UNIVERSITY OF SOUTHAMPTON

Faculty of Social Sciences

Southampton Business School

Social Media Banking: A review and investigation into intentions to use

by

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Thesis for the degree of Doctor of Philosophy in Web Science

March 2021

University of Southampton

Abstract

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The banking industry has evolved from predominantly face-to-face interactions to new forms of banking facilitated by digital devices and interfaces. Interactions between banks and their customers now occur in person, over the internet, via mobile devices and social media. Online banking penetration has risen from 30% in 2017 to 69% in 2018. Of particular interest is the use of social media to perform transactions such as funds transfers, account opening and bill payments. Understanding how bank customers intend to use and adopt the technology can be valuable for banks and the development teams that design the products.

Whilst there has been a range of studies on mobile and internet banking, the study of Social Media Banking and attitudes towards the adoption and intention to use are limited. This study is valuable at a time when Social Media Banking services are still emerging in many developed and developing nations. This study aims to provide a general understanding of Social Media Banking and its services. It also investigates factors that affect intention to use Social Media Banking and the relationship between the factors.

An approach to understanding how people intend to use a certain technology is through technology acceptance models and theories. A proposed model was developed based around existing model (Unified Theory of Acceptance and Use of Technology (UTAUT). The new model integrates key constructs from the UTAUT model in addition to the following constructs: trust, perceived risk, and motivation. A quantitative approach was adopted and data collected using a survey questionnaire. Statistical analysis was carried out using SPSS and AMOS. The hypotheses were tested using Structural Equation Modelling. The subjects of the study are UK university students (n=279).

Six out of eleven hypotheses were supported. The findings of this research reveals that confidentiality, trust, privacy and data security were the most important factors to intending users of Social Media Banking. The results revealed that performance expectancy and trust are significant determinants of customers' intention to use Social Media Banking.

The contributions of this research provides valuable insight into how Social Media Banking has evolved, and fills the gap in literature relating to Social Media Banking. It also contributes to the body of knowledge in technology acceptance research and presents a new model that incorporates trust and perceived risk in explaining intentions to use Social Media Banking by potential users.

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List of Abbreviation

AGFI	Adjusted Goodness of Fit Index
AMOS	Analysis of Moment Structures
ASV	Average Squared Variance
AVE	Average Variance Extracted
BI	Behavioural Intention
CFI	Comparative Fit Index
CR	Critical Ratio
C-TAM-TPB	Combined TAM and TPB
Df	Degrees of Freedom
EE	Effort Expectancy
FC	Facilitating Conditions
GFI	Goodness of Fit Index
HM	Hedonic Motivation
IDT	Innovation Diffusion Theory
IV	Innovativeness
MB	Mobile Banking
MM	Motivational Model
MPCU	Model of PC Utilization
MSV	Maximum Shared Variance
NFI	Normed Fit Index
PE	Performance Expectancy
PEOU	Perceived Ease of Use
PR	Perceived Risk
RMSEA	Root Mean Square Error of Approximation

SCT	Social Cognitive Theory
SEM	Structural Equation Modelling
SI	Social Influence
SMB	Social Media Banking
SMC	Squared Multiple Correlation
SPSS	Statistical Package for the Social Sciences
SRW	Standardized Regression Weight
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TR	Trust
TTF	Technology Task Fit
UTAUT	Unified theory of Acceptance and Use of Technology

Research Thesis: Declaration of Authorship

Print name: Oluwadolapo Anuoluwa Majekodunmi

Title of thesis: Social Media Banking: A review and investigation into intentions to use.

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. Parts of this work have been published as:

   Majekodunmi, Dola. “Social Media Banking: What do we know”, European Conference on Social Media 2017, July 3-4, 2017, Vilnius, Lithuania.

Signature: Date: 01/03/2021

Acknowledgements

I would like to express my appreciation to my supervisors Dr Lisa Harris and Dr Su White for their support during the supervision of this project. Thank you for your moral support, guidance and encouragement always. This work would not have been completed if not for your words of motivation. Thank you, Dr Gary Wills, for your constructive criticism during my upgrade and final viva. It has helped to make this thesis better.

I would like to thank the Web Science Institute for funding my PhD. Thank you to the staff who have provided administrative support during the programme. Thank you to Prof Les Carr who gave me the opportunity to be accepted onto the program. A big thank you to all the participants involved in this research.

To my loving parents, Dr and Mrs Kola Ajayi, thank you for your constant encouragement, motivation, prayers and support. I would also like to thank my parents in law Mr and Mrs Majekodunmi for their moral support. To the best siblings in the world, Desola, Doyinsola, and Damilola, thank you for always encouraging me.

To my friends Seun Gilroy, Keisha Taylor, Honour and Dan Quarshie, Ope and Damola Lawal, thank you for always checking on me and cheering me on. To my KCC Connect group members, thank you for your prayers and support.

To my PhD buddy, best friend and darling husband Adedeji, I am extremely grateful for your constant support, care and encouragement. I am blessed to have you in my life. To my lovely daughters Isabelle and Gabrielle, you are my inspiration. Your constant questions of ‘when will you finish’ spurred me on and energised me for the final lap of this project. For your patience, I say thank you.

Chapter 1: Introduction

This introductory chapter provides the introduction and background of the research. Section 1.2 provides an overview of the research problem explaining the rationale for choosing to research Social Media Banking. Section 1.3 presents the aims, objectives and the research questions being considered in this study. Section 1.4 briefly describes the research strategy. Section 1.5 and 1.6 outlines the research scope and strategy. This chapter concludes in section 1.7 and 1.8 with a dissertation structure and a brief outline of potential research contribution.

1.1 Positionality statement

"*A researchers background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions" (Malteraud, 2001 p483).*

Prior to starting my PhD at the University of Southampton, I graduated with a first degree in Computer Engineering. Afterwards I worked in the banking industry in Nigeria in a variety of roles. In 2010 I moved to the United Kingdom and started work within the Royal Bank of Scotland group as a subject matter expert in digital support. Whilst doing this I observed that the uptake of virtual channels of banking was not great even though majority of the customers who used our digital channels were of the millennial generation. I know based on surveys conducted and interactions with bank customers whilst working in Nigeria, the uptake of banking innovation is high. Therefore, it was a shock and a sharp contrast when I started working at the Royal Bank of Scotland. This spurred my interest in digital innovation in banking and consumer behaviour. I wanted to know more about new technologies being developed. I wanted to understand what motivated bank customers to either use or not use a product. Whilst researching into digital innovation in banking, I became aware of the use of social media by different banks for banking activities. The more I read and researched about it, the more I decided I was going to do an academic research into this form of banking and attitudes towards its use and adoption. I found out about the Web Science Doctoral Training Centre at the University of Southampton. I applied for the 4-year doctoral programme and was offered a place with funding.

My research interests are a reflection of my previous banking career both within and outside of the United Kingdom. I will say that I am an experienced banker who has

developed an interest in academic research. My previous banking experience may influence the nature of this research. Even though I have a positive bias towards the use of digital innovation in banking, personally I am wary of the use of social media as a tool for banking activities.

1.2 Research Background

This study began at a time of widespread technological change when the use of smart devices increasingly enabled people to conduct all or part of the previously time-consuming face-to-face interactions through applications hosted on a mobile phone or tablet device. Gains for the consumer in terms of customised personal interactions and the removal of the need to travel have been matched with gains for the service provider. Once a banking application has been written, large parts of the transactional interactions can be completed automatically. Externalising costs for banking began with the introduction of automated cash machines, which was further enhanced through the reduction in staff costs and associated capital investments. Remote automatic banking meant that customers could have access to the provision of services in an infinite number of locations. This provides an opportunity to expand the customer base and gather insights into customer behaviour. However, social factors such as trust and privacy may influence the successful uptake of such services. This study aims to explore key factors in the uptake of a new form of digital banking from a customers' point of view.

In a report by Statista, it is predicted that 2.77 billion people will be using social media platforms in 2019 up from 2.46 billion in 2017 (Statista, 2018). Social media platforms are increasingly becoming a tool in the banking industry. Banking has progressed from just banking halls to other forms of banking such as internet banking, mobile banking, Social Media Banking and to more sophisticated forms of banking using digital currency and blockchain technology. In the formative stage of the use of social media by banks, social media platforms were used to engage, educate and inform their customers. The use of social media has evolved from been used for service enquiries to being used for banking processes over the last couple of years. The emphasis of this study is on Social Media Banking, which is the use of social media to perform banking activities such as funds transfers, account opening, bill payments, loan rate acquisition. Various terms such as Hashtag banking (Methani et al, 2016), Twitter banking (Finextra, 2016), Facebook banking (Bradford 2012, Chandraprabha and Narayan, 2015), social network banking (Rao, 2014) and social banking (Appendix C) have been used to describe this form of banking. Social Media Banking can be said to be a subset of internet and mobile banking,

however, it is not the same as the other forms of banking. It is different from the other forms of banking because, with internet and mobile banking, the bank has no access to a customer's social media network, however with Social Media Banking, the customer must give the bank access to their social media networks, which brings a new dimension to banking in terms of privacy, risk and trust.

Though the use of social media has allowed banks to offer innovative products and services designed to help with lead generation, brand and reputation management, customer support and digital marketing, the use of Social Media Banking is not as widespread as the other forms of banking such as internet and mobile banking. Although some banks are taking advantage of the opportunities offered using social media, the concept of Social Media Banking is relatively new within the banking industry. Adoption by both banks and customers is still very low (Njoroge 2015), and in some cases, banks that offered Social Media Banking services have stopped offering them due to low uptake. Therefore, there is a need to investigate what factors affect consumers' intention to use Social Media Banking. It is essential for banks to understand how to design and implement Social Media Banking such that customers can accept and adopt it.

Social Media Banking research is an emerging area of research and there is a knowledge gap relating to the intention to use and adopt this form of banking. More studies on the attitudes towards its use are necessary in order to gain a better understanding of this new form of banking. This research project tries to fill this gap by providing insights from literature and an empirical study. This research will have implications for policymakers within the banking industry and create new insight into how bank customers intend to use this form of banking.

1.3 Research aim and objectives

The main aim of this research is to undertake a literature review of the use of social media in the banking industry and to examine the intentions of bank customers to use Social Media Banking. The following objectives were developed in order to fulfil the aim of this research.

Research Objective 1: To explore the use of social media in the banking industry in order to gain an understanding of themes in this field of research and to provide a synthesis of studies on the use of social media in the banking industry and classify them based on themes in order to identify the research gaps. This objective will be discussed in Chapter Two.

Research Objective 2: To identify research gaps from the knowledge obtained from the literature. This objective will be met in Chapter Two.

Research Objective 3: To determine what Social Media Banking services are available in different parts of the world and identify the strengths and weaknesses of Social Media Banking. This objective will be met in Chapter Two.

Research Objective 4: To conduct a literature review on technology acceptance models and identify constructs that are applicable to Social Media Banking adoption and acceptance. This objective will be met in Chapter Three.

Research Objective 5: To extend the conceptual framework from the knowledge obtained from the literature review on technology acceptance models. The new model developed will then be used to explain students' intention to use Social Media Banking. Develop hypothesis. This objective will be met in Chapter Three.

Research Objective 6: To collect empirical data from students studying at universities in the United Kingdom in order to validate the proposed conceptual model. This objective will be met in Chapters Five and Six.

Research Objective 7: To identify constructs which affect behavioural intention to use Social Media Banking and examine the association between the constructs. This objective will be met in Chapters Five and Six.

Research Objective 8: To contribute to the literature on Social Media Banking research and recommend strategies and solutions for policymakers in the banking industry. This objective will be met in Chapter Seven.

Research questions

Research Question 1: What are the factors that affect intentions to use Social Media Banking?

Research Question 2: What are the constructs that significantly affect intentions to use Social Media Banking?

Research Question 3: What are the perceptions of students about Social Media Banking?

1.4 Research strategy

There are a few possible methods commonly adopted for undertaking research. I have chosen a quantitative approach for this study as suggested by Bryman and Bell (2015) as it involves testing a theory. The hypotheses for the research were developed based on the theoretical framework chosen. The research used a quantitative approach. Data for the study was collected using a questionnaire survey. The questionnaire had a 5point Likert type scale statement ranging from 1 (strongly disagree) to 5 (strongly agree). There was a pre-test and a pilot test before the main study was carried out. Data analysis was performed using the Statistical Package for Social Sciences (SPSS) version 24 and AMOS.

1.5 Research Scope

Social media is being used by banks in various ways for different purposes. However, this research is concerned primarily with the use of social media by banks for banking processes such as bank transfers, fund payments, account opening, bill payments, and loan approvals. It excludes using social media for customer service, marketing, customer relationship management, recruitment and brand awareness.

This study seeks to measure intention to use Social Media Banking and not the actual use of Social Media Banking.

1.6 Research approach

The research was conducted in three phases.

Phase one involved reviewing relevant literature on the use of social media in the banking industry as well as finding out how Social Media Banking evolved and what Social Media Banking services are available.

Phase two was a review of the technology acceptance models and the development of the conceptual model and pilot testing. The model is developed by exploring existing technology acceptance models and consequently identifying factors.

Phase three was the data collection and analysis of the model to be able to answer the second part of the research aim.

1.7 Thesis structure

This section gives an overview of the thesis structure. The thesis is divided into seven chapters. The appendices and references are included at the end of the thesis.

- **Chapter One** is an introduction to the research project. It gives a background into the research problem, the aims and objectives, research questions, research strategy, research scope, research approach and research contributions. It gives an overview of what Social Media Banking is and the motivation for the research.
- **Chapter Two** is a literature review on Social Media Banking. It reviews scholarly articles about the use of social media in the banking industry and presents the themes in Social Media Banking research. It also gives an insight into the types of Social Media Banking services available. The benefits and challenges of Social Media Banking are also highlighted.
- **Chapter Three** is a literature review on the technology acceptance models used in information systems research and banking. It reviews different constructs in relation to other forms of banking. Each of the models is discussed in terms of their strengths and weaknesses. There is a discussion on the conceptual framework and justification of the model chosen for this research. The model developed incorporates additional variables. These variables and reasons for including them are discussed. This chapter also describes the hypotheses proposed for the relationships among the variables.
- **Chapter Four** presents the research methodology chosen to achieve the aim and objectives of the study. It takes into consideration the background literature and proposes the methods to be used in this research. It presents the philosophical stance assumed by the researcher and the methods used. A quantitative approach is adopted. Data collection methods and data analysis processes are discussed. Ethical considerations made for the study are also discussed.
- **Chapter Five** This chapter presents the results of the data analysis and findings from the quantitative study. A descriptive data analysis is presented initially followed by an inferential data analysis. The measurement and structural model were developed using Structural Equation Modelling and Confirmatory Factor Analysis techniques. Finally, the measurement and structural models are presented and validated.

- **Chapter Six** presents a discussion and interpretation of the research findings. A discussion of the hypotheses test findings is presented.
- **Chapter Seven** provides a summary of the research findings. It details research contributions, implications, limitations and provides future directions in Social Media Banking research.

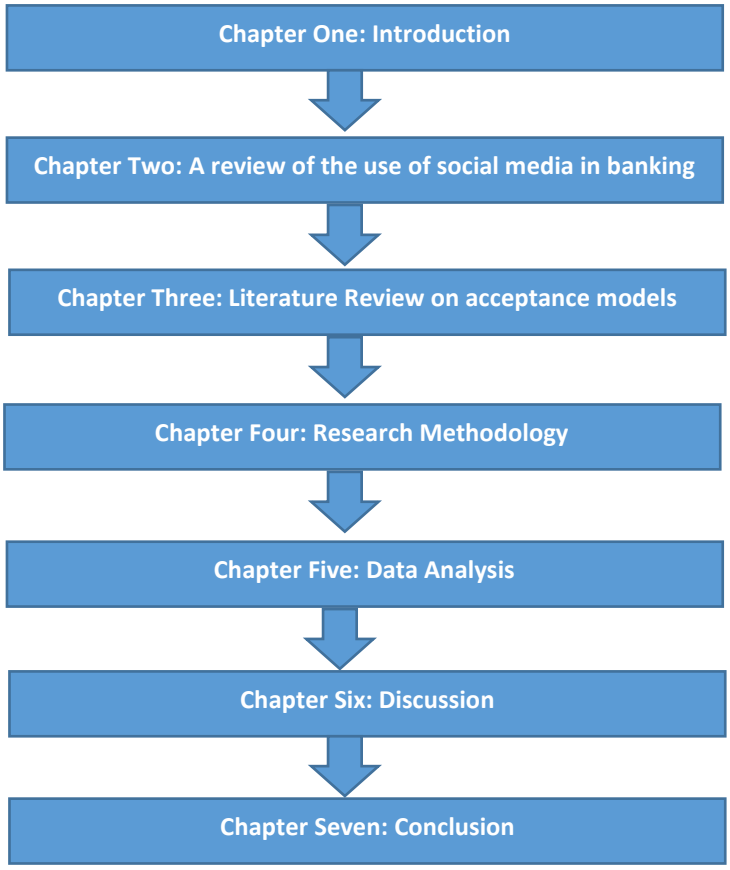


Figure 1.1: Thesis structure in the form of a flowchart

1.8 Research contribution

Theoretical: Firstly, this study contributes to the existing knowledge on technology acceptance models and adoption. There are few studies about Social Media Banking in general. There is also a scarcity of research investigating the intentions of individuals using Social Media Banking. Therefore, this research fills the gap in the existing body of knowledge about social media use in the banking industry. It identifies key factors important in choosing to use Social Media Banking.

Practical: This study provides an empirical view and insight for bank managers, product designers, policy makers within the banking industry. An understanding of the consumers' behaviour will help product developers design products that will be fit for purpose. This will save banks from the cost of failed products and services.

1.9 Chapter Summary

This chapter introduces the research with a description of the research problem. Thereafter, the aims, objectives, scope, strategy, questions and approach for the research identified. An outline describing the structure of the research is shown in figure 1.1. The next chapter will review the literature relating to the use of social media in the banking industry.

Chapter 2: Social Media Banking Literature Review

2.1 Introduction

This chapter is a review of the current literature about the use of social media in the banking industry. It aims to explore how Social Media Banking has evolved over the last eight years and to provide a review of existing literature related to this form of banking. A literature search was carried out with a wide scan of academic journals and databases. Thirty-seven articles were identified as meeting the selection criteria. This study provides an overview of Social Media Banking as well as an understanding of the current state of knowledge on themes and trends related to this form of banking. A literature review of existing research show that a considerable number of publications on the use of social media in the banking industry is focused mainly on marketing, customer relationship management and managerial perception. Findings reveal the social networks that are majorly used by banks for banking processes as well as what banking activities are available on these platforms. This chapter concludes with the opportunities and challenges of Social Media Banking. This chapter contributes knowledge to the existing literature about the use of social media in the banking industry by showing the range of services available with Social Media Banking. It has also brought to light the themes in Social Media Banking research.

2.2 Aims

The main aim of this chapter is to explore and understand what Social Media Banking is. The main research questions this chapter seeks to address are:

1. What is the current state of research on the use of social media in the banking industry?
2. What are the services being offered on Social Media Banking?
3. What are the opportunities and challenges of Social Media Banking?

Relevant literature on the use of social media in the banking industry is discussed in section 2. Section 3 provides a summary of the range of Social Media Banking services.

This is followed by opportunities and challenges in section 4 and 5. Finally, the paper concludes in section 6.

2.3 The use of Social Media in the banking industry

According to Global Digital Statistics 2018, there are 4 billion active internet users out of a population of 7.6 billion in the world and over 3 billion people are active on social media. Facebook was the most active social platform, and the average daily use of social media was 2 hours 13 minutes. Efma and Wipro (2013) pointed out that with the growth of electronic banking, social media channels have come to stay as more banks get involved. The advent of the web has changed the way banking is being conducted. From traditional banking, we have moved to other forms of banking such as internet banking, mobile banking, bitcoin, block chain and to the subject of discussion in this research: Social Media Banking.

The Financial Times (2015) reported that banks are turning to the use of social media to fend off digital competition from digital payment companies. Kumar and Devi (2014) suggested that banks need to recognise and use the power of social media to reinforce relationships with their customers. In the past decade, there has been a focus on internet, online and mobile banking studies by researchers, however, there has been little research done on the use of social media by banks.

To assess the trend for Social Media Banking research, an extensive literature review was conducted. The initial phase was to identify the types of Social Media Banking services available and what year, country, and the bank that used these services. The search spanned journals, banking databases and banking news websites for the period 2009 - 2019. The websites used are listed below:

- www.thebankerdatabase.com
- www.thefinanser.com
- www.finxtra.com
- www.thefinancialbrand.com
- www.ft.com

The search keywords were Facebook banking, Twitter banking, WhatsApp banking, hashtag banking, social banking, social media payments and social network banking. A total of 32 articles were found to be relevant. From each article, the banks and the services they offered were extracted. The articles also had information about what country

and what platforms the banking services were hosted. This led to the development of Table 2.2.

The second phase was to identify and review publications about the use of social media in the banking industry. A wide scan of databases (Google Scholar, Science Direct, Emerald Insight, IEEE Explore, EBSCO) was carried out to collect related articles. The search descriptors were Social Media Banking, Hashtag banking, Twitter banking, Facebook banking, Social banking, and Social network banking. As Social Media Banking is still in a nascent stage of development, publications from conference proceedings were included in the review. In total, 37 articles were found suitable for the review. The literature has been classified under the following themes:

2.3.1 Social Media Banking Services

Vantage Credit Union was the first bank to introduce a Social Media Banking service called TweetMyMoney in 2009 and 8 years on, the number of banks offering Social Media Banking services has increased. The major platforms being used by the banks are Facebook, Twitter, and WhatsApp (Figure 2.1). There are other platforms such as YouTube, LinkedIn, and Viber which are also used.

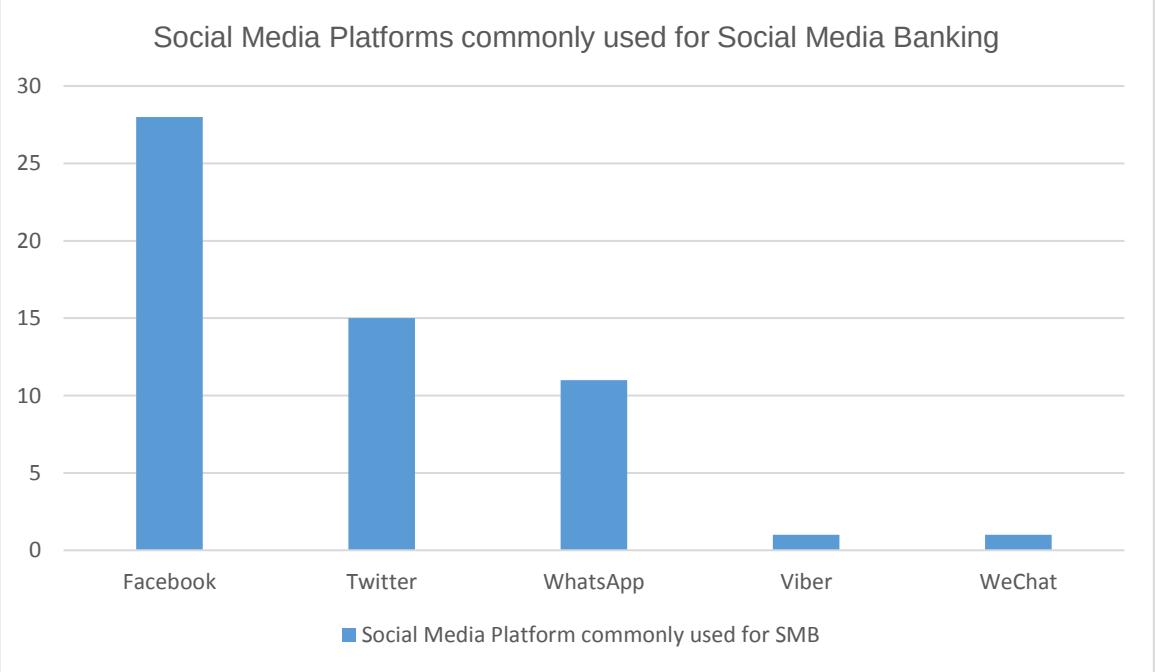


Figure 2.1 Social Media platforms used by banks for Social Media Banking.

