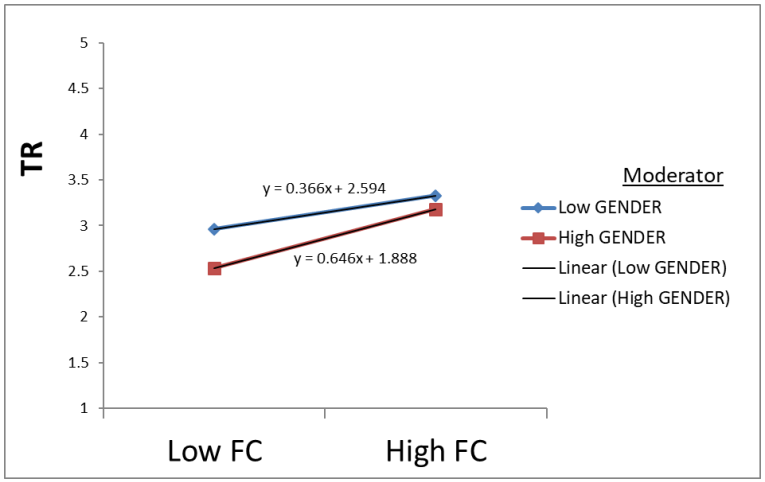


Figure 18: Interaction plot of *Gender* on FC → TR

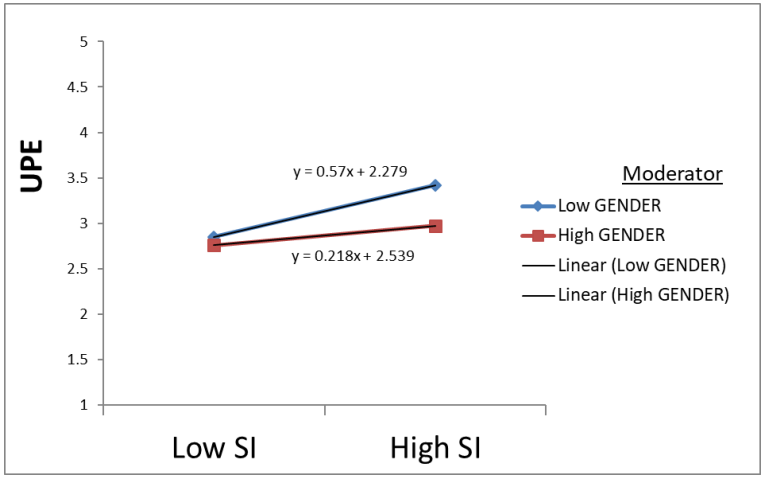


Figure 19: Interaction plot of *Gender* on SI → UPE

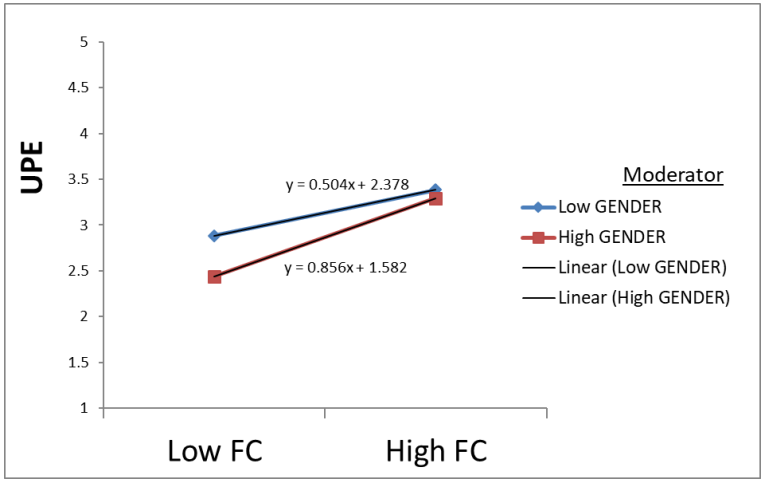


Figure 20: Interaction plot of *Gender* on FC → UPE

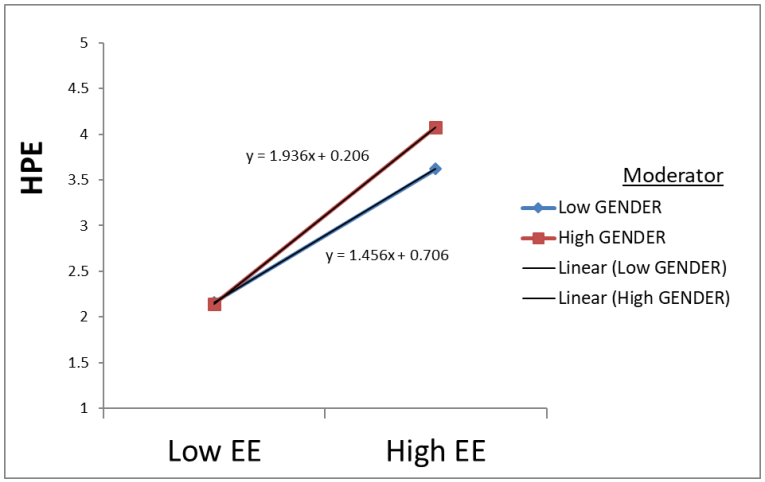


Figure 21: Interaction plot of *Gender* on EE → HPE

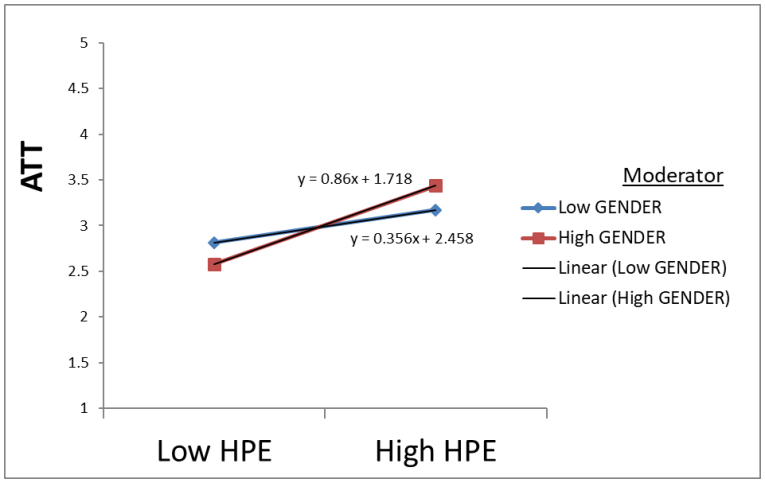