To use social media to perform banking services, the banks require the customers to give consent to the bank to link their bank account to their social media handles. The customer

would then be able to pay friends and contacts through their social media accounts without necessarily logging on to their bank's website. For example, a bank in India hosts the Facebook application on their secure server and then allows users to integrate their Facebook accounts with their bank accounts and then perform banking services (Padmaavathy and Adalarasu, 2016).

The services offered on Social Media Banking range from cash-based activities, relationship management, to cashless activities such as chequebook requests. Based on knowledge from being a banker, the types of services offered by the banks can be broadly divided into two namely transactional and non-transactional activities. A transactional service occurs when funds are transferred from one bank account to another. On the other hand, non-transactional activities do not require funds transfers between bank accounts.

Table 2. 1: Main services offered through Social Media Banking

Transactional	**Non transactional**
Bill Payments	Customer Service
Fund transfers	Marketing
Mobile recharge services	Product Information
Account opening	Branch/ATM locator
Balance enquiry	Mini bank statement
Cheque requests	Transaction alerts

A summary of Social Media Banking services from 2009 to 2018 is presented in Table 2.2. From figure 2, it can be seen that there was a steady increase in the number of banks offering Social Media Banking services from 2010 up until 2013 when there was a dip. Facebook and Twitter were mostly used for services developed between 2009 and 2014. Even though WhatsApp was created in 2009, it was not used for Social Media Banking until 2015. As of the time of writing this research study, there have been over 40 banks in 25 countries who have offered different types of transactional banking using social media platforms (please see Table 2.2). Some of the banks who were in the forefront of offering these services do not offer them anymore. ASB bank in New Zealand stated that the interest in the service was waning so they had to stop it (Meadows 2015). There was also a dip in 2017. This may have been due to GDPR regulations that came into place in the European Union. Social media payments from Fintech companies had also started gaining momentum. For example, in India, the United Payment Interface was launched by the National Payment Corporation of India (Joshi, 2017). However, six banks started offering these services in 2018. It is pertinent to note that all the banks that started offering Social Media Banking services in 2018 are in Africa and four of them are in Nigeria. The number of active social media users in Nigeria rose by 26% in 2018 to 24million people.

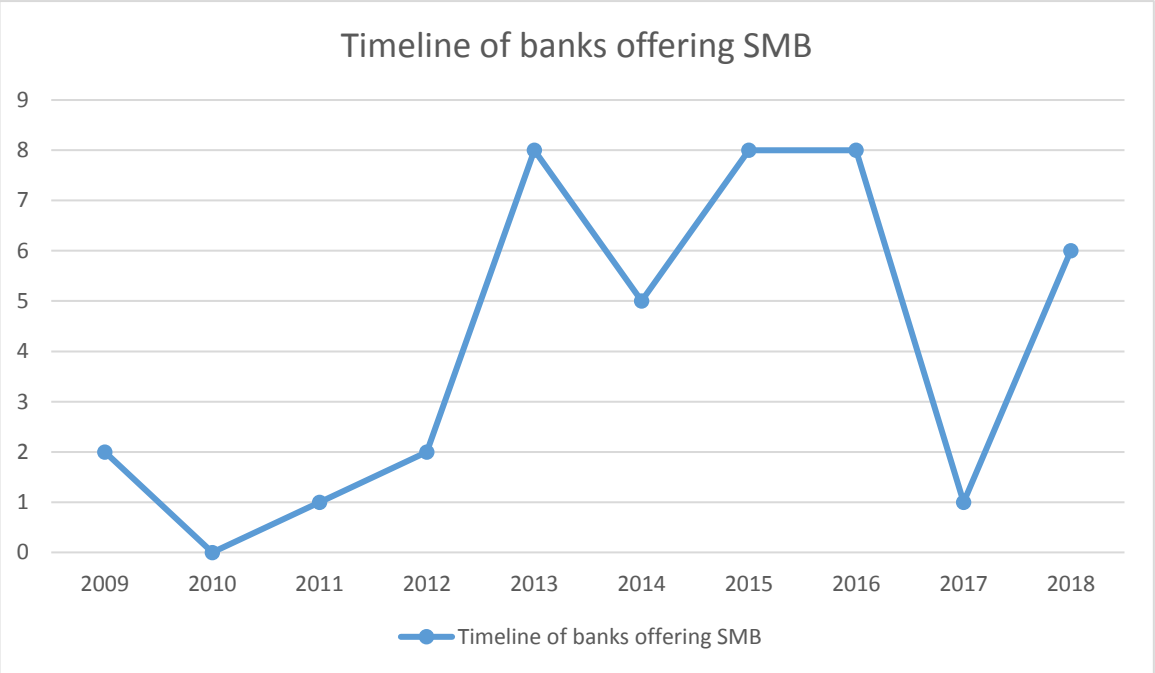


Figure 2.2: Timeline of banks offering Social Media Banking services

2.3.2 Marketing

Main social media platforms used for marketing and advertising for banks is Facebook and Twitter (Criste et al., 2015). Customers believe that social media will be key in bank marketing in the next couple of years (Maharaj, 2015). Tarabasz (2013) in a study conducted on almost 1800 customers of 11 largest Polish retail banks on the use of social media argue that the banks only use social media channels as a form of a marketing tool for product sales rather than for dialogue. She also observed that most of the social media resources available were not properly used by the banks. Mitic and Kapoulas (2012) observed that Social media marketing in banks does not align with existing relationship marketing strategies and that banks refrain from the use of social media due to concerns about safety. There are opportunities and challenges that banks face when adopting social media marketing however, managers need to be aware of this and know how to convert the opportunities and mitigate threats (Chikandiwa et al., 2013; Murray et al., 2014).

2.3.2 Customer services and engagement

Banks are beginning to understand that social media is essential to their business survival. Examples of social media networks being used in the banking industry for customer service and engagement include Facebook, Twitter, YouTube etc. (Chikandiwa et al., 2013). Customer services and engagement seem to be one of the major uses for social media by bank customers. An analytical study on the use of social media for customer services by banks was conducted by Dalziel and Hontoir (2016). A content analysis of 400 customer posts from eight UK banks suggested that banks Facebook pages were often used for queries and usually as a form of last resort by customers when all other channels have failed. There was no evidence that customers' needs were been met as most enquiries were still being passed on to other banking channels such as phone banking and web chat as advisers on Facebook were restricted in what they could do. She also found out that a lot of censoring was going on because of customers posting personal details such as bank account numbers on social media. She argued that strict banking regulations might hinder the further use of social media by UK banks. As pointed out by Kirakosyan (2014), the success of Social Media Banking will be based on the communication and interactions bank have with their customers and closely followed by product marketing.

2.3.3 Managerial perception towards the use of social media in the banking industry

A few studies have investigated opinions and perception of senior executives and bank managers towards the use of social media in the banking industry. Durkin et al. (2014) in a study on the perception of bank executives and small and medium enterprises (SME) managers on the use of social media for communication found out that social media improved communication between Small and Medium Enterprises and the bank. Dănăiaţă et al. (2014) found that bank managers' age and experience influence their perception of Social Media Banking and its adoption while Kirakosyan (2014) found that implementation and usage are connected to cultural and economic factors. Transparency was highlighted as the main benefit by managers. Senior executives had a cautious approach to Social Media Banking because of threats and would consider it if they were sure of how to mitigate the threats.

2.3.4 Customer perception, adoption and attitudes towards Social Media Banking

Research done on the adoption of Social Media Banking Adoption is still at a nascent stage of development. In a survey conducted by Accenture management consulting firm on the perception of Malaysian customers about the use of social media by banks, influence on social media is emphasized as the survey shows that consumers trust comments on social media made by family and peers when making a decision about what banks products and services to choose (Panjamorthy, 2013).

Research on measuring the actual use and intention to use Social Media Banking using various framework and models have been carried out. Majekodunmi and Harris (2016) in a study on attitudes and preferences towards Social Media Banking found that convenience and ease of use were the main incentives among students at the University of Southampton. In another study done by Njoroge and Koloseni, (2015) in Kenya, performance expectancy, effort expectancy, trust and social influence influenced Social Media Banking adoption significantly. Cuong (2015) in a study on actual use of Social Media Banking in Vietnam found that only 9.4% are aware of the Social Media Banking channels. Even though banks are embracing the use of social media for banking services, bank customers still need to perceive the value before they adopt this new form of banking (Dootson, 2016).

2.3.5 Theoretical perspectives towards the use of social media in the banking industry

Different theories such as economic theory, modernization theory and socio-technical theory have been used to explain the use of social media in the banking industry. Socio-technical theory was used in understanding the co-creation of value between parties involved in the customer- bank relationship (Durkin et al., 2015). Diffusion of Innovation, Technology Acceptance Model, and Unified theory of acceptance and use of technology have been used to explain and investigate the use of social media in the banking industry (Njoroge, 2015; Majekodunmi and Harris, 2016). Drawing from the Technology Acceptance Model, Pathirana et al. (2016) aimed to develop a framework to better understand the factors that determine the adoption of social media by banks. An instrument called Facebook Assessment Index was developed by Miranda et al. (2013) to measure popularity, interactivity and content on a banks social media pages. Malhotra and Singh (2016) used this instrument to investigate the Facebook pages of 47 banks in India.

2.3.6 Impact of social media on the banking industry

Previous research has shown that the use of social media in the banking industry has its advantages and disadvantages (Kuchciak, 2013; Narmadha et al., 2014) and can potentially influence relationships between customers and the bank. According to Khanum et al. (2016), the use of social media by a bank can provide a business advantage over other banks. In a survey conducted on 450 respondents who were majorly from the financial services industry by King (2010) on the impact of social media on banking, majority of the respondents would use social media before deciding on who their bank should be and 93% of respondents think social media will be essential for banks within the next five years.

A study done in Malaysia by Goi (2014) on the impacts of social media use on the local commercial banks in Malaysia suggested that the banks majorly use social media channels for customer engagement and participation Most banks have a social media presence however Facebook and Twitter were ranked the highest social media channels in terms of engagement (King, 2010; Senadheera et al. 2011). Some banks have blogs and YouTube channels to educate customers about products. Potentials of Social Media Banking have not been fully tapped and there is not enough evidence to show that banks use social media for bank applications (Ozelturkay, 2014) which may be as a result of

compliance and regulatory requirements being observed by the banks (Nueesch et al., 2012).

2.4 Opportunities of Social Media Banking

Social media plays an important role in the way we bank nowadays. Langlois (2009) stated that social media should not be seen only as a sales channel by bank but should be used for brand management, customer services and to drive usage of online channels. The opportunities that Social Media Banking has to offer can be grouped into the following categories:

2.4.1 Customer engagement: In the Global Retail Banking Digital Marketing Report 2013 by Efma and Wipro (2013), the study showed that banks all over the world are beginning to have some form of social media presence and majorly use this channel for engaging with their customers. The survey done revealed that banks majorly use social media channels for monitoring comments and complaints by customers. There is also the opportunity to connect and educate customers about banking trends. Most banks regularly advise customers on how to be secure whilst banking online which is a form of education. Dalziel and Hontoir (2016) pointed out that complaints are resolved in a timely manner compared with traditional means of resolving a complaint.

2.4.2 Product marketing campaign: The potential of disseminating information to millions of customers through social media cannot be overemphasized. It is easier for banks to reach a large demographic. Banks can reach their targeted market quicker and cheaper (Atwell, 2016). The use of social media by banks has been said to be a great source of information on new products and related banking news. Banks can also connect with their target market using social media analytics on their social media channels. Potential customers also have an idea of what the bank is offering through product launches on social media.

2.4.3 Brand building and reputation management:

Banks monitor comments and mentions on social media channels to enable them to respond quickly to issues that could tarnish their brand reputation (Jorge, 2011). Banks recognize the power of social media as it allows interaction at a personal level and in a swift manner. There are several instances of customers contacting their banks on social media for urgent resolution of problems and the customers do get a faster response than if they were to visit a physical branch.

2.4.4 Lead generation: In a study done by Gallup retail banking industry (Leonard and Youra, 2013), customers would usually decide on whether they should go for a product based on social media reviews. If customer reviews are excellent, it could lead to an increase in sales of products and services through referrals and influencers within that network. Banks also leverage the data obtained from social media channels for targeted marketing. The more data the banks can access, the more targeted the marketing will be.

2.4.5 Product research and crowd sourcing: As social media is an open platform, banks are using it to generate ideas from customers for future product development. Surveys and polls are being used to seek opinions from bank users. Sampling is made easy as banks can easily get respondents who visit their social media websites. Banks gain insights into products or services that their customers might prefer. Social media can also be used as a tool to recruit customers who can shape the development of new products (King, 2010).

2.4.6 Social media analytics: There is a lot of data to be gleaned by banks from the use of Social Media Banking by its customers. Integrating a customers' bank account with their social media means the banks can access the customers' social media personal profile, friends list, followers list, posts, likes, comments and customers location if turned on. There are analytic tools that can be used to process data generated from Social Media Banking. The insight from the data can be used to improve customer experience and banks can use this to develop new services and generate personalized offers for customers based on their social media preferences (Kumar and Devi, 2014). With the advent of open banking, lifestyle choices can be tracked by the banks and analysed to develop tools that customers can use to manage their money. Analysing the data can also help the bank to develop robust risk strategies. Using sentiment and keyword analysis of social media posts, the banks can have a view of their strengths and shortcomings. However, in the light of the GDPR introduced in the European Union, the bank must respect the rights of the customer with regards to their data. They also have to ensure protection and privacy of customers' data or else they can be fined and sanctioned.

2.5 Challenges of Social Media Banking

2.5.1 Compliance, regulatory and legal concerns: Banks are highly regulated by standards and authorities that provide guidelines on the use of social media and other channels as well as setting standards for customer relationships. Some banks are wary of using social media as a simple deviation from the regulations could cause the bank to

incur a fine (Ruppert 2013; Senadheera et al, 2011). This challenge can be mitigated by having policies to address operational and compliance risk should in case there is a security breach. Responding to complaints within Social Media Banking also means the bank must understand what guidelines are in place and regularly train staff so they are compliant always.

2.5.2 Trust: For a bank to be functional, trust is crucial in the customer- bank relationship (Esterik-Plasmeijer and Raaij (2017). However due to past financial crisis, there is a lack of trust in the financial services industry, and this makes it hard for customers to relate with their banks (Hurley et al, 2014). In addition to this, social media companies have had issues with trust in the past. The Cambridge Analytica scandal is still fresh in the memories of Facebook users. Transparency in banking is key and customers do expect the banks to respond to their needs as truthfully and rapidly as possible. With Social Media Banking, it is hard for the customer to predict how competent and transparent the use of Social Media Banking will be given that it is a new technology.

2.5.3 Reputation risk: In as much as there is potential in the use of social media by banks, Social Media Banking brings with it a new level of risk. The use of social media is seen as a major source of reputation risk for banks (Gatzert et al, 2016). A brands reputation can be tarnished by just a single post or comment from a customer which may or may not be a true reflection of the bank. An employee's view may not reflect the bank's policy (Murray et al, 2014). Mishandling of customer information could lead to reputation damage for the bank. Negative comments, feedbacks and criticisms from customers if not well handled can have a negative impact on the bank.

2.5.4 Security concerns: Security and privacy concerns have prevented the wide-scale adoption of Social Media Banking (Njoroge, 2015; Majekodunmi and Harris, 2016). Profile hijacking and phishing attacks are commonplace on social media hence the security of social media data is a huge challenge to banks. Cybercriminals can target customers through phishing attacks based on their interaction with their banks on social media. Customers can also unknowingly provide personal information on their social media accounts, which criminals can use to set up pseudo bank accounts. Banks can allay customers' fears by using biometric identification and two factor authentication systems.

2.6 Mobile banking adoption

Prior to the evolution of Social Media Banking, banking services were already being performed using telephony services, internet and mobile devices. These services enabled customers to perform banking transactions without physically visiting a bank branch. Customers could perform activities such as funds transfers, bill payments, payments etc. Mobile banking refers to the use of mobile devices such as phones and tablets to perform banking transactions. Mobile banking allows the customer to conduct their financial transactions at any time of the day (Tam and Oliveira, 2017). Willingness to use mobile banking is influenced by a variety of factors, ranging from usefulness, ease of use, perceived risk, security, trust (Koenig-Lewis et al., 2010; Wessels and Drennan, 2010; Yu, 2015; Alalwan, 2016; Al-Otaibi et al, 2018; Owusu-Kwateng et al., 2019, Sharma, 2019; Farah et al., 2018).

Although Social Media Banking and mobile banking are different in the sense that with Social Media Banking, the banks require the customer to link their social media platforms with their banking platform whilst mobile banking does not require this, the fundamental characteristics of both forms of banking are similar. Majority of the features on mobile banking are also available on Social Media Banking. Both offer fast turnaround time and round the clock options.

Compared to Social Media Banking, mobile banking adoption has been widely researched. Many studies have explored the adoption of mobile banking and this has been widely explored in both developed countries (in Portugal by Tam and Oliveira, (2016), in New Zealand by Tran and Corner, (2016), in Finland by Laukkanen (2016), in UK and Saudi Arabia by Al-Otaibi et al, (2018) and developing countries (in Ghana by Owusu-Kwateng et al. (2019), in India by Singh and Srivastava (2018), in Zimbabwe by Makanyeza (2017)).

A review of previous research on Mobile Banking show that the most popular theoretical frameworks used are Technology Acceptance Model (TAM) (Aboelmaged and Gebba, 2013; Chitungo and Munongo, 2013; Changchit et al., 2017; Hampshire 2017; Lee et al., 2019; Malaquias and Hwang, 2019) Innovation Diffusion Theory (IDT) (Ewe et al., 2015, Laukkanen, 2016, Lin, 2011) and Unified Theory of Acceptance and Use of Technology (UTAUT) (Alalwan et al, 2017, Farah et al., 2018, Giovanis et al., 2019, Albashrawi et al., 2019). Some of the studies have also extended the frameworks with other factors to make their research robust. Alalwan et al. (2017) extended the UTAUT model with trust and they found that behavioural intention to use mobile banking is significantly influenced by

performance expectancy, effort expectancy, hedonic motivation, price value and trust. Sharma (2019) extended the TAM by three constructs namely autonomous motivation, controlled motivation and trust. He found that trust and autonomous motivation are the two main predictors of intention to use mobile banking. Although some studies relied on existing frameworks to investigate adoption and intention to use mobile banking, some studies developed new models using predictor variables from other frameworks (Puschel et al. 2010; Yao et al. 2013)

Some researchers combined two or more frameworks to investigate mobile banking adoption. For example, Oliveira et al. (2014) combined the TTF, UTAUT and the ITM model to investigate customer perception of mobile banking. They found that facilitating conditions and behavioural intention directly influence mobile banking adoption. They also found that initial trust, performance expectancy, technology characteristics and task technology fit have total effect on behavioural intention to use mobile banking.

On the other hand, some studies compared the performance of different models in predicting intention to use mobile banking. Giovanis et al. (2019) compared four models namely TAM, TPB, UTAUT and DTPB. They found that the DTPB was the best performing model although it had to be extended with perceived risk.

2.7 Chapter Summary

Current academic research is reported in the field of Social Media Banking and studies reported are limited to the use of social media in the banking industry, managerial perception of social media use, bank brand reputation and customer service through social media, social media strategies for banks and adoption of social media marketing by banks.

This study has provided some insight into the use of social media in the banking industry. This study had two main objectives: to review existing literature about Social Media Banking and to explore trends in Social Media Banking from its inception to date. This study has identified opportunities and challenges with Social Media Banking. It is not enough just to have a presence on social media, the bank's management team need to define and have social media strategies to gain more intelligence from the data provided by customers through social media analytics so that customer needs can be met.

Findings from the study suggest that Social Media Banking is growing and there is a range of services, which have immense potential to change the way customer's bank. This paper contributes to the literature by showing the range of services available with

Social Media Banking and has brought to light the themes in Social Media Banking research.

Table 2.2: Summary of Social Media Banking Services offered by different banks in various countries

Bank	Services	Platform	Year	Country
Fidor Bank	Likes for Interest	Facebook	2009	Germany
Vantage Credit Union (TweetMyMoney)	Access to basic account information	Twitter	2009	United States of America
ASB Bank	Virtual Branch	Facebook Twitter	2011	New Zealand
First National Bank	Send vouchers to Facebook friends	Facebook	2012	South Africa
Denizbank	Virtual branch	Facebook	2012	Turkey
Moven Bank	Money transfer	Facebook	2013	United States of America
Erste Bank	Virtual Branch	Facebook	2013	Austria
mBank	Money transfers	Facebook	2013	Poland
Guaranty Trust Bank	Bank account opening	Facebook	2013	Nigeria
Commonwealth Bank (Kaching)	Fund transfer Bill payments	Facebook	2013	Australia
Instabank	Payments	Facebook	2013	Russia
AkBank	Gamification	Facebook	2013	Turkey
Royal Bank of Canada	Fund transfer	Facebook	2013	Canada
Sterling Bank (Social lender)	Loan	Facebook Twitter	2014	Nigeria
La Caixa	Account Balance	Facebook	2014	Europe
Rakuten	Fund transfer	Facebook	2014	Japan
OCBC Bank (Pay Anyone)	Fund transfer	Facebook	2014	Singapore
Banque Populaire Caisse d'Epargne	Fund transfer	Facebook Twitter	2014	France
ICICI Bank	Fund transfer	Twitter WhatsApp Facebook	2015	India
Kotak Mahindra Bank	Balance enquiry	Twitter	2015	India
Axis Bank (PingPay)	Mobile recharge Fund transfer	WhatsApp Facebook Twitter	2015	India
Barclays Pingit	Fund transfer	Twitter	2015	United Kingdom
United Bank for Africa	Online account opening Account statement Bill payments Fund transfer	Facebook Twitter	2015	Nigeria

	Chequebook services			
National Industrial Credit Bank	Account balance enquiry Fund transfer	WhatsApp Facebook Twitter	2015	Kenya
BBVA	Fund transfer	Facebook	2015	Chile
WeBank	Fund transfer	WeChat	2015	China
Comtrade Digital services	Range of banking transactions	Viber	2016	Europe/ Slovenia
SBI Mingle	Balance enquiry Mini statement Fund transfer Interbank service Beneficiary management services	Facebook Twitter	2016	India
Absa	Account balance enquiry Buy data/airtime View last 3 transactions on account	Twitter	2016	South Africa
LaCaixa(Imagin Bank)	Account balance enquiry Customer service	Twitter WhatsApp	2016	Spain
ING Bank	Fund transfer	Facebook Twitter WhatsApp LinkedIn	2016	Netherland
Emirates Islamic Bank	Customer Service	Twitter	2016	United Arab Emirates
ABN AMRO (Tikkie)	Fund transfer	WhatsApp	2016	The Netherland
National Bank of Greece iPay Social Payment	Fund transfer	Facebook	2016	Greece
HDFC Bank	Bill Payments	Facebook	2017	India
Zenith Bank	Funds transfer	WhatsApp	2018	Nigeria
ABSA	Funds transfer Balance enquiry Mobile recharge	WhatsApp	2018	South Africa
UBA	Account opening Balance enquiry Basic banking service	WhatsApp	2018	Nigeria
Access Bank	Relationship management	WhatsApp	2018	Nigeria
First Bank	Service requests Basic banking	WhatsApp	2018	Nigeria
Steward Bank		Facebook WhatsApp Twitter	2018	Zimbabwe
First Direct Bank	Funds transfer	WhatsApp Messenger	2019	UK

Chapter 3: Literature Review on Technology Acceptance Models

3.1 Introduction

This study proposed a conceptual framework to investigate the intentions of students to use Social Media banking using a model based on the Unified Theory of Technology Acceptance and Use. It is therefore essential to review the existing technology acceptance models. This chapter starts by describing and exploring the various technology acceptance models that have been used by various researchers in the field of information systems. Section 3.2 provides background information on these models. Section 3.3 provides an overview of the UTAUT model, which will be adapted to suit the context of Social Media Banking. Section 3.4 provides the conceptual framework and hypotheses for this research.

3.2 Overview of technology acceptance models

Technology acceptance refers to the way individuals accept and adopt new technology for use. However, as good as new technology can be, if it is not adopted, it may well be categorized as useless. Numerous theories and models have been used by Information System researchers to investigate and predict attitudes, adoption and intention to use new technologies (Venkatesh et al, 2003). These models place an emphasis on explaining and exploring what factors or constructs have an impact on an individual's acceptance of new technology. Most of these theories have their theoretical foundations from the social psychology field and have been used widely in various fields to predict human behaviour. In the context of the banking industry, there have been technology acceptance models that have been developed over the years to investigate the effect of different constructs on the attitudes and behavioural intention to use different forms of banking. These include

- Theory of Reasoned Action (TRA)
- Theory of Planned Behaviour (TPB)
- Technology Acceptance Model (TAM)
- Model of PC utilization (MPCU)

- Combined (C-TAM-TPB)
- Motivational Model (MM)
- Social Cognitive Theory (SCT)
- Innovation Diffusion Theory (IDT)
- Unified theory of acceptance and use of technology (UTAUT)

3.2.1 Technology Acceptance Model (TAM)

Technology Acceptance Model was developed by Davis (1989) and was developed from TRA. It was created to study information technology adoption in companies. He proposed that there are several elements that affect users' decision to use new technology. The technology acceptance model (TAM) was developed by Davis in 1989 whilst undergoing his doctoral programme at MIT Sloan School of Management. This theory explains why users will either accept or reject new technology. Davis (1989) proposed three factors that motivate users to adopt an innovation. These factors are perceived ease of use, perceived usefulness and attitude toward using the innovation. Perceived ease of use is the extent to which an individual believes that using a system will be free of effort and enhance their performance. Perceived usefulness is defined as the degree to which a person believes that use of a system will enhance their performance.

TAM was used to discover the influence of the external variable on belief, attitudes ad intentions. There are two determinants namely intention to use and actual behaviour. TAM has been used to investigate intentions to use mobile and internet banking however in recent studies, the model has been extended by various variables such as perceived enjoyment, perceived mobility, personal habit (Yen and Wu, 2016), social influence and trust propensity (Kumar et al., 2017), perceived credibility, normative pressure and amount of information available (Amin et al., 2008). Munoz-Leiva et al. (2017) in a study conducted in Spain extended the TAM by adding variables to investigate attitudes and intentions to use mobile banking.

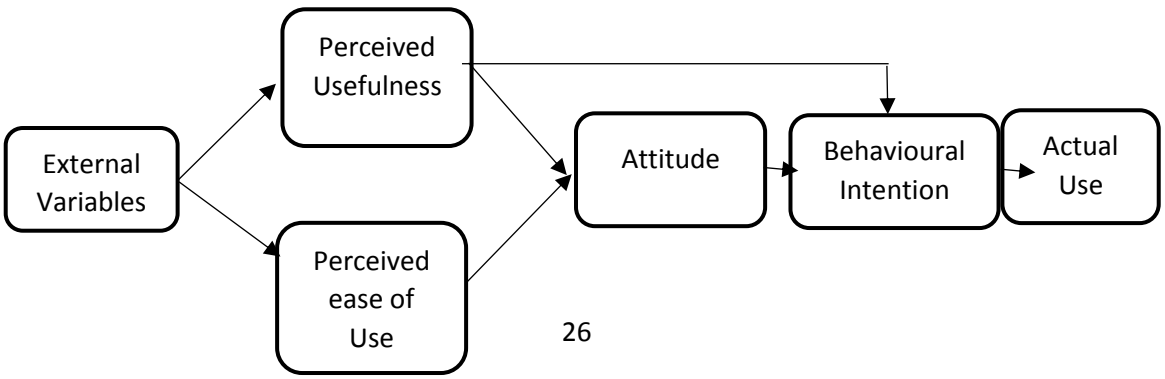


Figure 3.1: The TAM Model

Although TAM is the most popular and widely used theoretical framework in Information Systems research, it has been criticised for assuming usage is voluntary and reliance on reported data and not actual data which is not reliable to predict actual usage (Yousafzai et al., 2007). In addition, the model alone is not sufficient in predicting behaviour as evidenced by several studies that have had to include additional constructs to the model to make it robust. It also does not take into account individual differences in people and how this may affect adoption (Agarwal and Prasad, 1999). However, it has been regarded as a highly reliable model that has been used in different contexts and continues to be used as a base model for developing new models.

3.2.2 Theory of Reasoned Action (TRA)

Rooted in social psychology, the Theory of Reasoned Action was developed by Ajzen and Fishbein (1980) and is one of the first models used in technology acceptance research. The TRA is also the basis for two other theories namely TPB and TAM. This model is used to predict behaviours based on pre-existing attitudes and behavioural intention. They explained that the use of technology is influenced by their attitudes. It is made up of three factors that influence behaviour. They are namely the attitudes of people, their subjective norms and their specific intentions. The TRA assumes that individuals will think of their actions before making a decision as to whether to adopt a given behaviour (Ajzen and Fishbein, 1980). According to this theory, the most important factor that determines an individual's behaviour is their behavioural intention.

Table 5.1 Theory of Reasoned Action constructs and definition

Construct	Definition
Attitude	"Degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question" (Ajzen,1991)
Subjective norms	"Individuals perceived social pressure to perform or not to perform a target behaviour" (Ajzen, 1991)

Behavioural intention	"An indication of an individual's readiness to perform a given behaviour"

The model has been used in many domains in Information Systems and tested empirically. A limitation of the model is that it assumes individuals are free to act and ignores variables such as environmental factors. The model was only able to predict new behaviour and not habitual behaviour, because of this criticism, a new version (The Theory of Planned Behaviour by Ajzen, 1991) was proposed. The TRA model is illustrated in Figure 3.2.

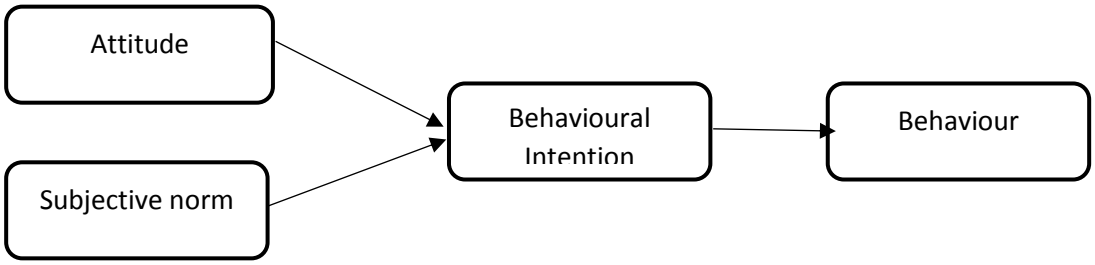


Figure 3.2: The TRA model

3.2.3 Motivational Model (MM)

The Motivational model was developed by Davis et al. (1992) and has its origins from the psychology field (self-determination theory). It was developed to predict intentions to use computers in the workplace. Motivation is defined as the users' intentions and attitudes towards the use of new technology. The motivational model has intrinsic and extrinsic constructs that are used to determine the acceptance and use of new technology in the workplace. Extrinsic motivation is premised on the basis that the user is motivated and driven to do an activity because "it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself such as improved job performance, pay or promotions" (Davis et al, 1992). Extrinsic motivation refers to the performance of an activity such as perceived usefulness. Intrinsic motivation, on the other hand, is premised on the basis that doing an activity brings pleasure to an individual. The emphasis is on the process of performing the activity i.e., perceived enjoyment. Venkatesh and Speier (1999) used the theory to explain technology use and adoption. This model investigates predictors of voluntary behaviours so is not suitable for use in understanding non voluntary behaviours.

3.2.4 Theory of Planned Behaviour (TPB)

Theory of Planned Behaviour is an extension of the TRA and was introduced by Ajzen in 1991 to overcome the limitations of the TRA. An additional construct called perceived behavioural control was added to the TRA to address concerns about behaviour that happens without a persons' voluntary control. Perceived behavioural control is defined as "the sense of self-efficacy or ability to perform the behaviour of interest" (Ajzen, 2005). This was added as decisions made by individuals might be affected by issues out of their control. TPB is an extension of the TRA, and it was suggested as an improvement to the TRA so that behaviours affected by non-voluntary factors can be investigated. The three factors are the attitude towards the behaviour, subjective norms and perceived behavioural control. TPB suggests that perceived behavioural control will influence actual use behaviour and behavioural intention. TPB has been used widely in Information Systems. It has also been used in a few banking studies to investigate consumer behaviour (Aboelmaged and Gebba, 2013; Yousafzai et al., 2010). This model is not without criticism, particularly with regards to sufficiency. It has been suggested that the model cannot explain all forms of user behaviour particularly factors such as personal norms, emotional evaluation and innovation characteristics (Davis et al., 2002). Eagly and Chaiken, (1993) criticised the TPB stating that other variables such as habit, self-identity and perceived moral obligations may predict behavioural intention however the TPB does not investigate the effect of such variables. Taylor and Todd, (1995) also criticised the TPB stating that the model require consumers to be motivated to adopt a certain behaviour, which is not always the case. Figure 3.3 shows a model of the TPB.

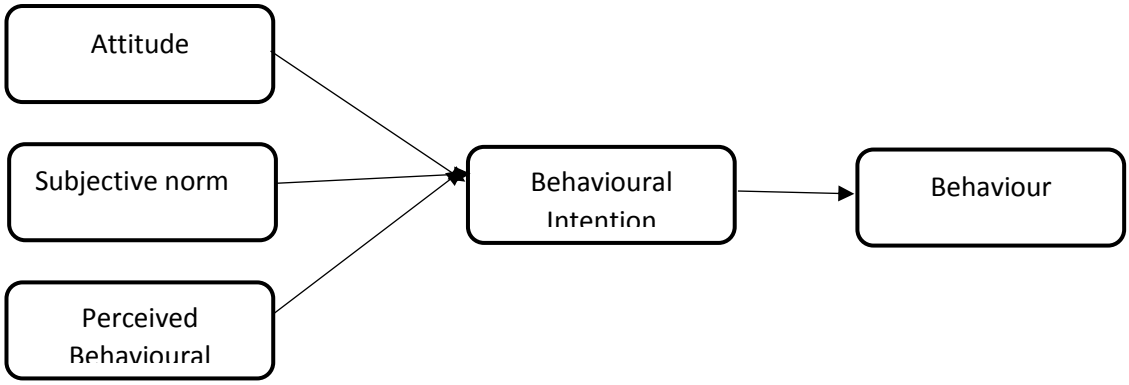


Figure 3.3: The TPB model

Table 5.2 The Theory of Planned Behaviour constructs

Constructs	**Definition**
Attitude	An individual's specific belief related to the object

Subjective norm	“Individual’s perception of social pressure to perform or not to perform the behaviour”
Perceived behavioural control	“The persons belief as to how easy or difficult performance of the behaviour is likely to be”
Behavioural Intention	The intention to engage in a behaviour is determined by an individual’s attitude towards that behaviour”

3.2.5 Model of Personal Computer Utilization (MPCU)

Model of PC Utilization is a concept from the theory of human behaviour by Triandis in 1977. Triandis developed this framework as a result of lack of integration in different disciplines to explain association between values, attitudes and behaviours. This framework highlights variables that initiate behaviour and are general enough to be used in any discipline. They based their model on the work of Triandis (1971) who argued that “behaviour is determined by what people would like to do (attitudes), what they think they should do (social norms), what they have usually done (habits) and by the expected consequences of their behaviour”. Thompson et al. (1991) adapted the Triandis model for use in information systems to predict actual behaviour to use personal computers. There are six constructs namely job fit, complexity, long-term consequences, affect towards use, social factors and facilitating conditions that make up the MPCU. This model measures actual usage of technology rather than an intention to use new technology. MPCU suggests that the utilization of a system will be influenced by an individual’s social norms, habits, perceived consequences and facilitating conditions. The MPCU model accounted for 24% variance in personal computer use. There was an extension to the model in 1994 by adding experience as a new construct.

Table 5.3 Model of Personal Computer Utilization constructs

Constructs	Definition
Job fit	"The extent to which an individual believes that using a technology can enhance the performance of his or her job."
Complexity	"The degree to which an innovation is perceived as relatively difficult to understand and use."

Long term consequences	"Outcomes that have a pay-off in the future."
Affect towards use	"Feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act"
Social factors	"Individual's internalization of the reference group's subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations."
Facilitating conditions	"Provision of support for users of PCs may be one type of facilitating condition that can influence system utilization."

A limitation of the MPCU is that it is targeted towards a work context and therefore not suitable to measure consumer behaviour. For example, the construct "job-fit" will not be suitable if researching intentions to use a technology in a personal context. It also does not take into consideration the effect of behavioural intention (Bandura, 1986, Venkatesh et al., 2003).

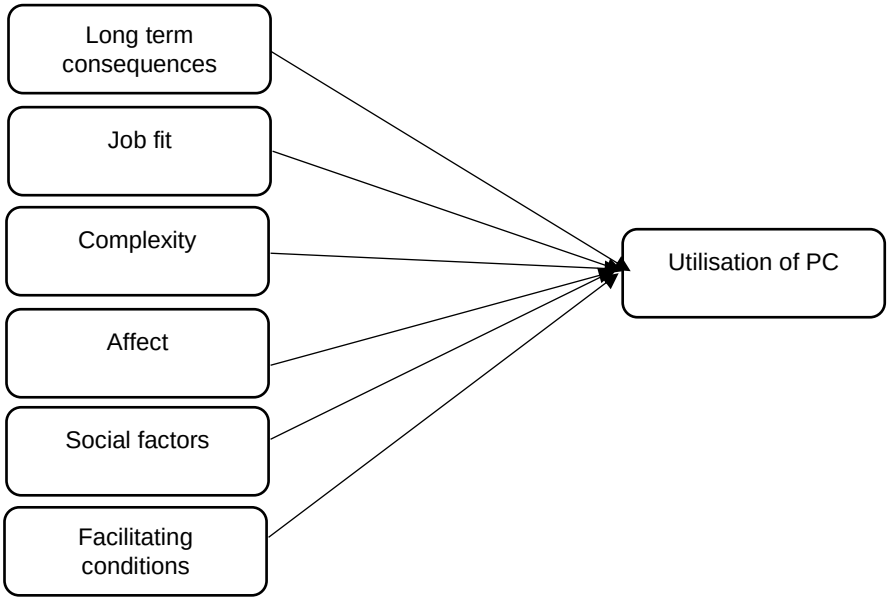


Fig 3.4: Model of PC Utilization Model

3.2.6 Combined TAM and TPB (C-TAM-TPB)

Combined Technology Acceptance Model and Theory of Planned Behaviour was developed by Taylor and Todd in 1995 to address the limitations of TAM and TPB. This model is a hybrid of the TAM and TPB. Taylor and Todd (1995) hypothesized that perceived usefulness and perceived ease of use are direct predictors of attitude and perceived ease of use is a direct determinant of perceived usefulness. They added two constructs namely subjective norm and perceived behavioural control to TAM so they could use the combined model to investigate important factors for information systems for both experienced and inexperienced users. Safeena et al. (2013) conducted a research to find out what influence Perceived Ease of Use, Perceived Usefulness, attitude, subjective norms and perceived behavioural control had on internet banking. They found all the constructs had a positive effect. In the context of mobile banking, this model has not been used by researchers, although, individual variables from the construct have been used. The model is mostly suited for predicting non voluntary behaviours such as perceived behavioural control. A criticism of the model is that it is lacking in factors and moderators (Venkatesh et al., 2012)

3.2.7 Innovation Diffusion Theory (IDT)

Drawn from sociology, the innovation diffusion theory was proposed by Rogers in 1983. Rogers explains it as “the process by which an innovation is communicated through

certain channels over time among the members of a social system". This theory explains and identifies key factors that are important when making a decision to adopt a new technology. Rogers (2003) defines diffusion through a five-step decision-making process, which has been termed the "innovation-diffusion" process. This process simply describes the steps that a user has to go through when making a decision whether to adopt an innovation. There are five stages namely knowledge, persuasion, decision, implementation and confirmation. In addition to this, Rogers stated that the four elements that affect diffusion of an innovation namely the innovation itself, communication channels, time and a social system. With the first element (innovation), he stated that the perceived attributes of innovation explain the rate of adoption of an innovation. These five attributes are defined as follows:

- Relative advantage: "The degree to which an innovation is perceived as better than the idea it supersedes".
- Compatibility: "The degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of the potential adopters."
- Complexity: "The degree to which an innovation is perceived as difficult to understand and use."
- Trialability: "The degree to which an innovation may be experimented with on a limited basis."
- Observability: "The degree to which the results of an innovation are visible to others."

The second element (communication channels) are methods by which information and messages are transferred. This may be mass media channels or interpersonal communication channels. Whatever channel is used will affect the diffusion of an innovation. Rogers (2003) noted that a two-way communication between individuals is more effective in persuading potential adopters of an innovation. He proposed that innovation acceptance occurs over time which is the third element. He stated that the innovation-diffusion process, innovativeness and rate of adoption all include a time dimension. Lastly, there is the social system which he defined as "a set of interrelated units engaged in joint problem solving to accomplish a common goal".

There are several existing studies that have applied IDT to investigate intention to use mobile and internet banking (Al Jabri and Sohail, 2012; Kappor et al, 2014;

Chaipoopirutana, 2018). Some studies have included other constructs or merged IDT with other models such as TAM and UTAUT to make the model more robust (Chen and Adams, 2005; Rahi and Ghani, 2018). Even though IDT has been used widely, its focus is based primarily on how information about an innovation is shared.

IDT has been criticised with having no explanation as to how attitudes are formed and not taking into account the users' resources to adopt new behaviour. Wolfe (1994) suggested that the theory alone is insufficient to predict acceptance of innovation in different contexts and different kinds of adopters. Some studies have included other variables such as while others have used other models in addition to the IDT (Munoz-Leiva, 2017)

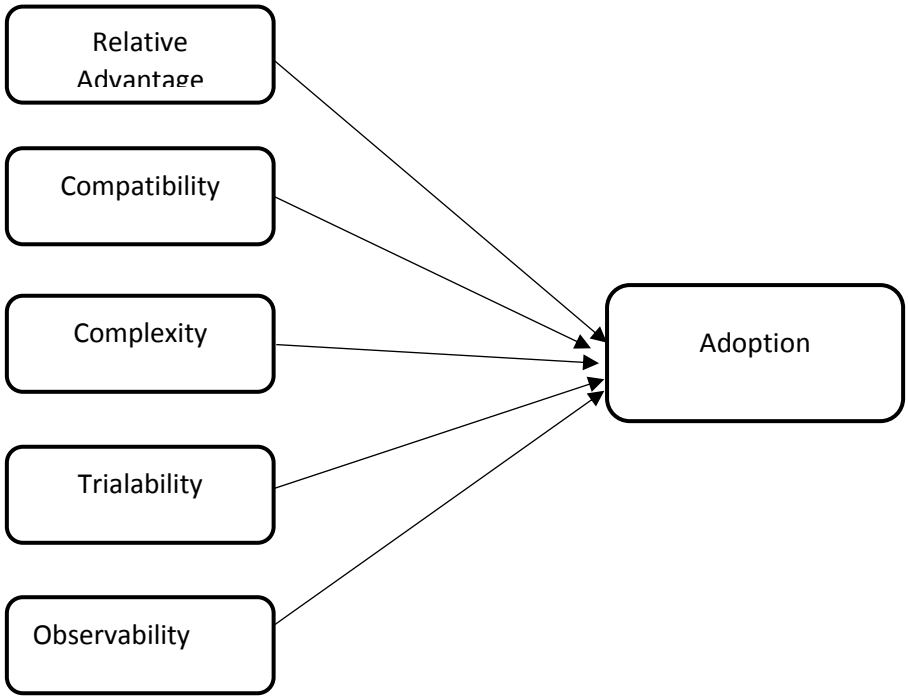


Figure 3.5 Innovation Diffusion Theory Model

3.2.8 Social Cognitive Theory (SCT)

Drawn from sociology, the Social Cognitive Theory was developed by Bandura in 1986. This theory came about from the social learning theory proposed by Miller and Dollard in 1941. It posits that people learn through observation of what others are doing and by experience. This theory had five constructs namely outcome expectations performance, outcome expectations personal, self-efficacy, affect, anxiety that influence behavioural intentions to the use of new technology. It is a product of interplay personal,

environmental and behavioural influences. SCT has been used sparingly for banking research. Boateng et al. (2016) in their study found that the interactive nature of an internet banking platform (web social feature) significantly influenced intentions to adopt Internet Banking using mobile devices. Chang et al., (2017) support the notion that environmental factors help to understand how behavioural intention change over time, hence why they integrate the SCT and TAM to investigate how social and environmental elements affect behavioural intention to use mobile banking.

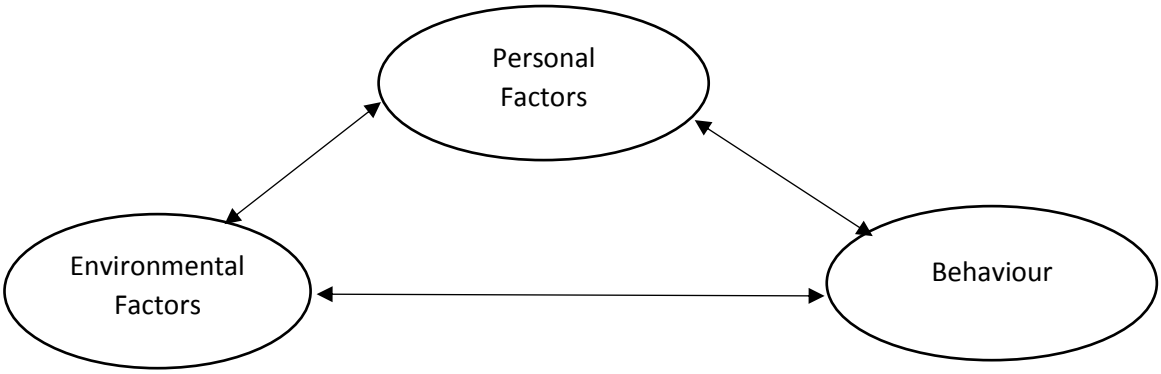


Figure 3.6 Social Cognitive Theory model

3.2.9 Technology Task Fit (TTF)

Technology Task Fit was developed by Goodhue and Thompson in 1995 to measure users' acceptance of new technology. There are three constructs that make up the TTF namely the utilization of individual abilities, technology characteristics and task requirement. It posits that an individual will most likely adopt a new technology when task and technology characteristics are aligned together (Goodhue and Thompson, 1995). This means that if a task becomes more complex but the technology available does not measure up to the demands of the task, there will be a reduction in the task technology fit. A few studies have used the TTF model to explain intention to use mobile banking (Oliveira el al., (2014), Zhou et al. (2010)). Zhou et al. (2010) integrated the TTF and UTAUT model to investigate the adoption of mobile banking. The explained variance of user adoption was 57.5%. The study by Oliveira et al (2014) in Portugal to understand mobile banking adoption also extended UTAUT by TTF and Initial Trust Model (ITM). They found that extending UTAUT with TTF and ITM added a stronger power to predict intention to adopt mobile banking. Yuan et al. (2016), also incorporated TTF, TAM and perceived risk into their expectance-confirmation model (ECM) to investigate continuance

intention to use mobile banking in China. They found that perceived task- technology fit strongly affects perceived usefulness and continuance intention of mobile banking.

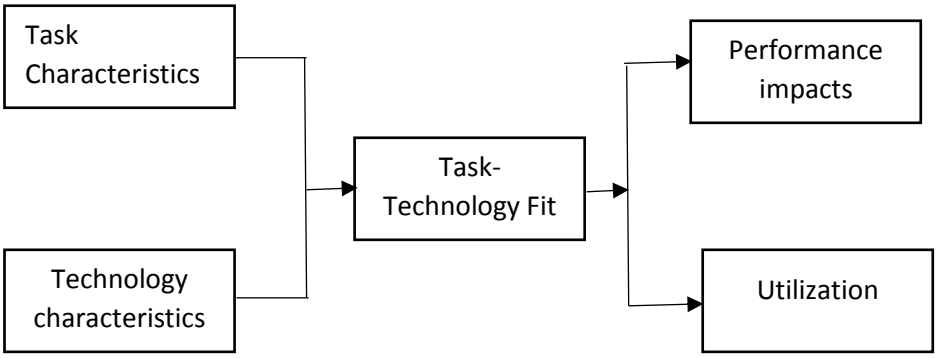


Figure 3.7 Task Technology Fit Model

3.3 Unified Theory of Acceptance and Use of Technology (UTAUT)

Unified Theory of Acceptance and Use of Technology model (Figure 3.1) is a combination of eight different theories proposed by Venkatesh et al in 2003. This model was developed to unite a range of models, which all described people's reactions and intentions to use an information system Within the UTAUT model, there are dependent and independent constructs. The independent constructs are performance expectancy, effort expectancy, social influence, facilitating conditions, age, voluntariness, gender and experience. The dependent construct is the behavioural intention and use behaviour. This model is able to explain 70% of variance in behavioural intention to use information systems (Venkatesh et al, 2003). UTAUT also investigates the effect of moderating factors namely gender, age, experience and voluntariness of usage (Venkatesh et al 2003). They found that the following constructs (PE, EE, SI and FC) had an impact on usage intention, behaviour and use behaviour.