Figure 22: Interaction plot of *Gender* on HPE → ATT

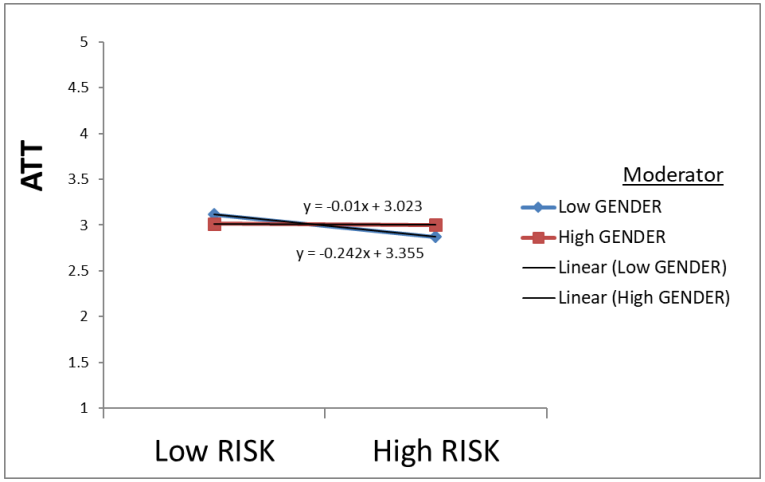


Figure 23: Interaction plot of *Gender* on RISK → ATT

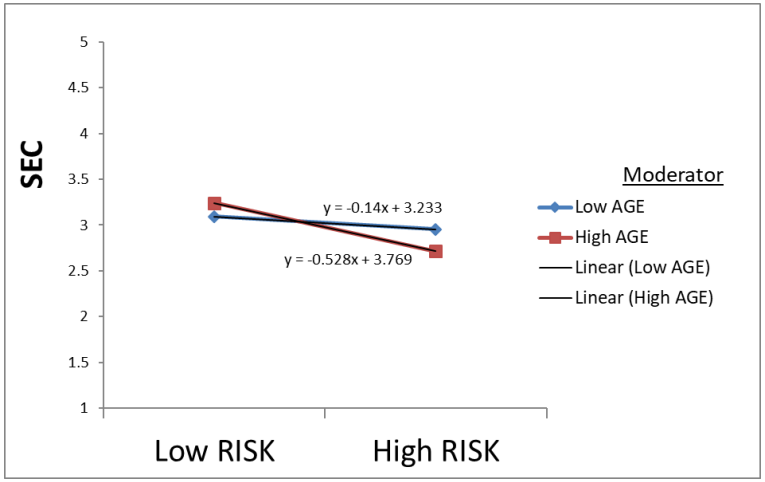


Figure 24: Interaction plot of *Age* on RISK → SEC

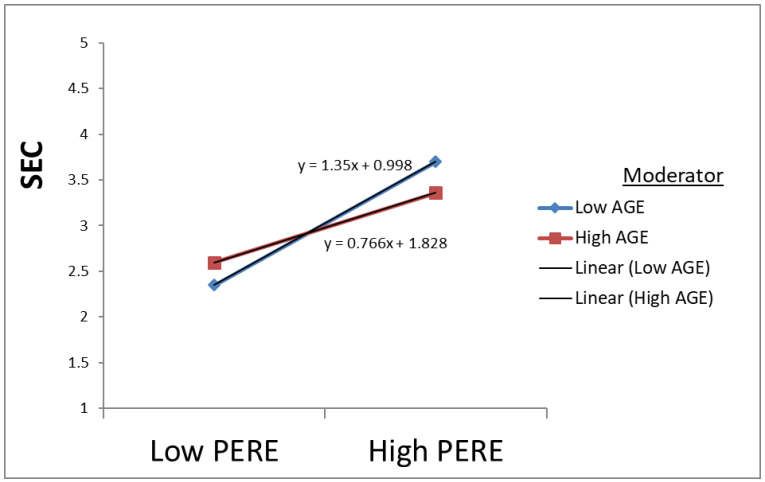


Figure 25: Interaction plot of *Age* on PERE → SEC

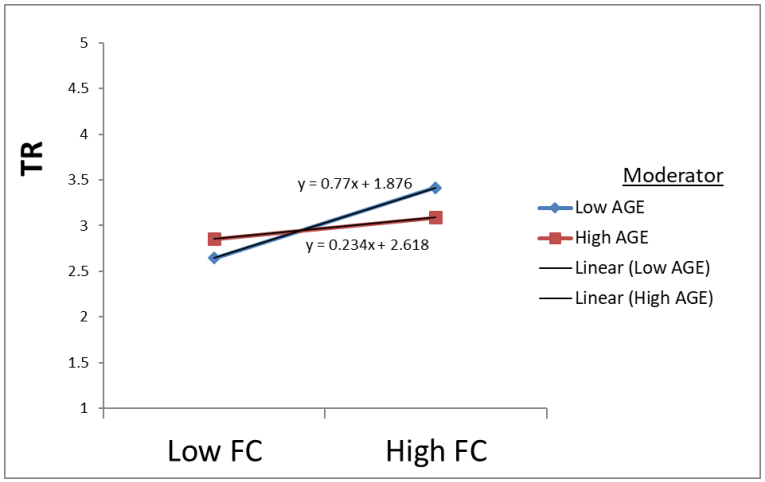