Numerous studies have shown the usefulness of UTAUT in understanding intentions to use social media in various fields such as public relations, academia (Gruzd et al, 2012; Balakrishnana, 2016), healthcare promotion, banking (Tan and Lau, 2016), microbusiness (Mandal, 2012), internet marketing (Tan et al., 2013), enterprise resource planning (Ling et al., 2012; Alleyne and Lavine, 2013), tele presence systems (Park, 2013). Curtis et al. (2010) found that the UTAUT constructs had a statistically significant relationship with adoption of social media in public relations by non-profit organisations. Hanson et al.

(2011) explored the use of social media and behavioural intention to use social media for healthcare promotion. They found social influence and performance expectancy had a positive association with BI. Salim (2012) conducted a study on the use of social media by political activists in Egypt and found that EE, SI and FC had a positive correlation with Behavioural Intention to use social media.

This study utilises the UTAUT model as its theoretical framework. It then extends the UTAUT by three additional constructs namely perceived risk, trust and innovativeness.

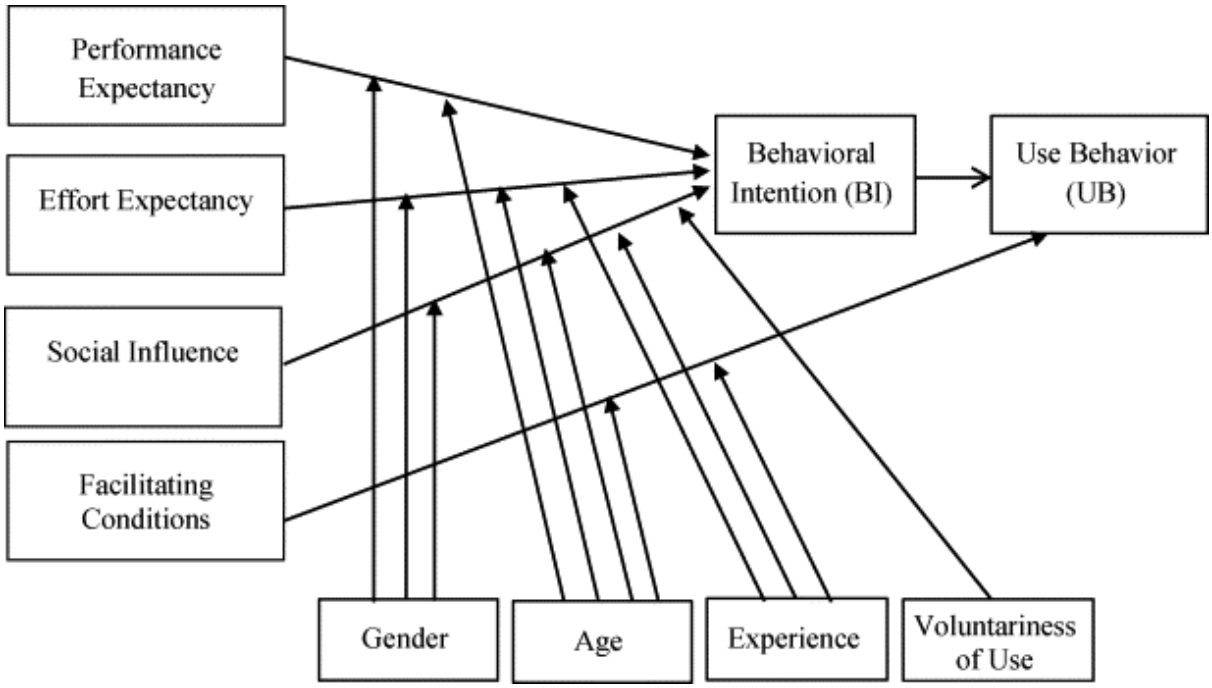


Figure 3.8 The UTAUT model (Venkatesh et al., 2003)

Although UTAUT has been highly cited in technology acceptance research, few studies have validated the model (Dwivedi et al., 2011)

UTAUT model was chosen because of its ability to predict intention to use technology. This model has been adapted and extended by different studies. Some of the constructs include trust (Njoroge 2015), perceived risk (Martins et al. 2014), gamification impact (Baptista and Oliveira, 2017), perceived credibility (Mbrokoh 2016; Bhatiasevi 2015), perceived cost and perceived convenience (Bhatiasevi, 2015), training, shared belief and communication (Ling et al 2012), anxiety (Celik 2016), habit (Hew et al, 2015), self-efficacy, anxiety and attitude toward using technology. It has also been combined with other moderators such as cultural moderators (Baptista and Oliveira, 2015), educational level (Hew et al, 2015). A major drawback of UTAUT is that the model was originally designed for a workplace organisation/environment; however, it has been modified over

the years to be able to measure intentions to use new technology even if it is not within a workplace.

3.4 Limitation of the models

There are many similarities in the models discussed above. They all share an underlying concept of investigating behaviour use, however there are also differences which may be from the context in which they are used, the constructs, moderators and explanatory powers.

In as much as the theories provided a base model for the development of other models of technology adoption, there were certain limitations that meant other models had to be developed. The TRA assumes that behaviour is volitional, and an individual is free to act without any constraint. In addition, conscious behaviour cannot be explained by TRA. Because of this limitation, Ajzen 1991 extended the TRA by including perceived behavioural control. However, both TRA and TPB models require consumers to be motivated to adopt a certain behaviour which is not always the case. TPB is only applicable if there is motivation to do a certain behaviour, in actual adoption behaviour, this is not always the case. The Decomposed TPB by Taylor and Todd, 1995 was introduced to address this.

TAM relies on participants' self-reported data instead of actual data which is not reliable to predict actual usage (Yousafzai et al, 2007). It also does not take into consideration some aspects of user acceptance (Shaikh and Karjaluto, 2015). Not enough to explain user acceptance of new technology. TAM does not take into account changing nature of human behaviour. Another limitation of some of the models is how applicable they are to other contexts. For example, TTF is mostly suited for organisational research rather than from a customer point of view. MM is also similar as the objective of the model was to investigate adoption of personal computers in workplaces.

The end goal of this research is to predict intention to use Social Media Banking. This study does not investigate actual adoption or usage hence the TAM and the TPB will not be suitable. In addition, the TAM, IDT and TPB assume that the causal relationships among variables in their models is unidirectional.

Why UTAUT: most comprehensive. In addition, explanatory powers higher than other models. The framework has been tested and validated in different domains of information system research including different forms of banking, however the model needs to be extended with relevant factors related to the use of Social Media Banking.

In the light of the limitations stated above, I decided to extend the UTAUT, the most robust out of all the theories discussed.

Table 3.5 Summary of the constructs in Technology Acceptance Models and Theories

Model	Constructs	Author
Theory of Reasoned Action	• Attitude • Subjective norm • Behavioural Intention	(Fishbein &Ajzen,
Theory of Planned Behaviour	• Attitude • Subjective norm • Perceived behavioural control	(Ajzen,1991)
Technology Acceptance Model	• Perceived usefulness • Perceived ease of use	(Davis, 1989)
Model of PC Utilization	• Job fit • Long term consequences • Facilitating conditions • Complexity • Social factors	(Thompson et al., 1991)
Motivational Model	• Intrinsic motivation • Extrinsic motivation	(Davis,1992)
Combined TAM and TPB	• Perceived usefulness • Attitude • Perceived ease of use • Subjective norm • Perceived behavioural control	(Taylor &Todd,1995)
Innovation of Diffusion Theory	• Relative advantage • Compatibility • Complexity • Trialability • Observability	(Rogers, 1995)
Social Cognitive Theory	• Affect • Anxiety • Self-efficacy • Outcome expectation	(Bandura 1999)
Unified Theory of Acceptance and Use of Technology Model	• Performance Expectancy • Effort Expectancy • Social Influence • Facilitating Conditions	(Venkatesh et al., 2003)

3.5 Theory selection and justification

According to Steinfield and Fulk (1990), four approaches to building theories are recommended. The first approach is an inductive approach based on observing behaviours or events. This is commonly referred to as grounded theory. Theory developed using this approach may be subjective, biased and non-replicable. To be able to build a theory using this approach, the researcher has to be consistent in their observation of patterns of behaviour or events. The second approach is a bottom-up approach and is also an inductive approach which relies on the abilities of the researcher. The researcher will need to identify predictors important to their subject of research using an existing framework. The predictors could be from various inputs such as organisational, individual or technological factors related to their subject of interest.

The third approach is to modify an existing theory to explain a new phenomenon. The modification may mean extending the existing framework using concepts and conditions from the old theory in an extended or modified theory. Bhattacherjee (2012) posits that this approach is an efficient way of building new theories as it leverages on theories developed by prior theoreticians. The final approach is using an existing theory to investigate a new phenomenon.

I have decided to use the third approach for this study as this study is exploratory in nature. There are very few studies that have been done on Social Media Banking that I can refer to, therefore I will be using mobile banking as a parallel to Social Media Banking. Attitudes, adoption and intention to use mobile banking has been researched a lot in the last few years.

Walker and Avant (2011) outlined the following steps to follow in the development of a conceptual model.

- Conduct a literature review.
- Choose an appropriate theory.
- Adapt the selected theory to suit the context of Social Media Banking
- Define the constructs to suit the context of Social Media Banking.
- Specify the relationships between the constructs.
- Present the constructs and relationships using a model.

A literature review of existing studies to identify models and theories used in Information Systems research, consumer behaviour and technology adoption was carried out. These

models have been used extensively in various disciplines. Then I identified important variables relevant to my research. After a review of the models, the most suitable in terms of construct was the UTAUT however the UTAUT model will need to be extended and adapted to investigate effect of perceived risk, innovativeness and trust on intentions to use Social Media Banking

Taylor and Todd 1995 recommended criteria for choosing an appropriate theory.

1. how applicable is the theory to research context.
2. the degree of parsimony of theory

UTAUT is considered appropriate for this research as it was developed to understand consumer behaviour and technology adoption. Based on the literature review, trust and perceived risk were among the major factors highlighted by consumers as important to them if they were to use Social Media Banking however UTAUT does not have constructs relating to trust and perceived risk. This is understandable because Social Media Banking involves financial information which is sensitive. In addition to this, innovativeness was one of the key factors pointed out during my MSc research, this is also not included in UTAUT constructs, and therefore I have decided to include these three factors as constructs in the proposed model so it can adequately investigate the intention to use Social Media Banking.

As the actual use of Social Media Banking is not common in the United Kingdom, I have decided to investigate behavioural intention to use rather than actual usage. The findings from this can be of commercial interest to banks and Fintech companies, bank strategists and policy makers.

30 scale items for the study were adapted from previous research instruments. The constructs for performance expectancy, effort expectancy, social influence and hedonic motivation were adapted from Venkatesh et al. (2012). The constructs for innovativeness were adapted from Agarwal and Prasad, (1998), Thakur and Srivastava, (2014) and Yang et al. (2012). The constructs for trust were adapted from Lu et al. (2011) while the constructs for perceived risk was adapted from Featherman and Pavlou, (2003) and Lu et al. (2011). The constructs for behavioural intention were adapted from Venkatesh et al. (2012) and Davis et al. (1989).

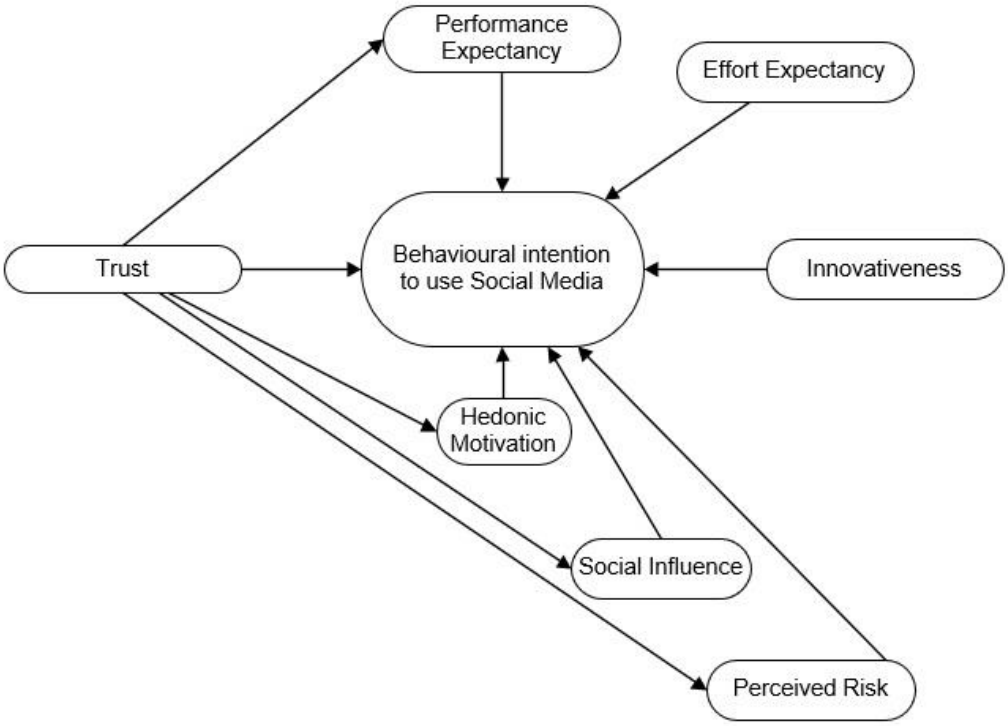


Figure 3.9 Proposed model

3.6 Hypothesis development

As this study aims to provide an understanding of what factors predict intention to use Social Media Banking rather than actual use, the model has been slightly adapted to the context of Social Media Banking. As a result, two variables have been removed and some other variables more relevant to the context of Social Media Banking have been added. Use behaviour, facilitating conditions and voluntariness of use are not included in this model as actual use of Social Media Banking is not been investigated. This is because most banks are only just implementing Social Media Banking and there are few users making use of Social Media Banking.

3.6.1 Performance Expectancy

Performance Expectancy is defined as the extent to which an individual believes that using an information system will assist in their job performance. This concept of Performance Expectancy is derived from five constructs from different models: job fit (MPCU), reliability (IDT), perceived usefulness (TAM and C-TPB, TAM), job fit and extrinsic motivation (MM), outcome expectation (SCT). UTAUT posits that this construct is the strongest predictor of individuals' intention to use an information system. Within the

context of Social Media Banking, this construct refers to whether the people who would use Social Media Banking believe that it will help improve their banking activities and transactions. This suggests that users will be able to access their banking services at any time without necessarily going through the traditional means of banking. Multiple studies have shown that Performance Expectancy strongly predicts intention to use Internet Banking (Tarhini, 2016; Martine et al. 2014; Mbrokoh 2016; Yeoh and Chan, 2011), Mobile Banking (Alalwan, 2017; Baptista and Oliveira 2015; Bhatiasevi 2016; Tan and Lau, 2016, Susanto et al., 2016, Munoz – Leiva et al., 2017) Social Media Banking (Njoroge, 2015). In the context of this research, Performance Expectancy is the degree to which a user expects that Social Media Banking will be useful for their banking. It will reflect what benefit the user aims to get from being able to do routine banking transactions in a convenient manner. The greater the perceived usefulness of Social Media Banking, the more likely users will intend to use it. Therefore, this study assumes this hypothesis:

Performance Expectancy will positively influence students' behavioural intention to use Social Media Banking.

3.6.2 Effort Expectancy

Effort Expectancy is the extent to which an individual believes that using information system will be easy to use. This UTAUT construct was derived from three constructs from different models namely perceived ease of use (TAM), complexity (MPCU) and ease of use (IDT). Relating this to Social Media Banking, this is the degree to which a user expects that using Social Media Banking will not require an increase in effort and how easy it will be for them to use Social Media Banking. Existing studies suggest that Effort Expectancy is a strong determinant of an individual's intention to use an information system. Prior studies in the field of mobile banking revealed that Effort Expectancy has a positive impact on the intention to use Mobile Banking (Tan and Lau, 2016; Mortimer et al., 2015, Oliveira and Baptista, 2015, Sharma 2017), however Yu (2012) found that there was no significant effect of Effort Expectancy on intention to use Mobile Banking. Similarly, for existing studies on Internet banking, it was found that EE positively affects intention to use Internet banking (Moodley and Govender, 2016). Intending users of Social Media Banking will most likely adopt a technology that requires little effort. Therefore, this study assumes this hypothesis:

Effort Expectancy will positively influence students' behavioural intention to use Social Media Banking.

3.6.3 Social influence

Social Influence is defined as the degree to which an individual perceives that people important to them believe they should use a new information system. UTAUT uses three constructs namely subjective norms (TRA, TAM, CTAM-TPB, TPB), social factors (MPCU) and Image (IDT) to form this new construct. In the context of Social Media Banking this refers to what others close to you expect of you with regards to Social Media Banking. This would refer to family, friends and the users' social network. Venkatesh et al (2003) found that social influence is more effective to predict intentions to use an information system at the initial phase of use and the influence gradually reduces over a period of time. In a study on the intentions to use mobile apps, SI had no significance (Hew et al., 2015). Rahi et al. (2018) found that SI had little effect on Behavioural Intention to use Internet banking. In the same vein, Afshan and Sharif (2016) found that SI did not have a positive effect on intention to use MB. On the other hand, Oliveira and Baptista (2015) found that SI had a positive effect on intention to use MB. This is also supported by Makanyeza (2017) who found that SI had a positive effect on intention to adopt MB.

Therefore, this study assumes this hypothesis:

Social Influence will positively influence students' behavioural intention to use Social Media Banking.

3.6.4 Innovativeness

Rogers et al (1971) defined innovativeness as the "degree to which an individual is relatively earlier in adopting an innovation than other members of his social system", however this definition applies to adoption of a new technology rather than predicting intention to use. Agarwal et al (1998) on the other hand defined innovativeness as the "willingness of an individual to try out any new information technology". This definition is more suited to this research as Social Media Banking is a relatively new technology. A few studies have used innovativeness as a construct to predict intentions to use new technology. Innovativeness is deemed influential enough to be used to extend the UTAUT model, as it is intention to use Social Media Banking that is being investigated and not the actual use of Social Media Banking. In a study by Frimpong et al., (2017), they found that inherent innovativeness significantly explained attitudes to mobile banking. Thakur and Srivastava (2014) found that the influence of innovativeness on behavioural intention for mobile payments is higher for users than when compared with non-users. Social media banking is a relatively new method of banking different to what customers' are used to. In

a previous study investigating attitudes to the use of Social Media Banking during my master's programme, a lot of the respondents noted that they thought this method of banking was innovative. Based on this, it is assumed that a customers' innovativeness will play a positive role in their intention to use Social Media Banking.

Therefore, this study assumes this hypothesis:

Innovativeness will positively influence students' behavioural intention to use Social Media Banking.

3.6.5 Hedonic motivation

Hedonic motivation is defined as the "fun or pleasure derived from using a technology" (Venkatesh et al., 2012). It was incorporated as an additional construct into the original UTAUT model. It was one of the strongest predictors of behavioural intention. Hedonic motivation has been used to examine intentions to use new technology by consumers (Magni et al., 2010). Brown and Venkatesh (2005) found that hedonic motivation plays a significant role in technology use. However Oechslein et al. (2014) in their work on social recommender systems found no relationship between hedonic motivation and behavioural intention to use the systems. In a study carried out by Alalwan et al., (2015), hedonic motivation had a significant influence on behavioural intention to use Internet Banking in Jordan. Sharif and Raza, (2017) in a study on behavioural intention to use Internet banking found that hedonic motivation had a positive significant effect. In the light of Social Media Banking, this will be the enjoyment derived as a result of the fun experience in using social media for banking. There are a few banks who use gamification as part of the Social Media Banking services they offer. Therefore, this study assumes this hypothesis:

Hedonic motivation will positively influence students' behavioural intention to use Social Media Banking.

3.6.6 Trust

Although trust is not included in the original UTAUT model, trust has been found in some studies to have a direct effect on intentions to use new technology. Yousafzai et al. (2003) in their research on online banking defined trust as "a psychological state which leads to the willingness of the customer to perform banking transactions on the Internet, expecting that the bank will fulfil its obligations, irrespective of customers' ability to monitor or control bank accounts". Lippert and Davis, (2006) found that trust affects technology adoption and

is critical to the adoption process. They defined technology trust as “an individual willingness to be vulnerable to an information technology based on expectations of technology predictability, reliability and utility”. Kim et al. (2008) defined trust as “consumers’ subjective belief that the selling party or entity will fulfil its transactional obligations as the customer understands them. In their study to find out the role of trust and perceived risk on electronic commerce, they found that trust had a strong impact on the purchasing decisions. McKnight et al (1998) posited that individuals go through different stages of trust before making a decision on whether to engage with a business. In a subsequent paper in 2002, they explain that trust is divided into two stages namely introductory and explanatory stage. Trust is essential for relationships between consumers and the business organisation (Wang et al., 2015). Trust reduces uncertainty (Gu et al., 2009), builds a relationship (Zhou, 2012) and builds confidence in a product. There is limited research on trust in banking (Namahoot and Laohavichien, 2018; Sharma and Sharma 2019, Shareef et al.,2018, Koo and Wati, 2010, Lee and Chung, 2009, Lin, 2011).

Trust is particularly important in the context of Social Media Banking as there tends to be a lack of personal interaction with bank staff when using these services coupled with the fact that banking transactions are of a sensitive nature. For customers to use Social Media Banking, they need to trust the technology. Zhou (2012) argued that in the absence of trust in relationships, there would be no adoption or uptake of a technology. In a study by Kim et al (2009) they noted that lack of trust is one of the major reasons customers do not use online banking. Luo et al. (2010) found that trust had a significant influence on customers’ intention to use mobile banking as well as on performance expectancy. Sahoo and Pillai, (2017) stated that trust in mobile banking may likely increase customers sense of perceived security. Social Media Banking is an emerging service, which has not been widely used by customers. When customers develop trust in Social Media Banking, they may assume that their details are safe and secure which may then reduce the risk perceived by the customer. In addition, if the customers have trust in Social Media Banking services, it may increase the enjoyment and entertainment that customers will derive from using the service.

Therefore, this study assumes this hypothesis:

Trust will positively influence performance expectancy, hedonic motivation, social influence, perceived risk and students’ behavioural intention to use Social Media Banking.

3.6.7 Perceived risk

Perceived risk is defined as the degree to which an individual believes that they may be exposed to different types of risk because of using a technology. Featherman and Pavlou, 2003 defined perceived risk as "the potential for loss in the pursuit of a desired outcome of using an e-service". It relates to uncertainty that the customer has with using a technology. Using existing risk theories with different risk factors (financial, time, psychological, privacy, performance and social risk and overall risk) – Featherman and Pavlou, (2003). These risks could be financial, social, physical, time or psychological risks (Zhang et al., 2012). Laforet and Li 2005 consider an individual's perception of risk as important in whether they would adopt a technology or not. Risk has been added as a construct to this model as Social Media Banking is perceived to be riskier than the existing forms of banking (Finxtra, 2016). Social Media Banking involves the transfer of funds over electronic means. It also involves banks having access to a customer's social network. One of the top three types of fraud in the UK is the one involving bank accounts (www.actionfraud.police.uk) With the increase in banking fraud over the years in the UK, customers may be reluctant to use this form of service. Research done on the impact of risk on the intention to use the existing forms of banking showed that perceived risk hinders customers from adopting a new technology (Hanafizadeh et al., 2014, Oliveira et al., 2014, Akturan and Tezcan, 2012). Lafraxo et al., (2018) in a study on mobile banking in Morroco shows that perceived risk does not positively influence behavioural intention to use mobile banking. Wessels and Drennan (2010) found that perceived risk has a significant effect on adoption of mobile banking. Koenig-Lewis et al. (2010) in a study on the effect of perceived risk on intention to use mobile banking found there is a positive correlation between behavioural intention and perceived risk. Luo et al. (2010) found perceived risk had a significant effect on mobile banking. Makanyeza (2017) found that PR had a negative effect on behavioural intention to use MB.

Therefore, this study assumes this hypothesis based on existing studies:

Perceived risk will negatively influence students behavioural intention to use Social Media Banking.

Based on the literature review above, I propose the following hypothesis for this research.

Table 3.5 Proposed hypothesis

	Independent variable	**Dependent variable**	
H1	Performance expectancy	Intention to use Social Media Banking	Performance expectancy positively affects behavioural intention to use Social Media Banking
H2	Effort expectancy	Intention to use Social Media Banking	Effort expectancy positively affects behavioural intention to use Social Media Banking
H3	Social Influence	Intention to use Social Media Banking	Social influence positively affects behavioural intention to use Social Media Banking
H4	Hedonic motivation	Intention to use Social Media Banking	Hedonic motivation positively affects behavioural intention to use Social Media Banking
H5	Innovativeness	Intention to use Social Media Banking	Innovativeness positively affects behavioural intention to use Social Media Banking
H6	Perceived risk	Intention to use Social Media Banking	Perceived risk negatively affects behavioural intention to use Social Media Banking
H7	Trust	Intention to use Social Media Banking	Trust positively affects behavioural intention to use Social Media Banking
H8	Trust	Performance Expectancy	Trust will positively influence performance Expectancy
H9	Trust	Hedonic Motivation	Trust will positively influence Hedonic Motivation
H10	Trust	Social Influence	Trust will positively influence Social Influence
H11	Trust	Perceived Risk	Trust will positively influence Perceived Risk

3.7 Chapter Summary

This chapter presented the proposed extended UTAUT model and the research hypotheses. From the review of the existing models on technology acceptance and previous works on other forms of banking, key constructs have been identified and these are included in the conceptual model. The UTAUT model has been chosen because it has unified most of the constructs necessary to explore intentions to use Social Media Banking. New constructs have been incorporated into the existing UTAUT model to form a new theoretical model.

The next chapter reviews the research methodology and explains the research approach adopted for this study.

Chapter 4: Research Methodology

4.1 Introduction

This chapter focuses on the most appropriate research approach to examine the intention to use Social Media Banking. This chapter will discuss the methodology adopted for this research including the underpinning philosophy. There are different research approaches and the type of approach chosen for a project will be determined by the research aim and objectives. The research process is mainly divided into five sections namely research philosophy, research approaches, research strategies, time horizon, research techniques and procedures. (Fig 4.1) Section 4.1 reviews the research paradigms. Section 4.2 explains the research strategy adopted in this project.

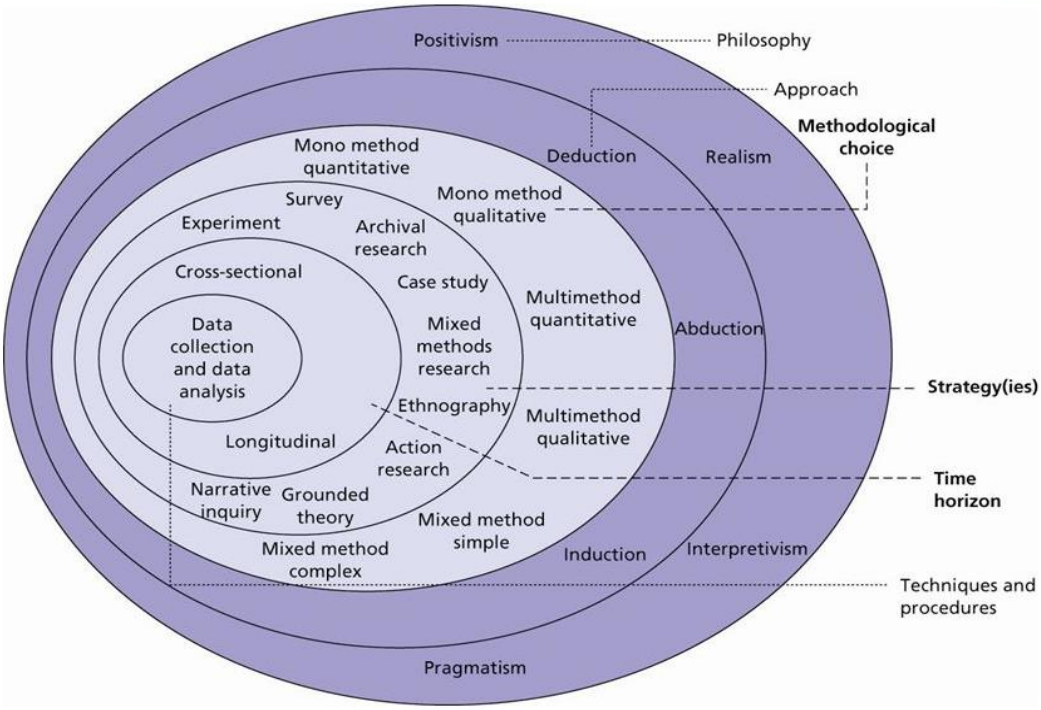


Figure 4.1 The research onion (Source: Saunders et al., 2012)

The purpose of this study is to determine what factors influence behavioural intentions to use Social Media Banking. There have been limited studies carried out on intentions to use Social Media Banking, this study aims to provide an understanding of current trends in Social Media banking, hence this study is an exploratory study which is advised when there exists little or no knowledge on a subject topic. Exploratory research is deemed

useful when “research problem or issue has very few or no earlier studies to which we can refer for information about the issue of problem” (Collis & Hussey, 2013)

4.2 Research philosophy/paradigms

Research is a systematic investigation and analysis designed to provide information to answer specific questions. The investigation involves gathering information and data using methodological processes. To undertake research, the assumptions, approaches, paradigms and philosophies on which the research is based must be well understood prior to the start of the study. A paradigm is defined as “a way of examining social phenomena from which particular understandings of these phenomena can be gained and explanations accepted” (Saunders et al., 2009). Important philosophical concepts such as ontology, epistemology and axiology must also be well understood. Ontology is concerned with the nature of reality whereas epistemology refers to the nature of knowledge and what is acceptable and how do we know what is true. Axiology on the other hand is concerned with the role of values and ethical considerations throughout the research process. Saunders et al. (2012) classified research philosophy into five main categories namely positivism, critical realism, interpretivism, post modernism and pragmatism.

Table 4.1: Research philosophies

Philosophy	Characteristics
Positivism	Factual Objective Quantifiable and can be observed Empirical view Knowledge derived from experience Researcher independent of the study Inductive reasoning Use of existing theory Hypothesis tested
Critical realism	Critical of all assumptions including researchers assumptions Facts exist because of an underlying cause.

	Lies between positivism and interpretivism. Sometimes referred to as post positivism
Interpretivism	Researcher involved Subjective data and interpretation Theory development built on evidence from data Rich information
Post modernism	Equality for all No one right way to live. Opinions matter than facts
Pragmatism	Different ways of undertaking research Reality is ever changing Mixed methods research Both positivism and interpretivism can be combined by pragmatists. Integration of multiple research methods. Can be inductive or deductive Can be subjective or objective Can be qualitative or quantitative.

4.2.1 Positivism versus Interpretivism

An ontological approach to research can be either objective or subjective in nature. An objective stance considers that the research we do is external to the actors (people) involved and that social and physical entities exist independent of each other. Objectivists seek to answer research questions through measurable facts. On the other hand, subjectivism incorporates the assumptions that social reality evolves from the actions of actors (people). An epistemological approach to research can be either positivist or interpretivist in nature. From an academic research perspective, the world is viewed at using two major point of view: the positivist and the interpretive paradigms. Both school of thoughts have different assumptions. The positivist approach which has its foundation in scientific realism is of the opinion that the researcher is just an observer and exist independently to the process being studied. This paradigm suggests that new knowledge

is created when it can be verified through observation and measurement. However, the interpretivist approach assumes reality is relative and constructed through meanings that emerge from the research process (Bryman and Bell, 2015).

Table 4.2 Differences between Positivism and Interpretivism

	Positivism	**Interpretivism**
Ontology	Assumes that researcher and reality are separate	Assumes that researcher and reality are not separate
Epistemology	Assumes that knowledge is based on natural phenomenon.	Assumes that knowledge is built through experiences
Approach	Deductive Scientific	Inductive Humanistic
Methods	Research object is independent of researcher	Researcher is involved and close rapport with respondents.
	Can be experiments, survey questionnaire	Case studies Interviews Focus Group Participant observation
	High reliability Generalization from sample Theory	Low reliability
Shortcomings	Personal beliefs and motivations cannot be addressed or quantified.	It is hard to generalize findings as every individuals behaviour is different

4.2.2 Quantitative versus Qualitative

Collis and Hussey (2013) stated that research could be classified into four main types based on the purpose (exploratory, descriptive, analytical or descriptive research), process (quantitative or qualitative), outcome (applied or basic research) and logic (deductive or inductive) of the research. Whatever view a researcher aligns with will determine what research strategy and method to be used to answer the research question. The choice of which approach to adopt also depends on the research aims and objectives. A possibility for this research would have been to follow a strictly positivist or interpretivist approach. It is important to note that there are limitations to be considered when using a positivist philosophical approach to studying the acceptance of Social Media

Banking. Though statistical data will be obtained and compared to existing results from research that have used the UTAUT model, the data will not be sufficient to gain an in-depth understanding of the users intention towards Social Media Banking, hence the need to obtain not only objective but also subjective knowledge using an open ended question where necessary. For this research project, the quantitative method will be used to have an insight into the factors influencing intentions to use Social Media Banking.

Table 4.3: Strengths and weaknesses of quantitative and qualitative approaches

	Strengths	Weaknesses
Quantitative Research	• Analysis relatively easy with the use of statistical software. • Reliable data and hence high level of reliability. • Structured research. • Good for validating already established theories. • Hypothesis testing. • Data collection can be relatively quick. • Precise data and easy to interpret. • Findings may be generalised if based on a random sample that is sufficient. • Personal bias minimized. • Causal relationships and pattern interactions between variables can be easily explored. • Ideal for large sample size.	• Understanding of context not clear. • Outcome can be rigid. • Researcher bias especially when an existing model is being validated. • Results may be too general to be applied in other contexts.
Qualitative Research	• Detailed context and insights can be obtained. • Rich and in-depth data. • Ideal for motivation research. • Patterns and common themes can be identified.	• Typically, findings cannot be generalised to the whole population. • Data collection can be time consuming (interviewing). • Extracting information from

	• Encourages theory development from data.	data can be time consuming. • Results can be easily influenced by researchers' personal bias. • Interpretive skills are subjective. • Analysis and interpretation can be subjective.

4.3 Research approach

The research perspective to be used in this study is motivated by the observation that Social Media Banking has not been researched especially in relation to users' attitudes and intentions to use it. Considering the nature of this research, which deals with a real-world question, the paradigm that will inform this research is positivism as the research aims to determine what factors influence attitudes and intentions to use Social Media Banking by validating the hypotheses of the UTAUT model. A mono quantitative method would be used for this research.

Limited studies have been carried out on the adoption and attitudes towards Social Media Banking and this research attempts to provide a deeper understanding of this phenomenon hence the study will be exploratory in nature. Exploratory research is conducted when there are few studies about a particular area that a researcher can refer to. Exploratory research aims to look for ideas that can be tested to gain insights into a particular subject area (Collis and Hussey, 2013).

This research will be deductive in nature as the aim of the study is not to develop a new theory rather it is test an existing theory and validate set hypotheses. This study will use the Unified Theory of Acceptance and Use of Technology model to investigate intention to use Social Media Banking. This model has been selected as it incorporates a range of variables that have been used to understand technology acceptance and adoption. There is a conceptual framework that has been developed already. This will be extended with additional constructs. The hypotheses will then be tested using statistical analysis on observation data (Saunders et al., 2012). Findings of similar studies will be used to compare results.

Table 4.4: Summary of the research approach

Research philosophy	Positivism
Research approach	Deductive
Research strategy	Quantitative
Data collection	Online survey

4.4 Research strategy

This project has been organised in three phases.

Phase 1: Social media banking review

- Conduct a literature review about Social Media Banking and technology acceptance models
- Identify themes based existing literature
- Find out what Social Media Banking transactions exist

Phase 2: Pilot testing

- Develop survey
- Collect responses
- Modify survey if necessary based on results of pilot study

Phase 3: Data collection

- Actual data collection
- Analysis using SEM

4.5 Population and Sampling

Sample selection is key in a quantitative study. As it is not possible to investigate every individual in a large population, sampling allows researchers to make an inference about a population based on the results of a subset of the population of interest thereby reducing cost. The population is defined as the “full set of cases from which a sample is taken” (Saunders et al., 2012). Sampling techniques can be either probabilistic or non-probabilistic in nature. Each is further divided into sub types listed in Table 4.2

A representative sample of the population was obtained, as it is not feasible to have the whole population participate in the research. Steps involved in the sampling procedure include identifying the population, choosing a sample frame and determining the sample size.

In this research, the population is university students in the UK. University students were chosen, as students are more receptive to using new technology. In addition, student samples are easy to collect and the cost of doing this is very low. As the aim of the research is to understand and gain insights into intentions to use Social Media Banking, it was not necessary to specify whether the student had used or not used Social Media Banking.

Typically, the sample size for a research project depends on the several factors such as the number of people in the target population, sampling cost, ease of collecting data and confidence level required. For research utilizing the SEM technique, depending on how complex thee model is, sample sizes can range from 200 cases (Kline 2010, Bryne 2013)

The sample is a non-probabilistic sample, and the participants decide themselves whether they want to be part of the research. The survey was advertised through emails, websites and social media and the questionnaire as administered through the Internet with a short description and participants could self-select and participate in the study. There were no incentives for participation.

Reliability and validity tests were carried out on the scale instruments. The constructs all had Cronbach's alpha coefficient values greater than 0.7 and therefore the instrument was considered suitable for this research (Nunnally and Bernstein, 1994).

Determining the sample design: probability and non-probability sampling.

Table 4.5: Probabilistic and non-probabilistic sampling

Probabilistic sampling	Non probabilistic sampling

Randomization Equal chance of being selected Sub types: • Simple random sampling • Cluster • Systematic • Stratified • Multi stage Representative sampling	Biased Sub types • Non random sampling • Convenience • Quota • Snowball • Purposive Generalisation of results

4.6 Data collection

Data can be in two forms namely the primary and secondary data. Both forms of data are applicable in this research. The primary data will be collected using the survey instrument. The secondary data sources were journal articles, retail reports and bank websites. The secondary data was needed to:

1. Get themes for Social Media Banking research and

2. To understand the different models of technology acceptance.

This study chooses the questionnaire survey as the research methodology to investigate and understand the factors that influence intentions to use Social Media Banking. Creswell (2014) noted that the quantitative approach is best suited to research where a relationship between variables is being explored. A questionnaire can either have open-ended questions or closed questions (Bryman and Bell, 2015). The questionnaire was a mix of the two types. The open-ended question gives the participant an opportunity to express their opinions. An advantage of using the open-ended questions is that bias is reduced as the participants' response is not limited to specific options. On the other hand, closed questions save time and makes it easy for the researcher and participant to analyse.

The survey approach was selected for various reasons. The survey instrument used in this study was based on existing constructs of the UTAUT. Majority of the questions have been tested and validated by other studies. The instrument was however modified and extended to measure other constructs. The questionnaire items were also rephrased in the context of Social Media Banking.

Table 4.6 Adapted measurement items

Measurement items	Source
Performance Expectancy PE1 I would find Social Media Banking useful in my daily life PE2 Using Social Media Banking would help me accomplish my banking more quickly PE3 Using Social Media Banking would increase my productivity PE4 Using Social Media Banking would enable me to manage my finances better	Venkatesh et al., 2012
Effort Expectancy EE1 Learning how to use Social Media Banking would be easy for me EE2 My interactions with Social Media Banking would be clear and understandable EE3 I would find Social Media Banking easy to use EE4 It would be easy for me to become skillful at using Social Media Banking	Venkatesh et al., 2012
Social Influence SI1 People who are important to me would think I should use Social Media Banking S12 People who influence my behaviour would think I should use Social Media Banking SI3 People whose opinions I value would think I should use Social Media Banking	Venkatesh et al., 2012
Hedonic Motivation HM1 Using Social Media Banking would be fun HM2 Using Social Media Banking would be enjoyable HM3 Using Social Media Banking would be entertaining	Venkatesh et al., 2012
Innovativeness IN1 I enjoy experimenting with new technology IN2 Among my peers I am usually the first to explore new technologies IN3 I like to experiment with new information technologies	Agarwal and Prasad, 1998 1. Thakur and Srivastava, 2014 Yang et al., 2012
Trust TR1 I believe Social Media Banking systems are trustworthy TR2 I believe Social Media Banking systems would be reliable TR3 I believe Social Media Banking systems would be secure TR4 I believe Social Media Banking systems would be accurate	Lu et al., 2011
Perceived Risk PR1 I would not feel totally safe providing my information over Social Media Banking PR2 I am worried about using Social Media Banking because other people may be able to access my account PR3 I would not feel secure sending information over Social Media Banking PR4 I believe that overall risk of Social Media Banking is high	Pavlou, 2003 Lu et al., 2011

PR5 The security measure built into Social Media Banking are not strong enough to protect my finances PR6 Using Social Media Banking subjects your account to financial risk	
Behavioural Intention BI1 I intend to use Social Media Banking in the future BI2 I might use Social Media Banking in my daily life BI3 I plan to use Social Media Banking frequently	Venkatesh et al., 2012 Davis et al., 1989

4.6.1 Pre-testing

Even though majority of the items in the survey questionnaire had been used in various studies and adapted for use in different fields, it was still necessary to carry out a pre-test prior to the pilot study being undertaken. A pre-test allows the researcher to know in advance if a questionnaire will be problematic for participants. A pre-test helps to make sure the survey questionnaire is free of errors, removes ambiguity in the questions and helps to make sure that participants understand the context of the questions. A structured questionnaire was sent by email to Web Science students at the University of Southampton. These group of people were chosen for the pre-test as they are representative of the proposed target audience (UK students).

This was done to get feedback. Feedback was requested on the wording of the questions, layout, content, how clear it was and if there was any obvious bias. There was an open-ended question on the questionnaire sent which gave participants the space to write their thoughts. One of the questions asked was for participants to make suggestions on things that can be done to improve the survey. Another question was on the clarity of the survey instrument.

The questionnaire was revised based on some of the feedback received from the pre-test participants. I assumed all participants used online banking and had a form of social media presence. This was highlighted by some of the participants. Two questions (Question 3 and 4) were therefore introduced to capture that statistic. Two of the questions (Questions 5 and 6) in the first section of the questionnaire were initially drop-down questions with no option of including any other options apart from the ones set by the researcher. This was modified based on the feedback received to include a space to write what other options participant might have used. This allowed participants to state other options they had used. Another insight gained from the pre-test was the average time it took in minutes to complete the survey. Through the feedback obtained, the survey instrument was improved.

There were three types of questions used in the survey namely

2. Multiple choice questions to get demographic data
3. Likert scale questions
4. An open-ended question to allow participants add their own response about what they think of Social Media Banking.

The questionnaire had three sections. Section 1 asked for general information on the users. Section 2 included questions about factors that influence intention to use Social Media Banking. The questions in this section were Likert scale statements. The Likert Scale is an ordinal response scale that measures the participants' response on statements (agreement or disagreement in a multiple-choice format). In the study the 5-point scale instrument was utilised with 1 representing strongly agree and 5 strongly disagree.

The questions were clear and short, and all items were grouped accordingly. To make sure that participants understood the concept of Social Media Banking, a definition of Social Media Banking was provided at the beginning of the questionnaire. A total of 30 items were used to measure seven independent variables namely Performance Expectancy, Effort Expectancy, Social Influence, Innovativeness, Hedonic Motivation, Perceived Risk, and Trust. In total there were 46 questions in the questionnaire. The questionnaire was hosted on the survey software Qualtrics that was also used for the data collection.

The online survey method was adopted as it saves cost and is more accurate than manual data entry. Wright 2005 notes that online surveys save time, and a wider audience can be reached over different geographical locations than the traditional means of survey.

4.7 Data analysis

Data can be analysed using simple descriptive statistics such as measures of frequency or inferential statistics such as regression, factor analysis, discriminant analysis and SEM. A basic descriptive analysis on how students used Social Media Banking will be investigated. This is presented in Chapter 5. The differences between the statistical techniques are presented below in Table 4.7

Table 4.7: Differences between descriptive and inferential analysis

Descriptive Analysis	**Inferential Analysis**

Meaningful organisation and presentation of data	Typically prediction and comparison
Describes and summarizes data to show insight and patterns	Helps to draw conclusions about a population based on data from a sample.
Methods used: Measures of central tendency (mean, median and mode) Measures of spread (Standard deviation and range)	Methods used: Hypothesis testing Parameters estimation Variance analysis
Visualization in form of charts, graphs and tables	Predictions by probability
Findings usually represent the whole data population	Findings typically represent a subset of the population.
No assumptions are made about the data, hence no generalization.	As conclusions are only drawn from a subset of the population, generalizations can affect results.

4.7.1 Confirmatory factor analysis

These are the following steps involved in CFA

- A literature review to identify relevant constructs in existing theory
- Propose the model
- Data collection
- Descriptive statistics
- Estimation of model parameters
- Fit model
- Interpret results

4.7.2 Structural Equation Modelling is used to test the relationships among the variables. This technique is used to test theoretical models. The SEM model consists of two parts. The first is the measurement model, which is sometimes called the path

analysis. The second is the structural model, which shows the relationship between the constructs in the model.

SEM has been chosen as the appropriate technique to analyse the data for this research because of the following reasons:

- A single analysis in SEM can measure multiple relationships.
- Measurement errors can be taken into account.

The main steps required for SEM are

- Conduct an Exploratory Factor Analysis
- Assess the measurement model
- Structural model

4.8 Ethical considerations

This study needed data from individuals' hence ethical approval was required from the FPSE Ethics Committee, University of Southampton. The ERGO application along with survey questions, consent form and participant information sheets were forwarded to the Committee and the approval was received before the study commenced. Participation in the study was voluntary. A consent form and a participant information sheet were provided to all participants and participants had the option to withdraw participation at any time during the study. All responses obtained were anonymous to guarantee confidentiality. Survey responses were collated using qualtrics.co.uk. Ethics approval reference number is 24003. The participants had to give consent before starting the survey and they had the right to end the survey at any point.

4.9 Chapter Summary

This chapter considered the various approaches to research and identified suitable methods for this study. This chapter justifies the positivist approach chosen for this research. The first phase of this project is purely exploratory and quantitative in nature. The data collection methods and analysis methods were also outlined. The next chapter will analyse the data collected from the pilot study and interpret the results obtained.

Chapter 5: Quantitative Data Analysis

5.1 Introduction

The preceding chapter explained the research philosophies, approach and methodology. This chapter presents the preliminary data findings and discussed the statistical methods used for the data analysis. An exploratory factor analysis of the pilot study is presented initially. Afterwards a descriptive data analysis of the main study is presented and the last section discusses the Confirmatory Factor Analysis and Structural Equation Modelling. The validation of the measurement model using goodness of fit measures and tests for internal consistency are also presented.

5.2 Pilot study

Before the full study was carried out, a pre-test and a pilot test was carried out. The pilot study was designed to test the survey questionnaire and ensure reliability before the main study was carried out. The main reason for the pilot study was to:

- Ensure the reliability and validity of the survey instrument
- Identify potential issues that may arise

This was carried out on a convenience sample of 129 respondents between January and March 2017. The survey was adapted from existing literature related to the proposed conceptual framework. The pilot study was conducted using an online survey hosted on the Qualtrics website. The average time spent on answering the survey questions was 12 minutes. For an instrument to have a high internal reliability, all of the Cronbach's alpha values must be greater than 0.7 (Nunnally, 1978). The Cronbach's alpha coefficient values for the eight constructs was above 0.80 which indicates that the construct reliability is good. In the pilot study, all the participants were university students in the United Kingdom. University students were chosen as students are more receptive to using new technology. There is no cost for collecting the data. Descriptive statistics was used to assess instruments characteristics. The mean, standard deviation and Cronbach's alphas values were calculated for each construct. The Cronbach's alpha value was used to assess the reliability of the instrument i.e. the questionnaire. This is necessary because multiple item constructs are used in this study. The reliability test helps to make sure that the multiple items are consistent in measuring the same construct. Typically, the Cronbach's alpha value range from 0 to1. Values greater than 0.7 are considered acceptable.