Figure 26: Interaction plot of *Age* on FC → TR

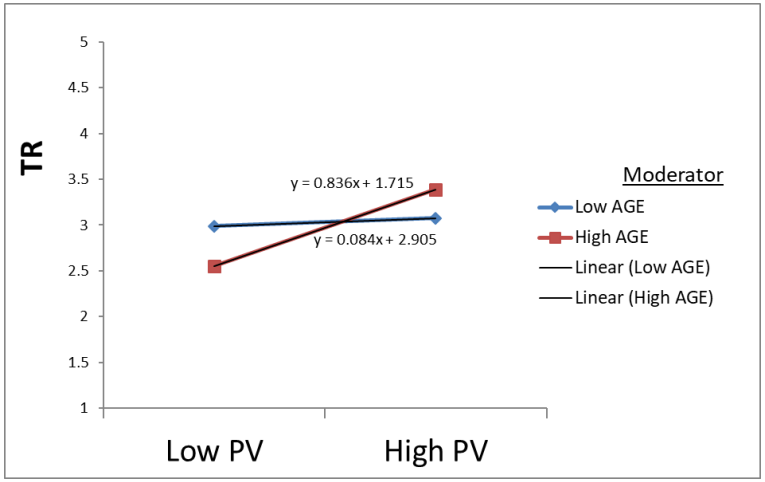


Figure 27: Interaction plot of *Age* on PV → TR

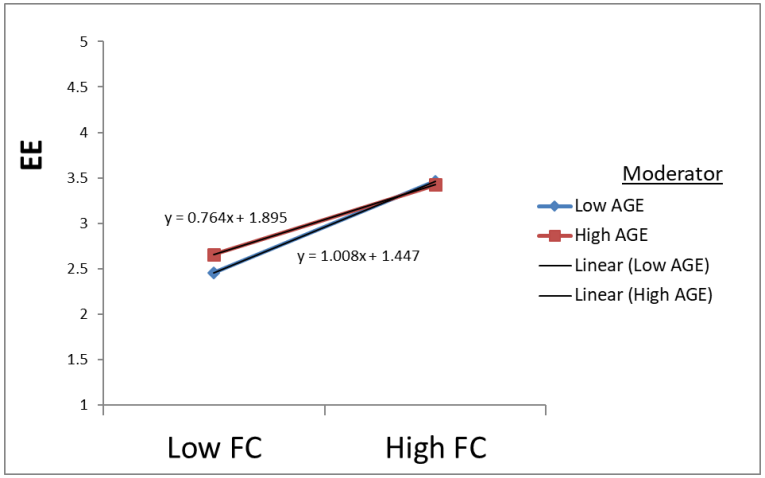


Figure 28: Interaction plot of *Age* on FC → EE

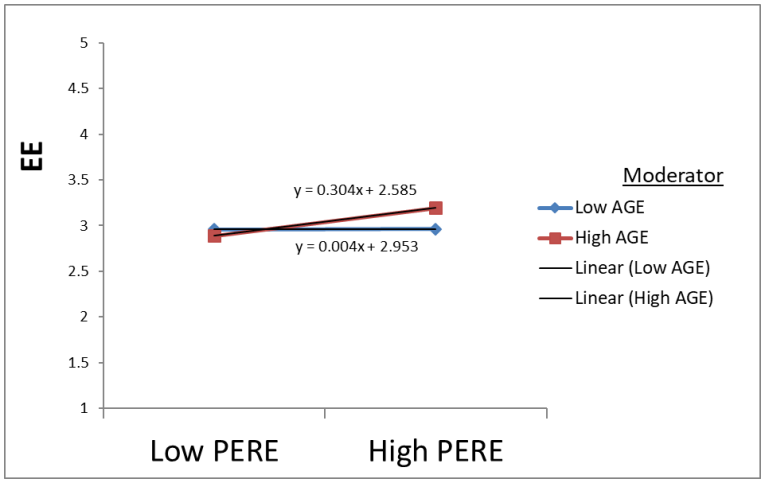


Figure 29: Interaction plot of *Age* on PERE → EE

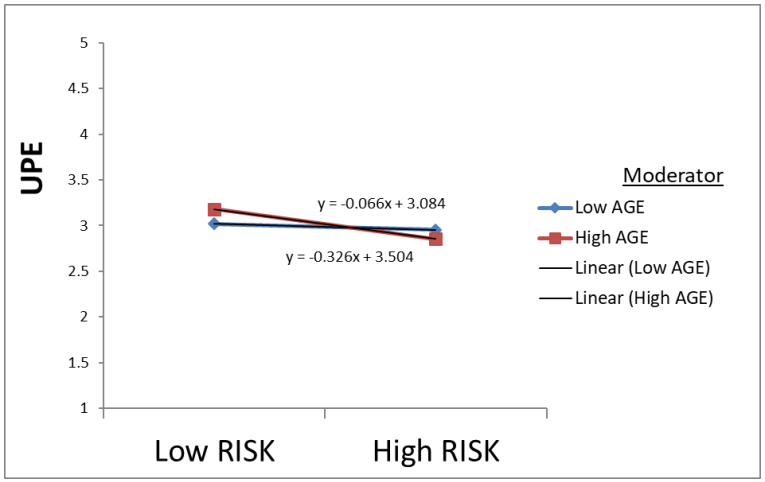


Figure 30: Interaction plot of *Age* on RISK → UPE