Table 5.1: Construct and item analysis of pilot study

Construct and Item Analysis						
Construct	Item	Mean	Standard deviation	Mean	Standard deviation	Cronbach's alpha
Performance Expectancy	PE1	2.22	1.132	2.4593	.94878	0.885
	PE2	2.20	1.011			
	PE3	2.67	1.091			
	PE4	2.74	1.161			
Effort Expectancy	EE1	1.89	.937	2.0504	.80245	0.904
	EE2	2.12	.863			
	EE3	2.09	.905			
	EE4	2.10	.934			
Social Influence	SI1	2.95	1.155	2.8889	1.02937	0.917
	SI2	2.91	1.083			
	SI3	2.81	1.097			
Hedonic Motivation	HM1	2.78	1.055	2.8527	.94732	0.931
	HM2	2.78	.992			
	HM3	3.00	.984			
Innovativeness	IV1	2.08	.957	2.4005	.85734	0.813
	IV2	2.85	1.083			
	IV3	2.27	.974			
Perceived Risk	PR1	2.33	1.099	2.2894	.88081	0.914
	PR2	2.13	1.049			
	PR3	2.21	1.028			
	PR4	2.19	1.037			
	PR5	2.55	1.089			
	PR6	2.33	1.024			
Trust	TR1	3.00	1.000	2.8023	.83775	0.870
	TR2	2.82	.964			
	TR3	2.88	1.122			
	TR4	2.50	.849			
Behavioural Intention	BI1	2.74	1.070	2.8527	1.04076	0.931
	BI2	2.81	1.105			
	BI3	3.01	1.156			

The construct items were measured using a Likert scale of 1 to 5. 1 represented strongly agree and 5 represented strongly disagree with 3 being neutral. From the table 5.1, it is observed that except for items HM3, TR1 and BI3, all items had mean values less than 3. All the combined constructs had a mean value less than 3. As a combined construct, BI had the highest standard deviation of 1.04076. The Cronbach's alpha values ranged from 0.813 for innovativeness to 0.931 for hedonic motivation and behavioural intention.

5.2.1 Correlation Analysis

This investigates the relationships between variables indicating the degree of association between them. Pearson correlation coefficient is used to investigate the relationship between the variables. At the end of the analysis, a correlation matrix is formed. This presents the correlation coefficient values of the variables. The correlation coefficient ranges between 1 and -1 and explains the strength of the relationship between variables. A coefficient of 1 indicates a perfect positive relationship and a coefficient of -1 means there is a negative relationship. If there is no relationship between the variables, the correlation coefficient is 0. There is very low correlation between variables if the coefficient value is less than 0.2. Coefficient values between the range of 0.21 and 0.40 is low. If the correlation coefficient is between 0.41 and 0.70, then there is moderate correlation. Correlation coefficient value between the range 0.71 and 0.9 is high.

Table 5.2 Correlation matrix

Correlations									
		PE	EE	SI	HM	IV	PR	TR	BI
PE	Pearson Correlation	1	.359**	.607**	.563**	.100	-.383**	.500**	.665**
	Sig. (2-tailed)		.000	.000	.000	.258	.000	.000	.000
EE	Pearson Correlation	.359**	1	.276**	.403**	.521**	-.070	.295**	.333**
	Sig. (2-tailed)	.000		.002	.000	.000	.433	.001	.000
SI	Pearson Correlation	.607**	.276**	1	.615**	.295**	-.392**	.491**	.570**
	Sig. (2-tailed)	.000	.002		.000	.001	.000	.000	.000
HM	Pearson Correlation	.563**	.403**	.615**	1	.318**	-.301**	.460**	.572**
	Sig. (2-tailed)	.000	.000	.000		.000	.001	.000	.000

IV	Pearson Correlation	.100	.521**	.295**	.318**	1	-.069	.127	.235**
	Sig. (2-tailed)	.258	.000	.001	.000		.437	.150	.007
PR	Pearson Correlation	-.383**	-.070	-.392**	-.301**	-.069	1	-.533**	-.474**
	Sig. (2-tailed)	.000	.433	.000	.001	.437		.000	.000
TR	Pearson Correlation	.500**	.295**	.491**	.460**	.127	-.533**	1	.652**
	Sig. (2-tailed)	.000	.001	.000	.000	.150	.000		.000
BI	Pearson Correlation	.665**	.333**	.570**	.572**	.235**	-.474**	.652**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.007	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).									

The results from the correlation matrix suggest that behavioural intention to use Social Media Banking correlates with all variables.

Performance expectancy has a significant correlation with behavioural intention to use Social Media Banking, $r=0.665$ ($p<0.01$) suggesting a moderate positive relationship between the two variables.

The variable for effort expectancy correlates with behavioural intention to use Social Media Banking, $r=0.333$ ($p<0.01$). This indicates that there is a weak or low positive relationship between effort expectancy and behavioural intention to use Social Media Banking.

The variable for social influence correlates with behavioural intention to use Social Media Banking, $r=0.570$ ($p<0.01$). This suggests that there is a moderate positive relationship between social influence and behavioural intention to use Social Media Banking.

Hedonic motivation has a significant correlation with behavioural intention to use Social Media Banking, $r=0.572$ ($p<0.01$) suggesting a moderate positive relationship with Social Media Banking.

The variable for innovativeness correlates with behavioural intention to use Social Media Banking, $r=0.235$ ($p=0.007$). This indicates that there is a low positive relationship between innovativeness and behavioural intention to use Social Media Banking.

Perceived risk has a significant relationship with behavioural intention to use Social Media Banking, $r=-0.474$ ($p<0.01$) suggesting a moderate negative relationship between perceived risk and behavioural intention to use Social Media Banking.

Trust has a significant relationship with behavioural intention to use Social Media Banking, r=0.652 (p<0.01) suggesting a moderate positive relationship between trust and behavioural intention to use Social Media Banking.

5.2.2 Exploratory Factor Analysis

Exploratory factor analysis is used to reduce data to a smaller set of variables and to identify the underlying factor structure. Field (2013) mentioned that exploratory factor analysis has three main purposes namely.

1. To make a data set more manageable.
2. To measure underlying variables in a questionnaire.
3. To understand how variables in a data are structured.

Specific tests need to be done before a factor analysis to make sure the data sample is adequate. Based on Hair et al., (2010) suggestions, a sample size of 100 or more is suitable for EFA. Another test is the Kaiser Meyer Olkin measure of sampling adequacy and the Bartlett's test of sphericity. This study employed the Principal Component Analysis (PCA) and oblique method with promax rotation. This was done using SPSS version 24.

KMO and Bartletts test

"This is used to check if there are patterns and correlations existing in the data and to confirm the suitability of the factor analysis. This test lets you know if your data is okay for Confirmatory Factor Analysis or not (Hinton et al., 2014). The Bartletts test of sphericity indicates if the variables are related or not. To continue with the factor analysis, the p value must be less than 0.05. The KMO test value ranges from zero to one. If the value is between 0.5 and 1, then it means the data is okay for CFA. If the value is below 0.5, then this implies that factor analysis will not be suitable. An acceptable value for KMO is 0.7. The KMO value was 0.879 for this study so this means the sample is suitable to run factor analysis and the p value is significant and less than 0.01.

Table 5.3: KMO statistics and Bartlett's test of sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.879
Bartlett's Test of Sphericity	Approx. Chi-Square	3236.823

	Df	435
	Sig.	<0.001

All communalities for each variable was high. The communalities between measured items ranged from 0.657 for PR1 to 0.931 for HM2 (Please see Appendix). A minimum eigenvalue of 1.0 was used as the extraction criteria for factors. 38.080% of the total variance is explained by the first factor and the remaining seven factors explained the remaining variance. The total variance explained was 80%.

Table 5.4: Total number of factors extracted, and total variance explained in EFA model

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.424	38.080	38.080	11.424	38.080	38.080
2	4.060	13.534	51.614	4.060	13.534	51.614
3	2.364	7.879	59.493	2.364	7.879	59.493
4	1.795	5.982	65.475	1.795	5.982	65.475
5	1.455	4.851	70.327	1.455	4.851	70.327
6	1.122	3.739	74.066	1.122	3.739	74.066
7	1.002	3.340	77.405	1.002	3.340	77.405
8	.821	2.737	80.142	.821	2.737	80.142

The resulting factor structure was acceptable. TR4 loaded onto another factor, however this is accepted and not discarded as the difference between the two factor loadings is greater than 0.20.

Table 5.5: Rotated component matrix

Pattern Matrix[a]								
	Component							
	1	2	3	4	5	6	7	8
PR5	.979							
PR4	.932							
PR6	.932							
PR2	.752							
PR3	.669							
PR1	.640							
EE3		.871						
EE4		.864						

EE1		.783						
EE2		.749						
PE4			.958					
PE3			.899					
PE2			.738					
PE1			.583					
TR4		.373		.887				
TR2				.848				
TR1				.802				
TR3				.613				
HM2					.984			
HM1					.934			
HM3					.836			
SI2						.913		
SI1						.836		
SI3						.828		
BI2							.997	
BI1							.883	
BI3							.748	
IV2								.858
IV3								.732
IV1								.731
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.								
a. Rotation converged in 8 iterations.								

5.3 Descriptive statistics and analysis for the main study

This section will discuss demographic characteristics and the first part of the survey questions for the main study. The descriptive statistics for the model constructs will also be discussed. Key findings from the survey analysis are presented. The main study was carried out between October 2017 and January 2018. To combat the problem of missing values, responses were mandatory for all questions. Missing data can affect the outcome of an analysis and produce biased results. Reasons why data may be missing may include respondents refusing to answer certain questions. All uncompleted responses were not included in the data used for analysis.

5.3.1 Demographic characteristics

Total number of surveys started online was 324 however only 279 responses were valid. 45 questionnaires were classified as invalid due to uncompleted responses. The data indicates that there are more female respondents with females accounting for 65.9% and males 31.9% of respondents. Table 5.2 provides a summary of the participant's age, gender and employment status. The results of the pilot study indicate that participants were from different age groups with the predominant age group being 18-24. 61.2% were within this age range. From the sample, the results show that majority (57.4%) of the participants are students.

Table 5.6 Demographic characteristics of respondents

Category	Type	Frequency	Percentage
Gender	Male Female Prefer not to say	89 184 6	31.9% 65.9% 2.2%
Age	18-24 25-34 35-44 45-54 55-64	192 61 14 11 1	68.8% 21.9% 5.0% 3.9% 0.4%

5.3.2 Survey Question Analysis and Discussion

The key findings from the first part of the survey questionnaire is summarised in the next section.

Question: Are you a member of a social networking website?

This question was set to find out exactly how many students used social networking websites. All the participants answered yes to this question, meaning 100% of participants used a form of social media.

Question: What is your preferred method of getting in touch with your bank?

This question was set to have an idea of the preferred method of students getting in touch with their bank. The results of the pilot survey show that majority (50.2%) of the participants preferred getting in touch with the bank via online banking. 25.8% used mobile banking, 10.4% would rather visit the bank in person, 1.4% preferred the online/webchat while only 9.7% of participants preferred getting in touch with their bank through social media.

Table 5.7 Preferred method of getting in touch with bank

Method	Frequency	Percentage
Online	140	50.2%
Mobile	72	25.8%
In person	29	10.4%
Social Media	27	9.7%
Webchat	4	1.4%
Other	7	2.5%

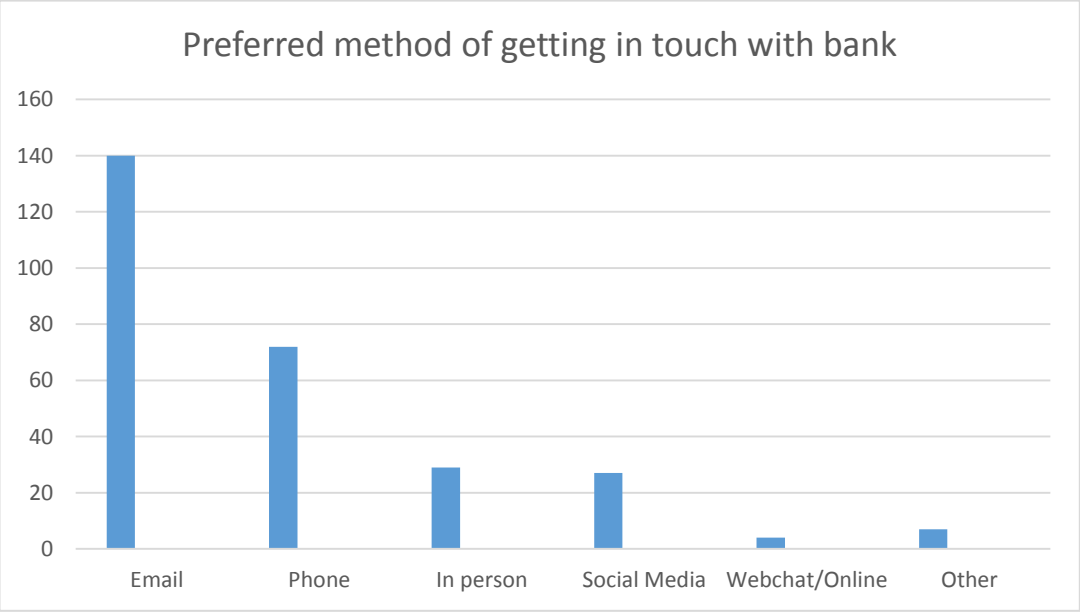


Fig 5.1: Graph showing preferred method of getting in touch with bank

Question: Were you aware you could perform the following activities using Social Media Banking?

This question was asked to check whether students were aware of the various social banking activities. The list of activities was adopted from Chapter 2 which presents the types of Social Media Banking activities available in different parts of the world. The results show that majority of the students were not aware of the services they could perform through Social Media Banking.

Table 5.8 Awareness of Social Media Banking activities

Social Media Banking activity	Yes	No
Bill payments	89 (31.9%)	190 (68.1%)
Fund transfers	94 (33.7%)	185 (66.3%)
Mobile recharge services	87 (31.2%)	192 (68.8%)
Account opening	70 (25.1%)	209 (74.9%)
Balance enquiry	106 (38.0%)	173 (62.0%)
Transaction alerts	100 (35.8%)	179 (64.2%)

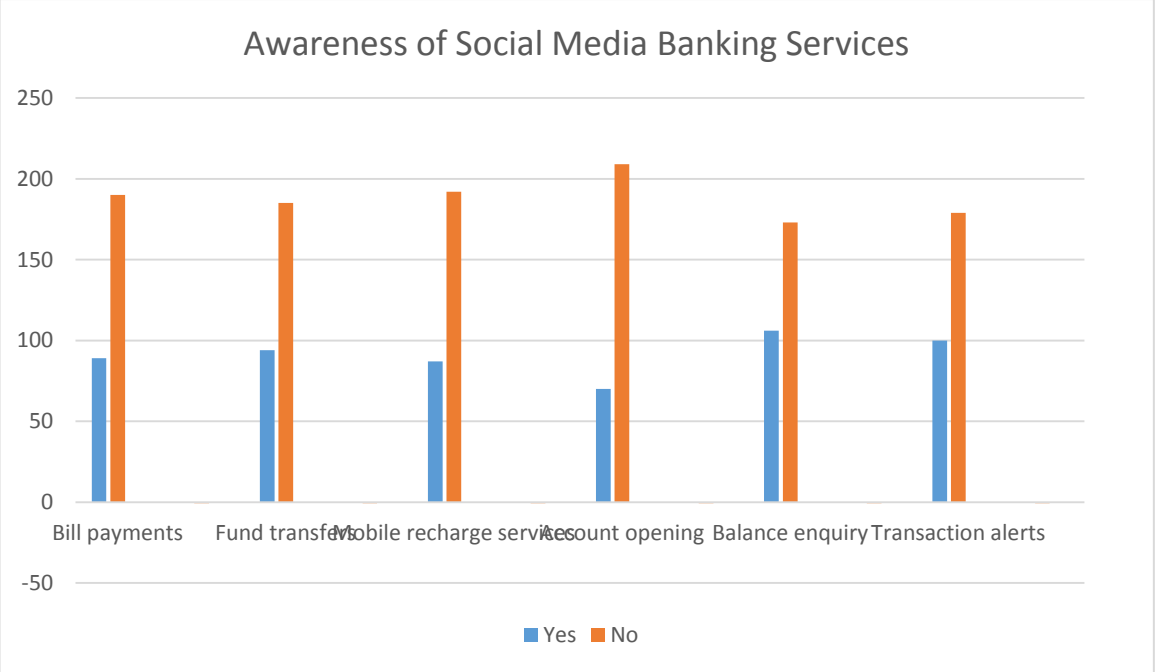


Figure 5.2 Graph showing awareness of Social Media Banking Services

Question: What factors are important to you if you were to use Social Media Banking?

This question was set to have an understanding of factors important to students if they were to use Social Media Banking. Table 5.5 presents the frequency of the nine factors.87.8% of respondents stated that data security was extremely important to them if they were to use Social Media Banking. The results show that confidentiality, trust, privacy and data security were the most important factors to intending users of Social Media Banking.

Table 5.9: Factors important to students if they were to use Social Media Banking

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Convenience	41.9%	39.1%	12.9%	3.9%	2.2%
Ease of use	41.2%	44.1%	10.8%	3.6%	0.4%
Confidentiality	83.2%	9.7%	5.0%	1.8%	0.4%
Usefulness	36.2%	43.4%	17.2%	2.9%	0.4%
Quality of Service	46.2%	35.8%	14.0%	3.6%	0.4%
Speed of service	43.0%	37.3%	14.0%	5.0%	0.7%
Trust	79.9%	13.6%	4.3%	1.8%	0.4%
Privacy	86.7%	10.0%	1.8%	0.7%	0.7%
Data security	87.8%	6.1%	4.3%	0.7%	1.1%

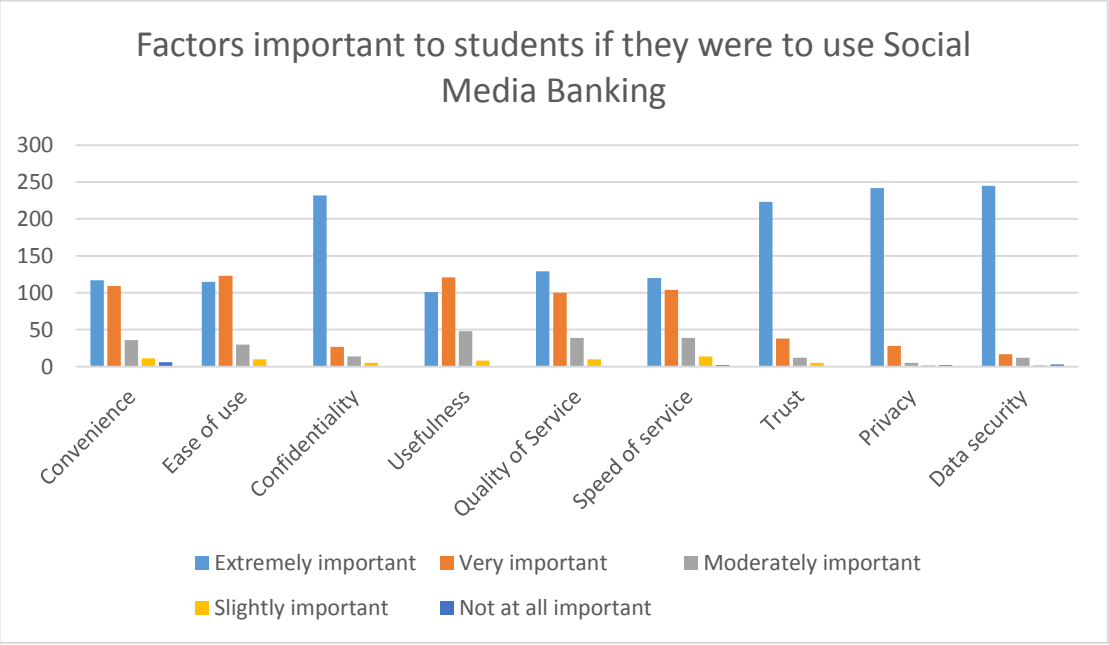


Figure 5.3 Graph showing factors important to students if they were to use Social Media Banking

5.3.3 One Sample T-test

The second part of the questionnaire had Likert scale instruments which was measured using a five-point scale (Strongly agree, agree, neither agree nor disagree, disagree and strongly disagree). The SPSS software was used to analyse the data. Hypothesis was tested using a one sample T-test. A test value of 3 was chosen. This represents neither agree nor disagree on the Likert scale. The following hypotheses were used to test each construct.

H_0: If the mean value of the construct is less than 3, then the construct affects behavioural intention to use Social Media Banking

H_1: If the mean value of the construct is greater than 3, then the construct has no effect on behavioural intention to use Social Media Banking.

The statistical significance alpha (α) was set to 0. 001.The null hypothesis H_0 is rejected if the statistical significance of the item is greater than α. If otherwise, the item is statistically significant.

Table 5.10: T-test results

	Mean	Std. Deviation	Std. Error Mean	Significance	Statistically significant
PE1	2.42	1.199	0.072	<0.001	Yes
PE2	2.34	1.073	0.064	<0.001	Yes
PE3	2.83	1.115	0.067	<0.001	Yes
PE4	2.82	1.161	0.070	<0.001	Yes
EE1	1.97	0.953	0.057	<0.001	Yes
EE2	2.23	0.875	0.052	<0.001	Yes
EE3	2.09	0.881	0.053	<0.001	Yes
EE4	2.11	0.936	0.056	<0.001	Yes
SI1	3.08	1.106	0.066	0.750	No
SI2	3.04	1.072	0.064	0.375	No
SI3	2.95	1.073	0.064	0.017	No
HM1	2.86	1.015	0.061	<0.001	Yes
HM2	2.85	0.978	0.059	<0.001	Yes
HM3	3.06	1.004	0.060	0.516	No
IV1	2.06	0.952	0.057	<0.001	Yes
IV2	2.85	1.101	0.066	<0.001	Yes
IV3	2.27	0.941	0.056	<0.001	Yes
PR1	2.20	1.134	0.068	<0.001	Yes
PR2	2.04	1.070	0.064	<0.001	Yes
PR3	2.09	1.066	0.064	<0.001	Yes

PR4	2.13	0.988	0.059	<0.001	Yes
PR5	2.39	1.080	0.065	<0.001	Yes
PR6	2.19	0.985	0.059	<0.001	Yes
TR1	3.09	1.005	0.060	0.863	No
TR2	2.96	1.006	0.060	0.018	No
TR3	3.01	1.091	0.065	0.173	No
TR4	2.54	0.859	0.051	<0.001	Yes
BI1	2.98	1.169	0.070	0.084	No
BI2	2.93	1.173	0.070	0.015	No
BI3	3.22	1.172	0.070	0.092	No

Table 5.10 show the mean and p values. Most items had means less than 3 (the test value). Items SI1, SI2, HM3, TR1, TR3 and BI3 had mean values greater than 3. For an item to be statistically significant, the p value should be less than 0.01. As shown in the table, majority of the items were statistically significant.

5.3.4 Descriptive statistics for the model constructs

The participants were asked to indicate their intention to use Social Media Banking in the future. To measure this construct, three items on a five-point Likert scale ranging from strongly agree to strongly disagree was used. The mean scores for the construct ranged between 2.93 to 3.22. Approximately, a third of the participants agreed that they would use Social Media Banking in the future. This is understandable as participants are only intending users and not actual users. Within the context of Social Media Banking, performance expectancy refers to whether the people who would use Social Media Banking believe that it will help improve their banking activities and transactions. This suggests that users will be able to access their banking services at any time without necessarily going through the traditional means of banking. This construct was measured using four items on a five-point Likert scale ranging from strongly agree to strongly disagree. Of the 279 participants, 62.4% felt that would find Social Media Banking useful in their daily life, 65.2% were of the opinion that Social Media Banking would help to accomplish their banking transactions in a faster way. 47% felt Social Media Banking would increase their productivity and 39.8% believed that Social Media Banking would help them manage their finances better. This shows that the respondents to the survey tend to agree that Social Media Banking would increase their productivity and enable them to manage their finances, however they don't necessarily think it would be useful in their day to day tasks or help to do their banking more quickly. This is not surprising as all

digital forms of banking have similar speed of service so for someone who already uses mobile or online banking, Social Media Banking may not necessarily increase the speed at which their transactions are done.

Effort Expectancy is the extent to which an individual believes that using a new technology will be easy to use. Relating this to Social Media Banking, it is the degree to which a user expects that using Social Media Banking will not require an increase in effort and how easy it will be for them to use Social Media Banking. Of the 297 participants, 79.2% believe that learning how to use Social Media Banking will be easy for them, likewise 70.6% felt that the interactions with the Social Media Banking system would be clear and understandable.77.7% felt that Social Media Banking will be easy to use and operate. 73.8% also agree that it would be easy to become skilful at using Social Media Banking. Typically, students are familiar with the use of social media therefore integrating the technology with social media should be easy to use.

Table 5.11 Descriptive statistics of the model constructs

Construct	**Item**	**1**	**2**	**3**	**4**	**5**	**Mean**	**SD**
Performance Expectancy	PE1	23.3% (65)	39.1% (109)	18.6% (52)	10.4% (29)	8.6% (24)	2.42	1.199
	PE2	20.8% (58)	44.4% (124)	20.8% (58)	8.2% (23)	5.7% (16)	2.34	1.073
	PE3	13.3% (37)	23.7% (66)	38.7% (108)	15.8% (44)	8.6% (24)	2.83	1.115
	PE4	14.7% (41)	25.1% (70)	32.3% (90)	19.4% (54)	8.6% (24)	2.82	1.161
Effort Expectancy	EE1	34.4% (96)	44.8% (125)	12.5% (35)	6.1% (17)	2.2% (6)	1.97	0.953
	EE2	16.8% (47)	53.8% (150)	21.9% (61)	5.0% (14)	2.5% (7)	2.23	0.875
	EE3	22.9% (64)	54.8% (153)	15.4% (43)	4.3% (12)	2.5% (7)	2.09	0.881
	EE4	25.8% (72)	48.0% (134)	17.6% (49)	6.5% (18)	2.2% (6)	2.11	0.936
Social Influence	SI1	9.7% (27)	17.9% (50)	37.6% (105)	24.4% (68)	10.4% (29)	3.08	1.106
	SI2	10.0% (28)	16.8% (47)	40.1% (112)	24.7% (69)	8.2% (23)	3.04	1.072
	SI3	10.4% (29)	21.1% (59)	39.8% (111)	20.8% (58)	7.9% (22)	2.95	1.073

Hedonic Motivation	HM1	8.2% (23)	28.0% (78)	40.5% (113)	16.5% (46)	6.8% (19)	2.86	1.015
	HM2	6.1% (17)	31.2% (87)	41.2% (115)	14.7% (41)	6.8% (19)	2.85	0.978
	HM3	6.5% (18)	20.4% (57)	41.2% (115)	24.4% (68)	7.5% (21)	3.06	1.004
Innovativeness	IV1	30.5% (85)	43.4% (121)	17.2% (48)	7.5% (21)	1.4% (4)	2.06	0.952
	IV2	12.2% (34)	28.0% (78)	26.5% (74)	29.0% (81)	4.3% (12)	2.85	1.101
	IV3	18.6% (52)	50.5% (141)	17.9% (50)	11.5% (32)	1.4% (4)	2.27	0.941
Perceived Risk	PR1	32.3% (90)	35.1% (98)	16.1% (45)	12.9% (36)	3.6% (10)	2.20	1.134
	PR2	36.9% (103)	37.3% (104)	14.0% (39)	8.6% (24)	3.2% (9)	2.04	1.070
	PR3	36.2% (101)	33.0% (92)	19.4% (54)	9.0% (25)	2.5% (7)	2.09	1.066
	PR4	30.8% (86)	36.2% (101)	23.7% (66)	7.9% (22)	1.4% (4)	2.13	0.988
	PR5	25.4% (71)	28.0% (78)	31.5% (88)	12.2% (34)	2.9% (8)	2.39	1.080
	PR6	27.2% (76)	38.4% (107)	23.3% (65)	10.0% (28)	1.1% (3)	2.19	0.985
Trust	TR1	4.7% (13)	23.7% (66)	38.4% (107)	24.7% (69)	8.6% (24)	3.09	1.005
	TR2	5.7% (16)	28.7% (80)	36.6% (102)	22.2% (62)	6.8% (19)	2.96	1.006
	TR3	6.5% (18)	30.8% (86)	26.5% (74)	27.6% (77)	8.6% (24)	3.01	1.091
	TR4	5.4% (15)	51.6% (144)	29.7% (83)	10.4% (29)	2.9% (8)	2.54	0.859
Behavioural Intention	BI1	10.8% (30)	25.1% (70)	31.5% (88)	20.8% (58)	11.8% (33)	2.98	1.169
	BI2	9.7% (27)	32.6% (91)	23.7% (66)	23.3% (65)	10.8% (30)	2.93	1.173
	BI3	8.2% (23)	19.4% (54)	30.5% (85)	26.2% (73)	15.8% (44)	3.22	1.172

Social Influence is defined as the degree to which an individual perceives that people important to them believe they should use a new information system. In the context of Social Media Banking this refers to what others close to you expect of you with regards to using the services provided. Only 27.6% of the participants agree that other people important to them would think they should use Social Media Banking. In a similar manner, only 26.8% of participants think that people who influence their behaviour will think they should use Social Media Banking. The analysis suggests that the respondents may not be influenced by other people's opinion about Social Media Banking. Most people view banking transactions as private and would not readily divulge details of their transaction. If people do not share about their banking, then there is no way that other people can be influenced to use the Social Media Banking technology.

Hedonic motivation is defined as the "fun or pleasure derived from using a technology". Over 40% of the participants are indifferent to whether social media would be fun, enjoyable or entertaining. The results suggest that the respondents do not think using Social Media Banking would be fun or entertaining, however 26.9% agree that using Social Media Banking would be enjoyable. Unless the Social Media Banking activity involves some form of gamification, then there is no difference between it and the other forms of digital banking that exists. In this instance, the term entertaining will be of no use. Majority of the respondents do agree that they like and enjoy experimenting new technologies. Of the 297 participants, 73.9% are of the opinion that they enjoy experimenting with new technology. 40.2 % of participants say they are usually the first to explore new technologies among their peers. This suggests that people might try Social Media Banking because it is new but it does not necessarily mean they would adopt it.

Perceived risk is the degree to which an individual believes that they may be exposed to different types of risk because of using a technology. Of the 297 participants, 67.4% felt that they would not feel safe providing their information over Social Media Banking. 74.2% of participants had concerns about other people accessing their account through Social Media Banking. 65.6% of the respondents believe that Social Media Banking subjects their banking accounts to financial risk and are not sure that the security systems put in place by the banks will be enough to mitigate financial risks.

Trust is a psychological state, which leads to the willingness of customer to perform banking transactions on the Internet, expecting that the bank will fulfil its obligations, irrespective of customers' ability to monitor or control bank accounts. The respondents agreed that the systems being used would be accurate. This is expected as banking

systems are regulated and there are serious consequences if regulatory policies are not adhered to.

5.4 Reliability testing

5.4.1 Reliability of survey instrument Reliability and validity tests were carried out on the scale instruments. Reliability analysis of the survey instrument was assessed using the Cronbach's alpha test. Cronbach's alpha has been used widely by academic researchers to measure reliability of variable items (Hair et al., 2010). This test helps to check the internal consistency of the constructs of the adapted UTAUT model. If the value of Cronbach's alpha is less than 0.6, then it is considered poor. For an instrument to have a high internal reliability, all of the Cronbach's alpha values must be greater than 0.7 (Nunnally, 1978). The Cronbach's alpha for all the constructs used in the model were more than 0.7 and therefore the instrument was considered suitable for the study.

Table 5.12: Cronbach alpha values

UTAUT construct	**No of items**	**Cronbach's alpha**
Performance expectancy	4	0.885
Effort expectancy	4	0.875
Social influence	3	0.902
Hedonic Motivation	3	0.936
Innovativeness	3	0.790
Perceived risk	6	0.913
Trust	4	0.876
Behavioural intention	3	0.937

Table 5.13 Construct and item analysis of main study

Construct	Item	Mean	SD	Mean	SD	Cronbach
Performance Expectancy	PE1	2.42	1.199	2.5806	1.05843	0.885
	PE2	2.34	1.073			
	PE3	2.83	1.115			
	PE4	2.82	1.161			
Effort Expectancy	EE1	1.97	.953	2.0914	0.82654	0.875
	EE2	2.23	.875			
	EE3	2.09	.881			
	EE4	2.11	.936			
Social Influence	SI1	3.08	1.106	3.0323	1.07072	0.902
	SI2	3.04	1.072			
	SI3	2.95	1.073			
Hedonic Motivation	HM1	2.86	1.015	2.9176	0.98387	0.936
	HM2	2.85	.978			
	HM3	3.06	1.004			

Innovativeness	IV1	2.06	.952	2.2903	0.92036	0.790
	IV2	2.85	1.101			
	IV3	2.27	.941			
Perceived Risk	PR1	2.20	1.134	2.1272	0.95064	0.913
	PR2	2.04	1.070			
	PR3	2.09	1.066			
	PR4	2.13	.988			
	PR5	2.39	1.080			
	PR6	2.19	.985			
Trust	TR1	3.09	1.005	2.9373	0.94098	0.876
	TR2	2.96	1.006			
	TR3	3.01	1.091			
	TR4	2.54	.859			
Behavioural Intention	BI1	2.98	1.169	3.0430	1.15286	0.937
	BI2	2.93	1.173			
	BI3	3.22	1.172			

5.4.2 Normality tests

In SEM, it is assumed that data to be used in the modelling have a multivariate normal distribution. Two techniques namely skewness and kurtosis are used to validate this assumption (Tabachnick and Fidell, 2007). Skewness can be defined as a measure of symmetry and it explains the symmetry of distribution. Kurtosis is a measure of the heaviness of tails (often referred to as heavy or light tails) compared to a normal distribution. In a normal distribution, the skewness and kurtosis scores are zero. Normality assessment tests using Kolmogorov-Smirnov test and Shapiro-Wilks test was carried out to ensure that the data are normally distributed. These tests compare the data to a normal distribution of the mean and standard deviation. The results from the test provide an indication of the null hypothesis using the significant value.

The results show that the skewness and kurtosis values of the items are within the range of ±1 making it suitable for the research. The skewness values ranged from -0.016 to 1.101. The Kurtosis values ranged from -0.938 to 1.748. Table suggests that none of the constructs is normally distributed, as all Kolmogorov-Smirnov statistics were significant.

Table 5.14 Normality test results

	Mean		**Skewness**		**Kurtosis**		**Kolmogorov-Smirnov**	
Item	**Stat**	**SD**	**Stat**	**SD**	**Stat**	**SD**	**Stat**	**SD**

PE1	2.42	1.199	0.721	0.146	-0.336	0.291	0.260	0.000
PE2	2.34	1.073	0.825	0.146	0.231	0.291	0.276	0.000
PE3	2.83	1.115	0.141	0.146	-0.510	0.291	0.195	0.000
PE4	2.82	1.161	0.118	0.146	-0.754	0.291	0.163	0.000
EE1	1.97	0.953	1.093	0.146	1.065	0.291	0.279	0.000
EE2	2.23	0.875	0.907	0.146	1.245	0.291	0.308	0.000
EE3	2.09	0.881	1.101	0.146	1.748	0.291	0.317	0.000
EE4	2.11	0.936	0.890	0.146	0.738	0.291	0.286	0.000
SI1	3.08	1.106	-0.125	0.146	-0.540	0.291	0.196	0.000
SI2	3.04	1.072	-0.174	0.146	-0.420	0.291	0.215	0.000
SI3	2.95	1.073	-0.016	0.146	-0.466	0.291	0.205	0.000
HM1	2.86	1.015	0.208	0.146	-0.277	0.291	0.211	0.000
HM2	2.85	0.978	0.353	0.146	-0.125	0.291	0.224	0.000
HM3	3.06	1.004	-0.058	0.146	-0.326	0.291	0.207	0.000
IV1	2.06	0.952	0.810	0.146	0.280	0.291	0.264	0.000
IV2	2.85	1.101	-0.064	0.146	-0.938	0.291	0.185	0.000
IV3	2.27	0.941	0.698	0.146	0.066	0.291	0.303	0.000
PR1	2.20	1.134	0.725	0.146	-0.380	0.291	0.245	0.000
PR2	2.04	1.070	0.984	0.146	0.325	0.291	0.257	0.000
PR3	2.09	1.066	0.778	0.146	-0.134	0.291	0.224	0.000
PR4	2.13	0.988	0.595	0.146	-0.259	0.291	0.222	0.000
PR5	2.39	1.080	0.311	0.146	-0.662	0.291	0.180	0.000
PR6	2.19	0.985	0.514	0.146	-0.428	0.291	0.234	0.000
TR1	3.09	1.005	0.055	0.146	-.0481	0.291	0.202	0.000
TR2	2.96	1.006	0.151	0.146	-0.501	0.291	0.193	0.000
TR3	3.01	1.091	0.079	0.146	-0.871	0.291	0.196	0.000
TR4	2.54	0.859	0.807	0.146	0.513	0.291	0.304	0.000
BI1	2.98	1.169	0.083	0.146	-0.792	0.291	0.166	0.000
BI2	2.93	1.173	0.180	0.146	-0.938	0.291	0.209	0.000
BI3	3.22	1.172	-0.149	0.146	-0.796	0.291	0.167	0.000

5.5 Structural Equation Modelling

This is also known by other names such as Covariance Structure Analysis, path analysis and causal modelling. The main aim of SEM is to test hypotheses about relationships amongst variables whilst explaining correlation patterns. SEM utilises a multivariate statistical approach, which allows both measurement and structural parts of a model to be examined. It has been deemed useful in testing theories with multiple equations and dependant relationships (Hair et al., 2010). I have chosen SEM as the main analysis technique for this research as it allows me to investigate relationships between constructs and assess measurement properties using one method. SEM allows a concurrent analysis of all relationships, which means a regression analysis can be combined with factor analysis. SEM also allows you to examine complex relationships in models. This makes SEM more robust than statistical techniques such as linear regression. SEM also allows

for model modification, which means that a researcher can refine models parameters to fit data. There are majorly two types of SEM techniques namely covariance-based technique and variance-based technique. A variance-based technique is used when the items in a data are not normally distributed. You can determine this using the Kolmogorov-Smirnov test. Another reason to opt for a variance-based technique is when the model has not been tested in existing literature. There are three main steps involved in SEM

1. Exploratory Factor Analysis
2. Confirmation of the factor analysis.
3. Testing the structural model.

To ensure the data is suitable, an exploratory factor analysis is carried out. This ensure that the data is consistent and valid for factor extraction. This has already been done using the pilot study data. Afterwards a CFA is performed and evaluated using goodness of fit indices. The last stage is the structural model specification.

The advantages of SEM compared to multiple regression are it allows for model testing rather than individual testing. It also allows for correction of measurement error using CFA. This involves a path analysis of constructs.

Latent and Observed Variables

A major advantage of using SEM for analysis is that it allows the use of latent variables. Latent variables cannot be directly measured and are free of measurement error. Latent variables are usually represented by circles or ellipses. They are inferred through relationships among measured variables. In this research, the latent variables are performance expectancy, effort expectancy, social influence, hedonic motivation, innovativeness, perceived risk and trust. Items, which are measured directly, are referred to as observed variables. They are also called measured variables. They are usually represented by square or rectangles.

Independent and Dependent variables

The independent variables are also referred to as exogenous or upstream variables while the dependent variables are referred to as endogenous, downstream or mediating variable. Path diagrams are used to illustrate the relationships between latent and observed variables. A bi-directional arrow represents correlations that do not have a defined direction while a uni-directional arrow represents causal effects.

Factor analysis

Factor analysis is used to reduce a data set to a smaller set of components that are manageable (Field, 2013). The two major types of factor analysis techniques are the exploratory factor analysis and the confirmatory factor analysis. The exploratory factor analysis is used to check the dimensions of construct. This has already been carried out using the pilot study data set. The confirmatory factor analysis is used to test relationships between variables. The next section explains the confirmatory factor analysis and the index of fit indices required.

Confirmatory Factor Analysis

Typically, CFA analysis is carried out in two stages: the first order model and the second order model. In the first stage, CFA is carried out to check the reliability and validity of latent constructs. Once the constructs are valid and reliable, the relationship between the factors is tested. This is determined using the goodness of fit indices and estimates (Hair et al., 2010, Kline, 2010).

Index of fit indices for the Confirmatory Factor Analysis

According to Hair et al., (1998), there are three main types of indices to measure goodness of fit of a model namely:

1. Absolute fit indices: These indices indicate which model has the best fit and use the sample data to generate the model. With AFI, there is no comparison of the model to a particular starting model. Examples include Chi squared test. Goodness of Fit Index. Adjusted Goodness of Fit Index, Root Mean Square Residual and Root Mean Square Error of Approximation. If any of the above-named indices have values above 0.9, they are considered a good fit.

2. Incremental fit indices: Sometimes these are also referred to as Relative Fit Indices. These indices compare a proposed model with a baseline model. It is expected that there will be no correlation between the observed variables (McDonald and Ho, 2002). Examples include Normed Fit Index, Tucker Lewis Index, and Comparative Fit Index.

3. Parsimonious fit indices: These are adjusted relative fit indices used to investigate the fit of competing models. There are two Parsimony of Fit indices namely Parsimony Goodness of fit index and Parsimony Normed Fit Index.

This study will make use of the following indices.

1. CMIN Chi square

This is also known as the discrepancy function or chi square goodness of fit. It "assesses the magnitude of discrepancy between the sample and fitted covariance matrices" (Hu and Bentler, 1999). It is used for evaluating the overall model fit and it is sensitive to sample size. The chi square test checks if there is a difference between the collected sample data and the predicted model covariance matrix. The closer the value is to zero, the better the model fit.

2. Comparative Fit Index

This was introduced by Bentler (1990) and is a revised form of Normed Fit Index. This compares the fit of a model to a null model. Ranges from zero to one (Bentler, 1990). The CFI can be used even if the sample size is small. The higher the value and closer to one indicates a better fit. Typically values less than 0.9 indicate a poor fit.

3. Incremental Fit Index:

The IFI is also known as the relative or comparative fit index. The IFI measures the improvement in fit by comparing the chi square value of the hypothesized model to a baseline model (Hooper et al., 2008).

4. Root Mean Square Error of Approximation (RMSEA)

This is an absolute fit index typically used for a large sample size with large observed variables. It explains how well a model will fit a populations covariance matrix (Bryne, 1998) The RMSEA Index ranges from zero to one. The lower the value, the better the model fit. Hair et al. (2010) suggests that for a study with sample size of over 250 and more than 30 variables, a cut off of 0.07 is recommended. A value of 0.06 represents a good fit and a value less than 0.05 is typically said to be a perfect model.

5. Goodness of fit index

Goodness of fit index is the degree to which the observed covariance matrix is predicted by the hypothesized model. This index typically ranges from zero to one. Hair et al., (2010) indicated that the higher the value (greater than 0.9), the better the model fit.

5.6 Measurement model

A measurement model needs to be tested before a structural model is analysed. To validate the proposed model, a two-stage approach was adopted. The measurement model was evaluated using AMOS. The measurement model explains the relationships between the observed and latent variables. The model in this research will be assessed and validated using the following methods:

5.6.1 Construct reliability

This is also known as composite reliability. It is used to measure the reliability and internal consistency of the variables representing a construct. The survey used for this study was adapted from various studies therefore I had to reassess the reliability of the constructs used. To calculate the construct reliability, Hair et al., (2010) suggested using the equation below.

$$\frac{(\sum_{i=1}^{n} Li)^2}{\left(\sum_{i=1}^{n} Li\right)^2 + \sum_{i=1}^{n} e_i}$$

Where Li= standardised factor loading

n = number of items

e_i = error variance of construct

The construct reliability for this study was measured using Cronbach's Alpha Coefficient, which is commonly used for measuring reliability. Composite reliability should be greater than 0.7 (Hair et al 2010.). All values for CR are greater than 0.7.

5.6.2 Convergent validity

Convergent validity is defined as the extent to which constructs that should be related are actually related. If there is a high correlation between items of the same construct, then the construct is well represented (Hair et al., 2010). Average Variance Extracted is a measure of convergent validity and was proposed by Fornell and Larcker (1981). Typically, AVE values range from zero to one. The AVE value should be greater than 0.5 (Hair et al., 2010), ideally a value of 0.7 or higher is preferable. Hair et al., (2010) suggested that the AVE value can be made better if any item with a standardised factor loading of less than 0.5 is excluded. AVE is calculated using the formula below:

$$\frac{\sum_{i=1}^{n} Li^2}{n}$$

AVE= sum of the squared factor loadings/sum of the squared factor loadings + sum of error variances (Fornell and Larcker, 1981)

CR= (square of sum of factor loadings)/ (square of sum of factor loadings) + (sum of error variances)

Where L is standardized factor loading and n is number of items

The results for the AVE values are presented in Table 5.15. As can be seen in the Construct validity table, all values for AVE are greater than 0.5.

5.6.3 Discriminant validity

Discriminant validity can be defined as the extent to which the constructs are distinct without any correlation amongst the constructs. Discriminant validity can be tested in two ways, the first is to compare the square root of AVE with the correlation between the construct and another construct. The second method is to compare the AVE value for each construct with the squared correlation estimate between two constructs (Hair et al., 2010). Discriminant validity is established when the Maximum Shared Variance is less than the Average Variance Extracted (Bryne, 2013). The Maximum Shared Squared Variance is the square of the highest correlation coefficient between latent constructs. In addition, Average Shared Variance should be less than Average Variance extracted.

Table 5.15 Reliability and validity indicators of measurement model

	CR	AVE	MSV	ASV	PR	PE	EE	SI	HM	INN	TRU	BI
PR	0.908	0.625	0.508	0.19	**0.790**							
PE	0.876	0.637	0.629	0.35	-0.468	**0.799**						
EE	0.878	0.707	0.209	0.14	-0.105	0.438	**0.841**					
SI	0.904	0.759	0.479	0.26	-0.369	0.692	0.363	**0.871**				
HM	0.937	0.833	0.420	0.25	-0.272	0.648	0.457	0.590	**0.913**			
INN	0.792	0.657	0.193	0.07	-0.131	0.198	0.439	0.259	0.320	**0.811**		
TRU	0.887	0.723	0.654	0.33	-0.713	0.668	0.317	0.528	0.531	0.163	**0.850**	

BI	0.937	0.833	0.654	0.37	-0.609	0.793	0.395	0.589	0.589	0.250	0.809	**0.913**

The constructs were tested using composite reliability and average variance extracted. Typically, the standardised factor loading estimates for the items should be greater than 0.7. As shown in the table above, the values ranged from 0.790 and 0.913. It can also be seen that the Average Variance Extracted value was greater than 0.5 for all the constructs, which is the suggested value (Hair et al., 2010). It ranged from 0.625 (PR) to 0.833 (HM and BI). This indicates that convergent validity existed amongst the constructs.