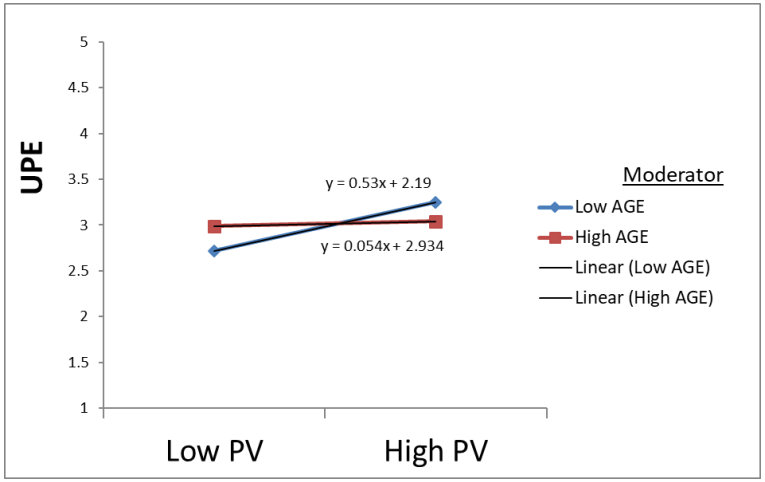


Figure 31: Interaction plot of *Age* on PV → UPE

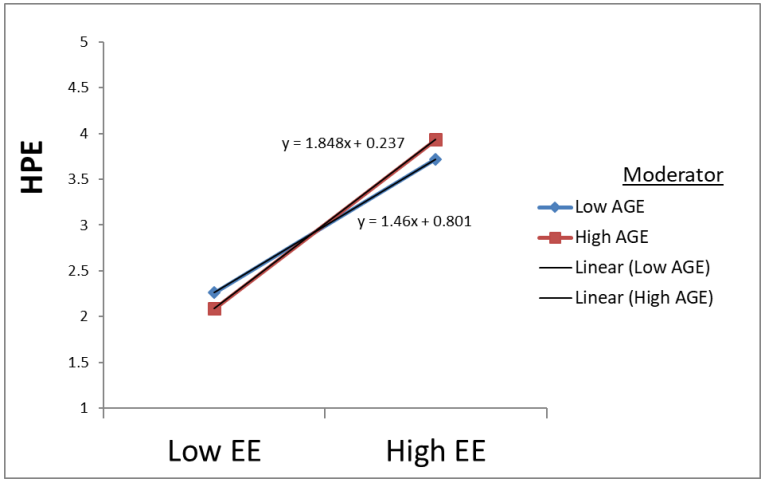


Figure 32: Interaction plot of *Age* on EE → HPE

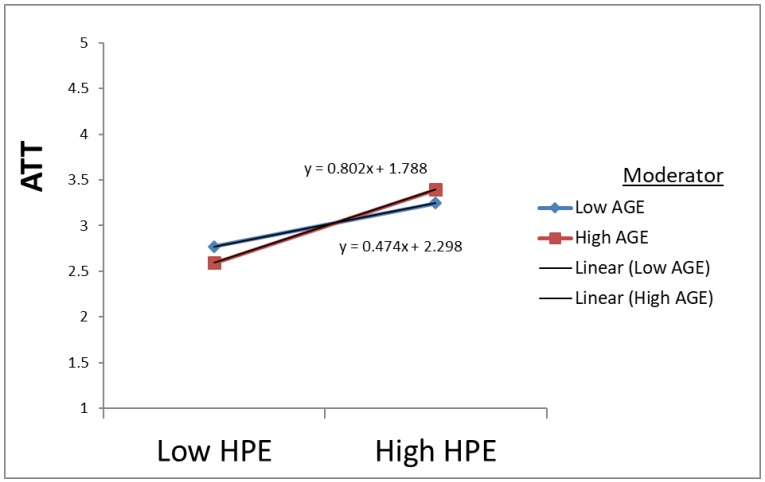


Figure 33: Interaction plot of *Age* on HPE → ATT

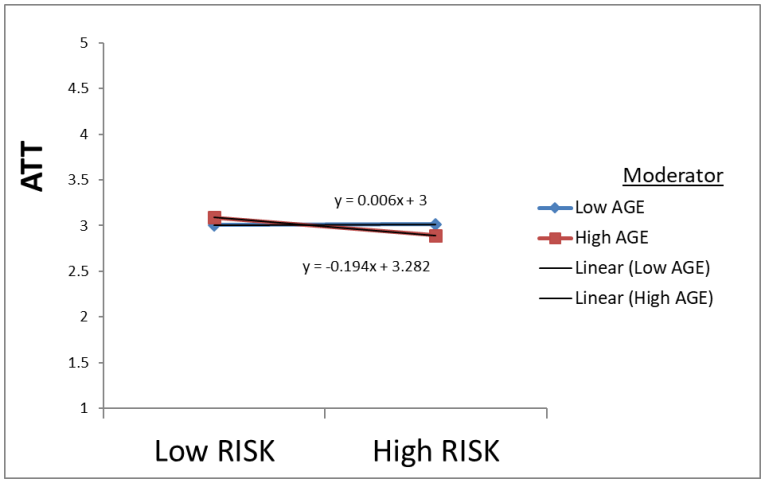


Figure 34: Interaction plot of *Age* on RISK → ATT

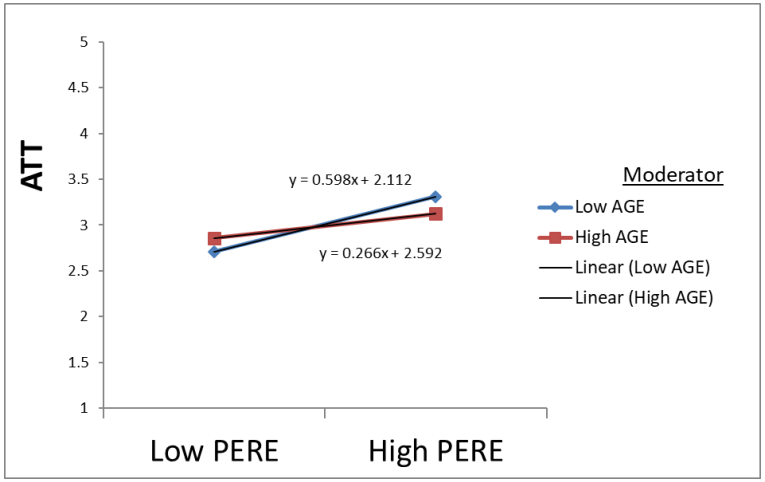


Figure 35: Interaction plot of *Age* on PERE → ATT

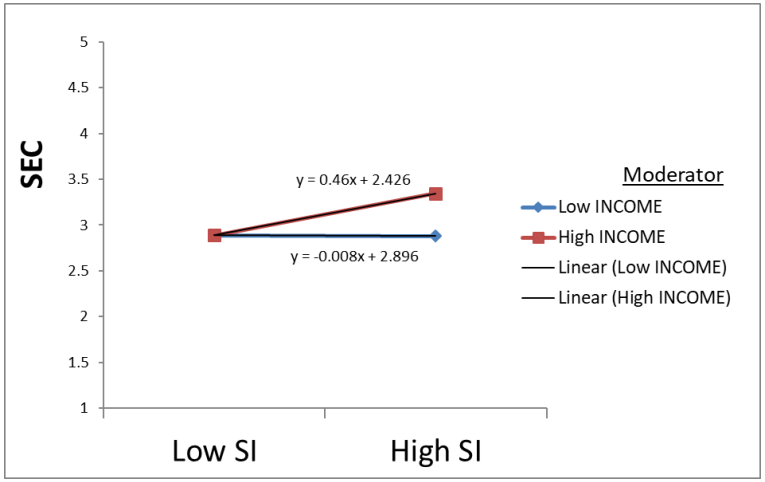


Figure 36: Interaction plot of *Income* on SI → SEC

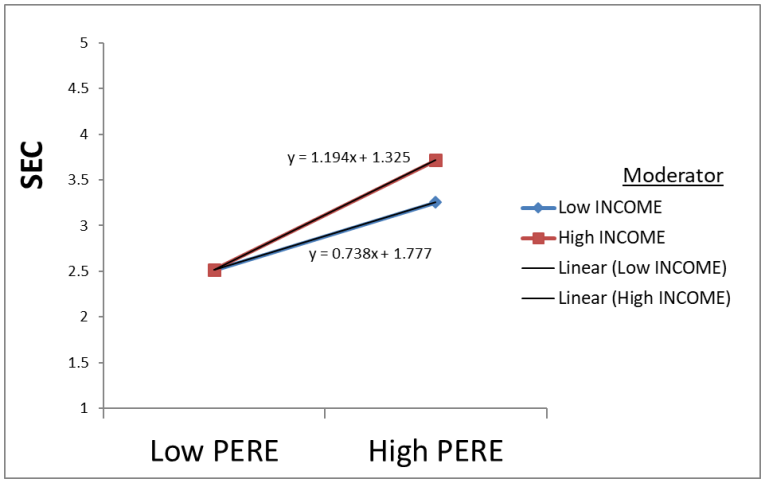


Figure 37: Interaction plot of *Income* on PERE → SEC

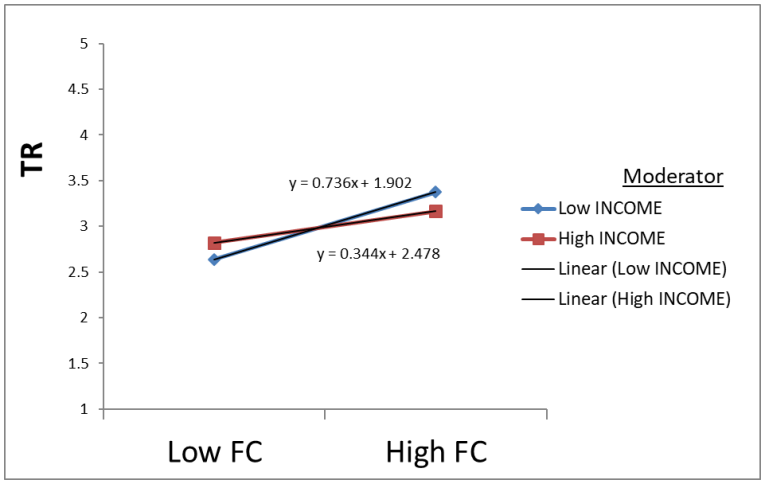


Figure 38: Interaction plot of *Income* on FC → TR

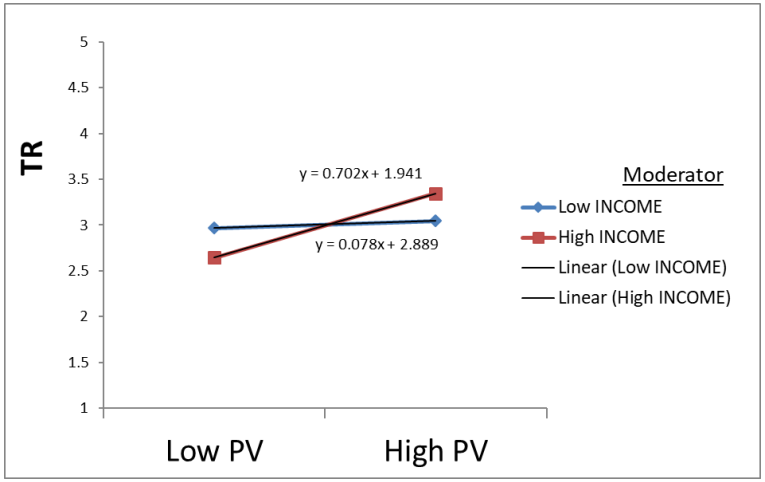


Figure 39: Interaction plot of *Income* on PV → TR

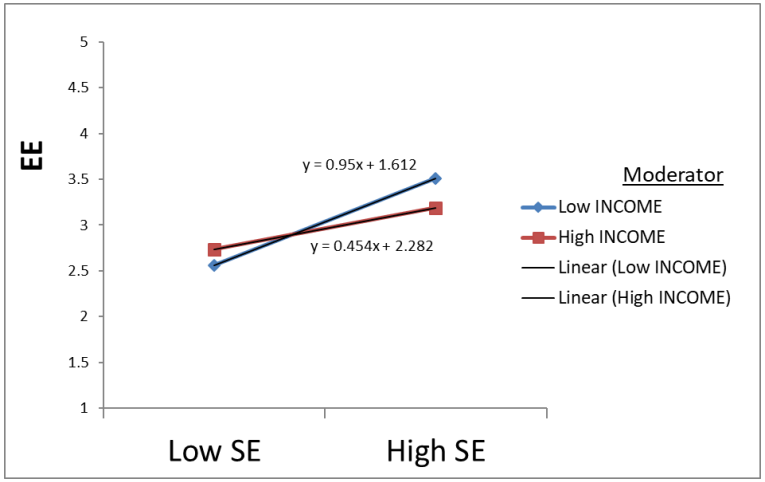


Figure 40: Interaction plot of *Income* on SE → EE

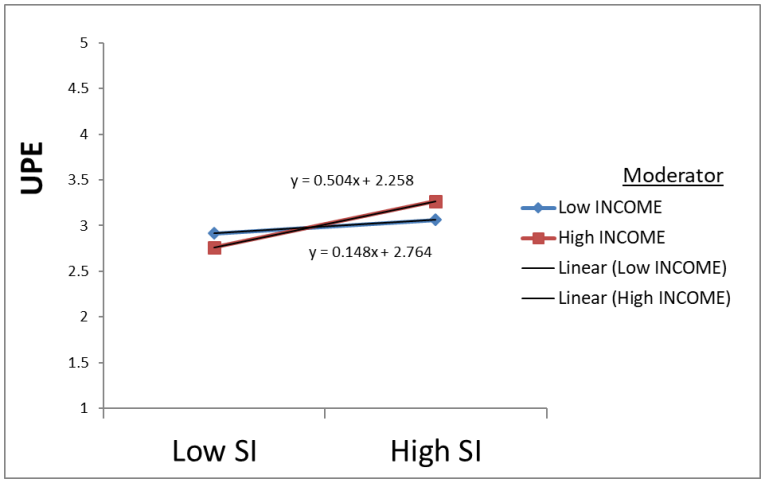


Figure 41: Interaction plot of *Income* on SI → UPE

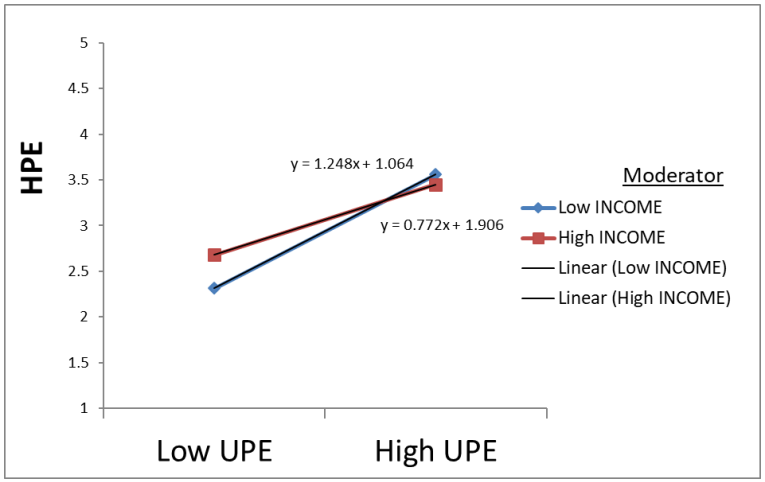


Figure 42: Interaction plot of *Income* on UPE → HPE

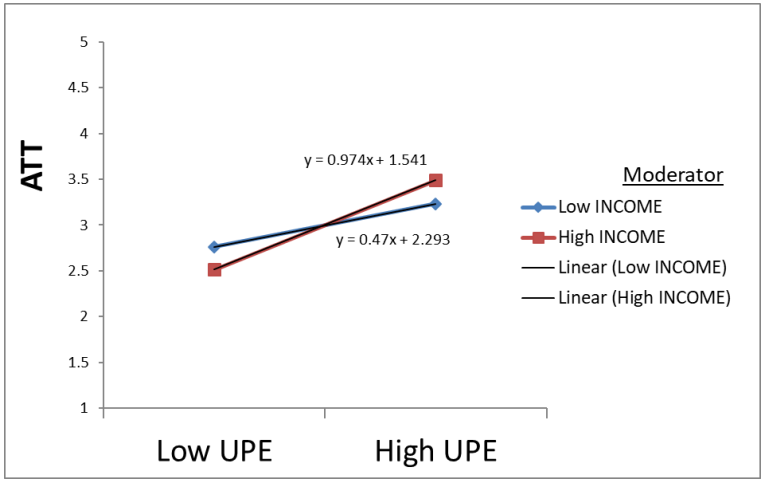


Figure 43: Interaction plot of *Income* on UPE → ATT

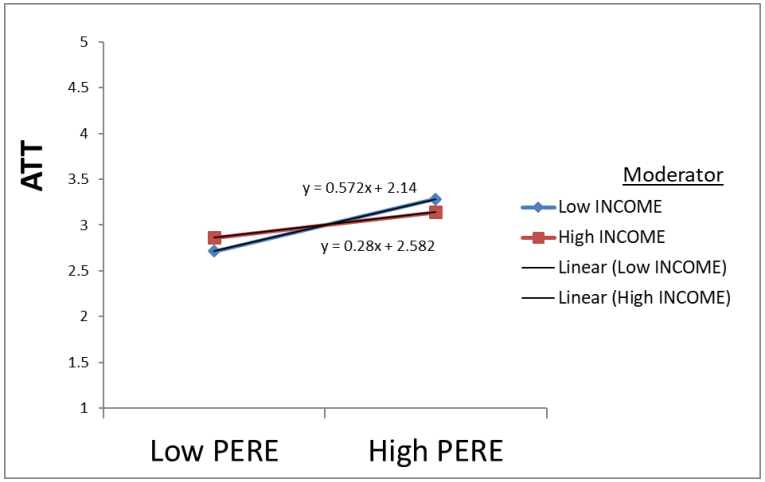


Figure 44: Interaction plot of *Income* on PERE → ATT

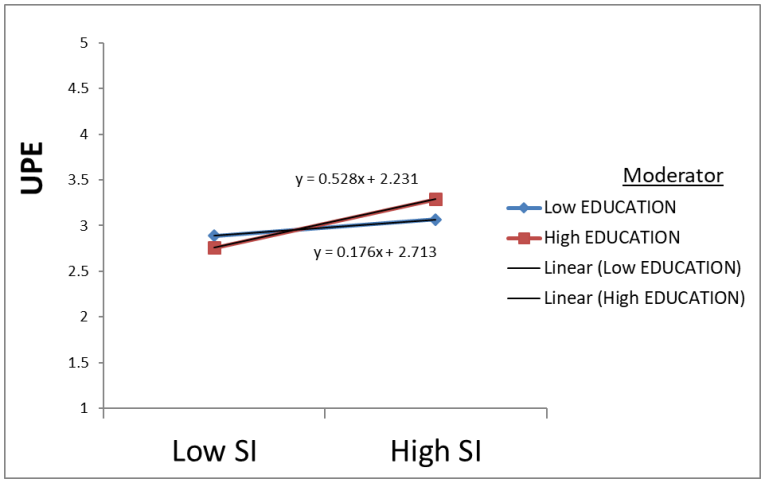


Figure 45: Interaction plot of *Education* on SI → UPE

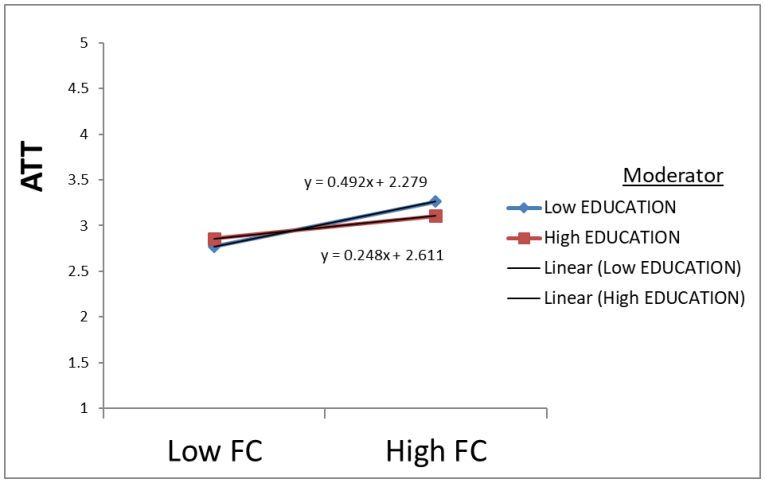


Figure 46: Interaction plot of *Education* on FC → ATT

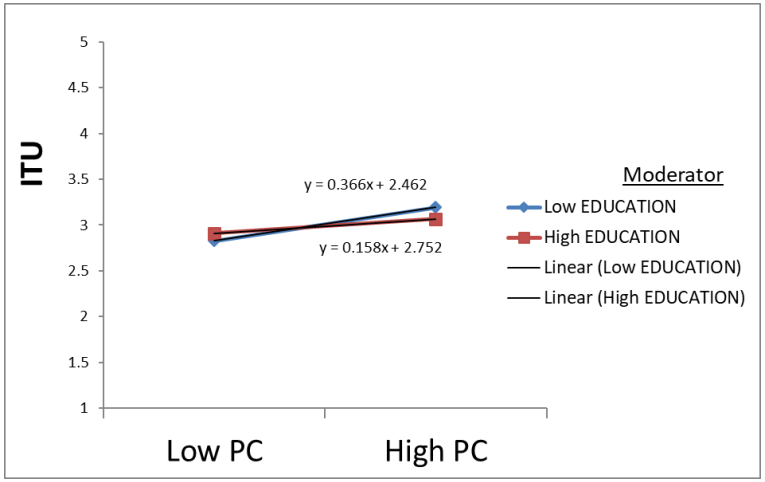


Figure 47: Interaction plot of *Education* on PV → ITU

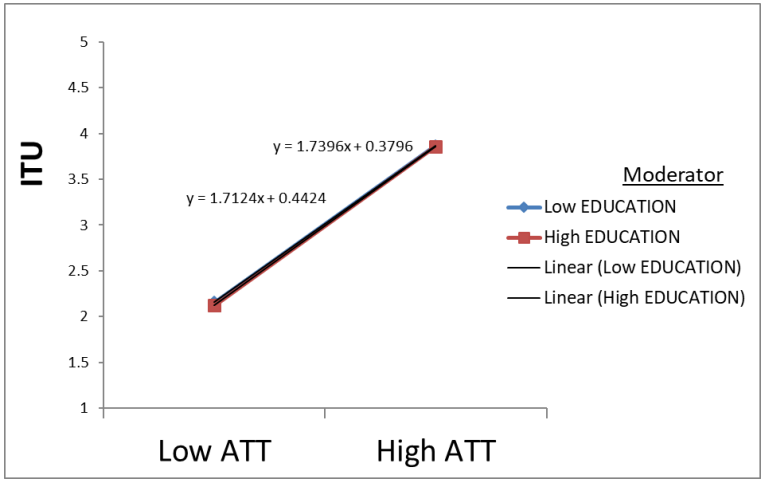


Figure 48: Interaction plot of *Education* on ATT → ITU

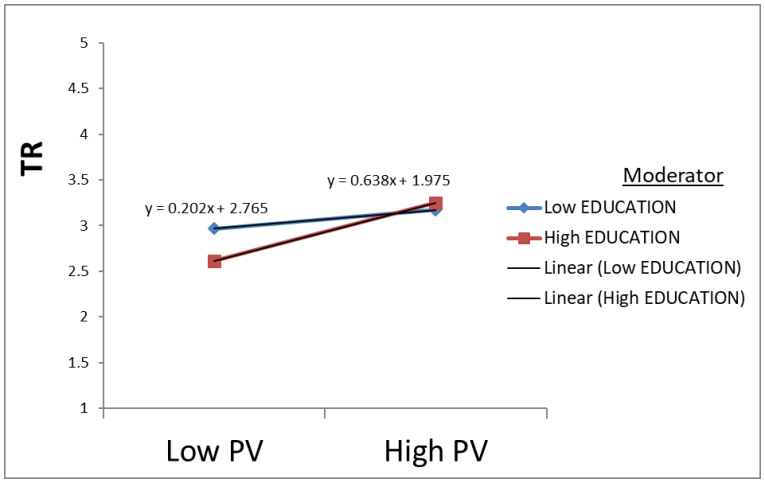


Figure 49: Interaction plot of *Education* on PV → TR

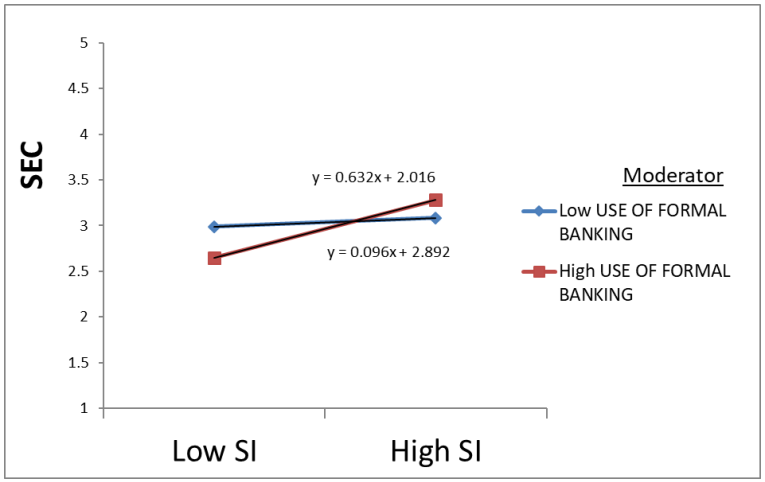


Figure 50: Interaction plot of *Use of Formal Banking* on SI → SEC

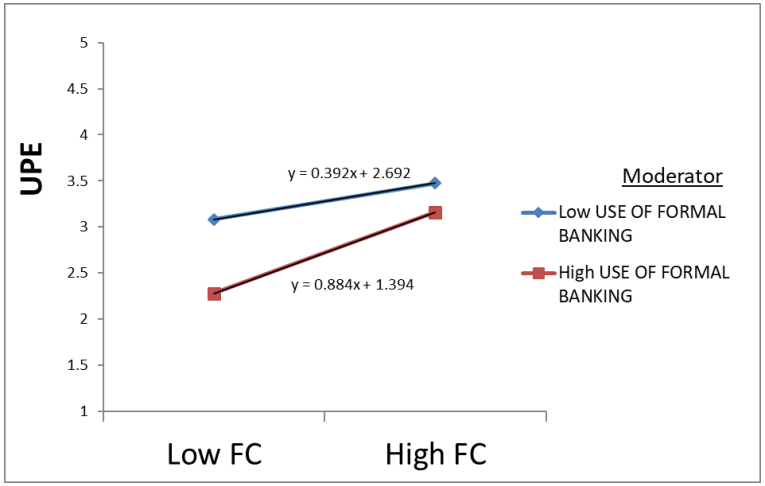


Figure 51: Interaction plot of *Use of Formal Banking* on FC → UPE