Table 5.16 Item loadings of final measurement model

	Item	Critical Ratio	SRW	P value	CR	AVE
Performance Expectancy	PE1		0.878		0.876	0.6386
	PE2	16.544	0.807	***		
	PE3	15.573	0.779	***		
	PE4	13.941	0.725	***		
Effort Expectancy	EE1				0.878	0.7068
	EE2		0.792			
	EE3	15.307	0.872	***		
	EE4	15.092	0.856	***		
Social Influence	SI1		0.921		0.904	0.7586
	SI2	21.057	0.882	***		
	SI3	17.882	0.806	***		
Hedonic Motivation	HM1		0.910		0.937	0.8332
	HM2	26.770	0.948	***		
	HM3	22.386	0.877	***		
Innovativeness	INN1		0.740		0.792	0.6575
	INN2					
	INN3	7.332	0.876	***		
Perceived Risk	PR1		0.741		0.909	0.6246
	PR2	11.050	0.846	***		
	PR3	11.543	0.888	***		
	PR4	9.680	0.730	***		
	PR5	10.077	0.763	***		
	PR6	10.045	0.761	***		
Trust	TR1		0.848		0.887	0.7225
	TR2	17.429	0.853	***		
	TR3	17.306	0.849	***		
	TR4					
Behavioural intention	BI1		0.938		0.937	0.8330
	BI2	24.022	0.879	***		
	BI3	27.394	0.920	***		

The measurement scales were within the suggested criteria:

1. All factor loadings were significant and exceeded 0.5.
2. The composite reliability all exceeded 0.7.
3. The average variance extracted from each construct exceeded 0.5 (Fornell and Larcker, 1981)

5.6.4 Measurement Model Fit

The fit of the measurement model was examined by performing a confirmatory factor analysis. The measurement model had eight factors namely performance expectancy (PE), effort expectancy (EE), social influence (SI), hedonic motivation (HM), innovativeness (IV), perceived risk (PR), trust (TR) and behavioural intention (BI). Goodness of fit measures were used to assess the model fit. The main indices used to assess the fit are namely TFI, CLI, RMSEA, RMR, GFI, CFI, NFI, PGFI, and PNFI. These fit indices, path loadings and factor loadings would be used to choose the appropriate model. The table provides a summary of acceptable values and suggested criteria for the fit indices.

Table 5.17: Suggested criteria for fit indices

Model fit indices	Acceptable/Suggested values	Actual values
Comparative fit index	Greater than 0.90	0.965
Root mean square error	Less than 0.08	0.047
RMR	Greater than 0.08	0.048
Adjusted goodness of fit	Greater than 0.90	0.846
Goodness of fit	Greater than 0.90	0.864

Sources for acceptable values: Hair et al., (2010), Kline, (2010), Hu and Bentler, (1999), Bryne, (2013) and Gefen et al., (2000).

Comparing the initial fit indices to the suggested criteria, it can be observed that the RMR, GFI and AGFI were not within acceptable values. This implies that the model had a poor fit in relation to the observed data (Hair et al, 2010, Bryne, 2013). This then leads us to the next section, which is the model refinement stage.

5.6.5 Model Refinement

To achieve a better model fit, the following set of rules are adopted.

- Standard regression weights should be greater than 0.5.
- Standardised residual covariance should be within the range of 2.58 and -2.58 (Byrne, 2001)
- The squared multiple correlations should be greater than 0.5.
- Modification indices with high regression weights should be deleted.

Based on the above rules, three items were removed from the model: item 1 (EE1-Learning how to use Social Media Banking will be easy for me), item 2 (INN2-Among my peers I am usually the first to explore new technologies), and item 3 (TR4- I believe Social Media Banking systems would be accurate) and then the model is tested again. The process involved deleting an item at a time and checking whether the model was a great fit. There was an improvement in the modified model and the fit indices were within the recommended values.

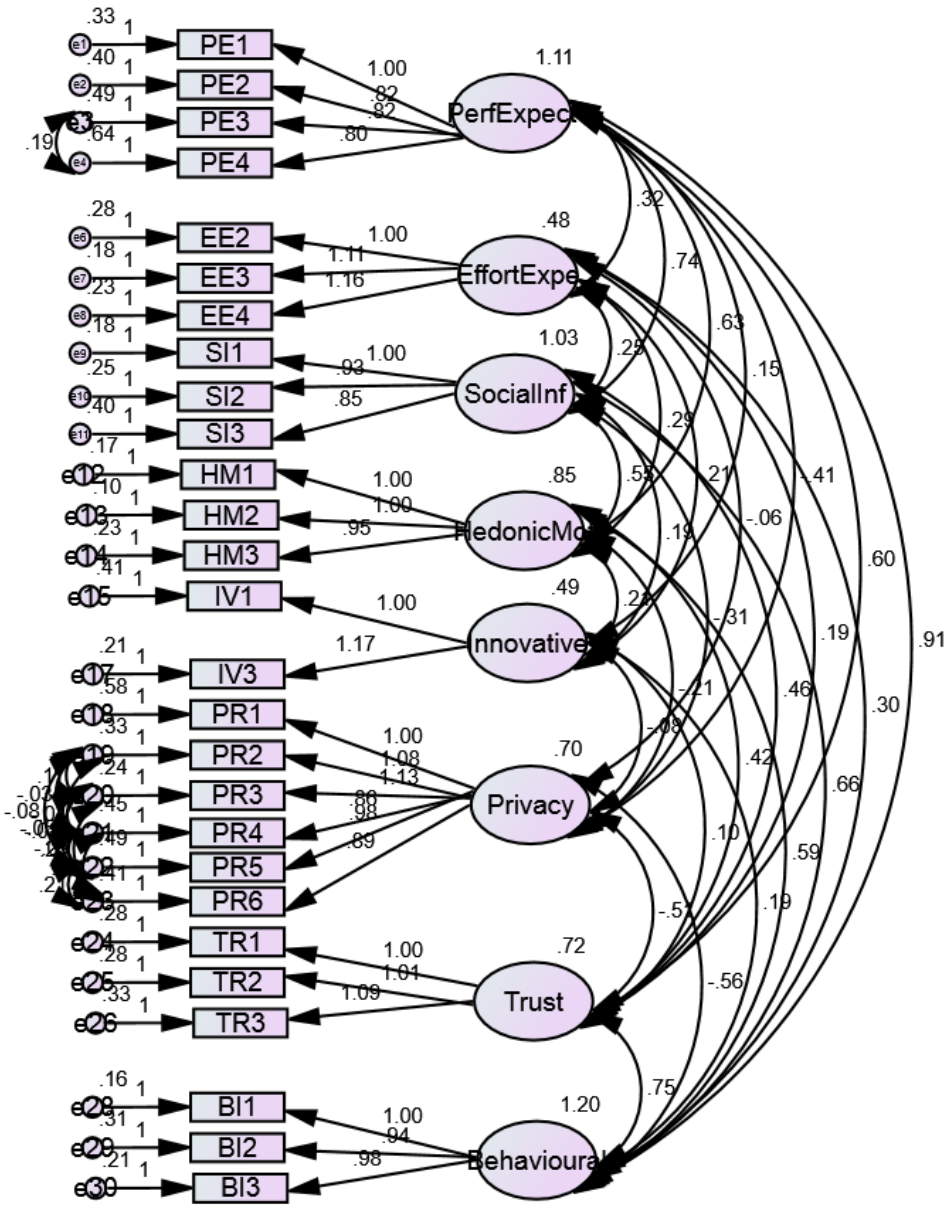


Figure 5.4 Measurement model

5.7 Structural Model Analysis

The second stage of the SEM analysis is the structural model analysis, which will be used to confirm the research hypothesis. The structural model shows the pat significance and predictive power of the model. The Chi square was less than three and had a significant p value. The AGFI value was equal to 0.8 and the RMSEA was less than 0.07 as recommended by Hair et al., (2010).Goodness of fit indices for the structural model were within suggested values hence the model did not require any modification. The model is shown in Figure 5.

Table 5.18 showing goodness of fit indices of structural model.

Model fit index	Recommended value	Estimates
x		694.505
df		302
P		<0.001
x^2/df	Less than 3	2.3
AGFI	Greater than or equal to 0.80	0.800
CFI	Greater than or equal to 0.95	0.935
PNFI	Greater than or equal to 0.5	0.767
RMSEA	Less than or equal to 0.07	0.068

Once the goodness of fit of the proposed model has been certified okay, the hypothesised relationships between the latent constructs is tested. To examine the relationships among the latent constructs, the standardized path coefficient β, critical ratio and p-value were assessed. The standardized path coefficient β (also known as the regression coefficient) represents a causal relationship between two constructs (Hair et al., 2010). The critical ratio describes the statistics obtained by dividing the standard path coefficient by the standard error. If the value obtained is equal to or greater than 1.96, then the critical ratio is deemed significant at the 0.05 level. There were eleven causal paths in the structural model. The path coefficients in the table showed that performance expectancy (β=0.376, p<0.001) and trust (β=0.609, p<0.001) are significant predictors of behavioural intention to use Social Media Banking at the 99% level of significance. The p-values of H2, H3, H4, H5, and H6 are greater than 0.05 which indicates that the relationships between the

constructs are not statistically significant. The p-value of H2 is 0.130 which is greater than 0.05 which indicates that there is no effect of effort expectancy on behavioural intention to use Social Media Banking. This is also the case with H3, H4, H5 and H6 with p values of 0.966, 0.331, 0.269 and 0.101, respectively. This means that there are no relationships between effort expectancy, social influence, hedonic motivation, innovativeness and the behavioural intention to use Social Media Banking. It should be noted that trust had a negative effect on perceived risk (β=-0.677, p<0.001). The significant constructs explained 76.7% of variance in behavioural intention to use Social Media Banking.

Table 5.19 Structural model results

	Structural Path	**CR**	**P Value**	**SRW**
H1	Performance expectancy→Behavioural intention	5.741	<0.001	0.376
H2	Effort expectancy→ Behavioural intention	1.514	0.130	0.090
H3	Social influence→ Behavioural intention	0.043	0.966	0.002
H4	Hedonic motivation→ Behavioural intention	0.973	0.331	0.053
H5	Innovativeness→ Behavioural intention	1.106	0.269	0.067
H6	Perceived risk→ Behavioural intention	-1.642	0.101	-0.117
H7	Trust→ Behavioural intention	4.919	<0.001	0.609
H8	Trust→Performance expectancy	11.596	<0.001	0.905
H9	Trust→Hedonic motivation	9.500	<0.001	0.641
H10	Trust→Social influence	9.692	<0.001	0.722
H11	Trust→Perceived risk	-8.578	<0.001	-0.677

Table 5.20: Model fit summary

Model-fit parameters	Values obtained
CMIN/DF	454.391
GFI	0.892
AGFI	0.857
CFI	0.972
PCFI	0.789
RMSEA	0.046
RMR	0.046

PGFI	0.672
NFI	0.929
RFI	0.912
TLI	0.965
PNFI	0.754

The fit indexes in the table above show that the model fits with the survey data. All model fit parameters were within acceptable level.

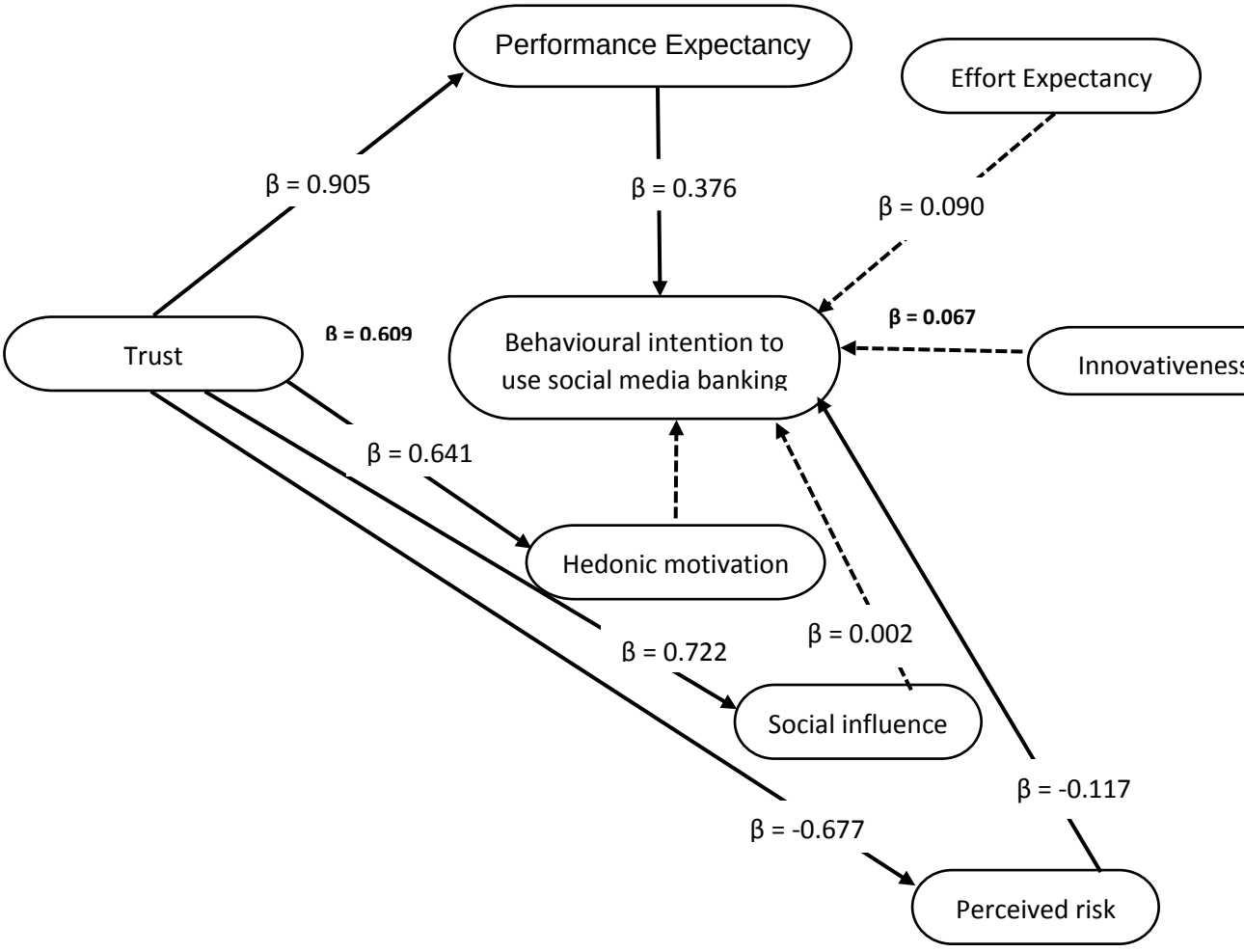


Figure 5.5 Structural model

5.8 Chapter Summary

In this chapter, the data analysis results from the survey aimed at investigating behavioural intentions to use Social media banking are presented. The results are

presented in two main ways: descriptive and inferential statistics. The descriptive statistics presented the demographics of respondents as well as responses to basic questions asked about Social Media Banking. Structural equation Modelling technique was adopted for the inferential statistics. An exploratory factor analysis was carried out before the confirmatory factor analysis. Both analysis were validated using goodness of fit indices. The results showed that six of the hypotheses were supported. Performance Expectancy and trust significantly influences behavioural intention to use Social Media Banking. In addition, trust had a significant negative effect on perceived risk. The next chapter will discuss the results reported in this chapter.

Chapter 6: Discussion

6.1 Introduction

The preceding chapter presented the results obtained from the analysis of data collected to examine UK students' intention to use Social Media Banking. This chapter discusses the results obtained from the data analysis in relation to the research objectives and hypotheses. It starts with an overview of the aims and objectives of the research. Insights from the findings are discussed. This chapter concludes with a summary of the discussion.

6.2 Research aim, questions and objectives

The main aim of the research was to undertake a literature review of the use of social media in the banking industry and to examine the intentions of bank customers to use Social Media Banking

The main research questions posed at the beginning of the research were:

Research Question 1: What are the factors that affect intentions to use Social Media Banking?

Research Question 2: What are the constructs that significantly affect intentions to use Social Media Banking?

Research Question 3: What Social Media Banking services are available and in what countries?

Research Question 4: What are the perceptions of students about Social Media Banking?

6.3 Key Findings from Survey Analysis

In order to achieve the objectives set in Chapter One, a literature review was conducted and this is detailed in Chapter Two and Three. Literature about the use of social media in the banking industry was reviewed in order to establish what is available and to find out the research gap. After a review of technology acceptance theories, the UTAUT was selected as the base model. A quantitative approach was adopted for this research. The questionnaire used in this study was adapted from existing literature from previous studies. A pilot study for the model was conducted with 129 respondents. After the feedback received, some of the wordings of the questions were modified. The main research survey was then conducted with UK students as the population. 279 valid

questionnaires were analysed using AMOS and SPSS. A descriptive analysis was carried out to have a greater understanding of the data. The data was analysed using SPSS and AMOS. The descriptive analysis and exploratory factor analysis was carried out using SPSS whilst AMOS was used for the confirmatory factor analysis.

There is not much to report about the demographics as the respondents were students. Majority were between the age range of 18 and 25 meaning that most would be undergraduates. Majority were female. As the target sample population was students, there was no need to ask for economic demographics. The final sample consisted of 279 respondents.

More than half of the respondents preferred getting in touch with their bank using online banking. This is not surprising as existing research shows that most millennials use digital means to get in touch with their bank. Less than 10% used social media to get in touch with their bank. One thing to note is that the data was collected late 2017 so may not reflect the current trend of getting in touch with service providers through social media particularly when things go wrong.

Majority of the students were not aware of activities that could be performed using Social Media Banking services. The results show that confidentiality, trust, privacy and data security were some of the factors important to students if they were to use Social Media Banking.

6.4 Overall meaning of the research for banks

From the results in Chapter 5, majority of the participants agree that Social Media Banking will be useful and help them accomplish their banking more quickly however more than a third were indifferent as to whether Social Media Banking will enable them to manage their finances better. If banks make other services (value added services) that require a visit to the branch accessible over Social Media Banking, this might be an incentive for the young customers to use the service. Banking activities such as applying for loans, credit cards, international payments (this will be particularly useful for students who travel abroad during their studies for exchange programmes) should be made available on the Social Media Banking platform.

Over 60% of participants are concerned about the risk that using Social Media Banking brings. Banks need to understand that the process of using Social Media Banking should be made very easy and simple so that uptake of the services can increase. Banks will need to provide excellent security measures that will allow young customers trust them

and reduce perceived risk. They can do this by introducing two factor authentication systems to verify customers. This layer of security will put the mind of students at ease about using Social Media Banking. The bank can also allay the customers fear about security and risk by making clear what the banks risk and security policies are. These should be written in clear terms with no jargons so that the student can easily understand.

With regards to trust, only a third of participants believe that the Social Media Banking systems would be secure and reliable. In as much as digital marketing is great to reach different demographics, trust can be built by face-to-face interaction. The banks marketing team may need to visit university campuses to provide demos about how Social Media Banking system and services work. A face-to-face interaction with the students will increase the trust profile of the bank. The banks can also recruit and train student ambassadors who can be the face of the bank on campus and organise workshops on how to get the best out of Social Media Banking. Having student ambassadors that are trained to use these services can help with influencing others to use the technology. This would also help with brand awareness.

Young customers communicate with their bank through different channels however most respondents are not even aware of what services they can perform through Social Media Banking. Banks will need to market and advertise the Social Media Banking services that they offer. They would need to do this with the student demographic in mind. Most young customers are active on social media platforms so establishing a presence on those platforms (for example Tiktok and Snapchat) and having targeted interaction with them could make a difference in uptake of the Social Media Banking services. Influencer marketing.

The banks should great incentives and rewards for people using Social Media Banking. This could be in the form of points when a transaction is made using Social Media Banking. This can then be converted to vouchers. The banks can also introduce referral schemes which reward loyalty. Make banking fun through gamification and rewards.

One of the findings of this study is that convenience is one of the main factors important to students, therefore the process to set up and use Social Media Banking should be easy and seamless. Young customers expect their banking transactions to be fast, convenient and easy to use. This means that banks must invest in technology that makes this possible and makes the bank competitive with disruptors in the banking industry (Fintech). With competition from Fintech companies, banks would need to up their game if they want to retain business with young customers. The software development teams of banks

should design innovative banking features that would make students interested in using Social Media Banking, it could be features to do with budgeting or having a great financial lifestyle. They should also develop products that will improve user experience and increase convenience. Customisation and personalisation using technology will also set the bank apart from others.

6.5 Factors important to students if they were to use Social Media Banking

6.5.1 Convenience

Convenience has been identified by many authors as one of the major reasons why customers use social media. In banking, users of internet and mobile banking have specified convenience as a major factor in using those channels for banking (Shankar and Rishi, 2020; Teo et al., 2015; Akturan and Tezcan, 2012; Laukkanen, 2007). Customers do not need to step in the banking halls to do their transactions. They can do their transactions on the go 24 hours 7 days a week. From the analysis in Chapter 5, over 90% of participants responded that convenience was very important to them if they were to use Social Media Banking. In the future, it may be that customers will only need to visit the bank for transactions such as mortgages. As good as this is, physical bank branches are being closed and in 2018, it was reported that approximately 60 bank branches are being closed every month (Shaw, 2019). This will mean that bank staff will lose their jobs. There are also implications for groups of people who might not have access to digital forms of banking and only rely on visiting the physical branches. This will mean that these groups of people are excluded from Social Media Banking.

6.5.2 Confidentiality

The extent of confidentiality required by customers if they use Social Media Banking is greater than if it was just regular banking, online or mobile banking. In most cases, there are more confidential information attached to a social media profile. We have recently heard of cases such as the Cambridge Analytica and Facebook issues regarding the use of customer data. In a report by the Wall Street Journal, it was reported that Facebook had asked large banks in the US for access to customers financial information (Glazer et al., 2018). These are some of the factors that customers are worried about if they use

Social Media Banking. Even though there are punitive measures for banks that breach GDPR rules, the harm could have been done already.

6.5.3 Usefulness and ease of use

Social media is a useful tool for both banks and customers as suggested by the findings in the literature review. Customers can use Social Media Banking to perform a variety of banking services all through the click of a button. The banks can also reach more people through social media than using the traditional banking channels. A study by Munoz-Leiva et al., (2018) supported the role of ease of use on customer attitudes towards mobile banking.

6.5.4 Quality and speed of service

The use of Social Media Banking offers banks enormous prospects to improve the quality of service provided to customers. With the introduction of Social Media Banking and open banking using APIS, products and services can be personalised to suit customers' needs. Transactions that could take hours are now being carried out within seconds with the use of innovation in banking. The standard of service has transformed because banks now have huge infrastructure to deliver fast banking services. Customers want transactions to be done in minutes via a range of digital channels. However, banks will also need to have plans in place for when the systems fail. In recent times, some of the social networking sites have had downtimes that have paralysed operations for several hours. If this happens, then the customers' expectations may not be met concerning the speed of service. Improve quality of service through automation using intelligent chatbots 24/7, personalised services, pre-empt customers need before they ask.

6.5.5 Trust

Trust in the Social Media Banking system is a concern for intending users. Customers did not trust that their data would not fall into the wrong hands. This is not surprising as a recent study carried out by Reuters (2018) suggest that majority of customers do not trust banks to work in their interest. The banks need to take responsibility in rebuilding and restoring trust in their customers especially in this era of Fintech innovation and open banking. Trust in the banking system will reduce the level of perceived risk and increase the confidence of the customer in using the banking products.

6.5.6 Privacy and Data Security

Privacy and security are important if students were to use Social Media Banking, the banks would need to let the young customers know about what security features they offer. For customers to use Social Media Banking, banks need to ensure that the systems are safe and secure for customers to use. With the amount of personal information that the banks will have access to if customers use Social Media Banking, it is not surprising that most respondents are worried about putting their data at risk. Banks will need to allay customers' fears by having clear statements about what they can and cannot do with customers' data. There is also the greater risk of data being accessed by others. A few respondents raised concerns about the safety of their data. In recent times, there have been news about bank data breaches reported in the media (Edmonson, 2019). Failure to address these risks could inhibit customers' intention to use Social Media Banking. Cybersecurity measures need to be in place and banks may need to leverage on the use of artificial intelligence to mitigate some of the risks. The use of two factor authentication and biometric recognition systems can also help to put the customers at ease about using the technology. The banks are also exposed to greater risks such as legal risk and reputation risk arising from loss of data.

6.6. Effect of constructs on intention to use Social Media Banking

6.6.1 Performance expectancy and Behavioural Intention to use Social Media Banking

Previous research carried out on the effect of performance expectancy on behavioural intention to use a new technology shows that it is a significant predictor (Venkatesh et al., 2003; Morosan and DeFranco, 2016; Martins et al., 2014). Four questions were asked in the survey to explore how students perceived the use of Social Media Banking in terms of usefulness, productivity and speed. The survey results show that the students believe that using Social Media Banking will improve their efficiency and productivity. Construct item PE3 "Using Social Media Banking would increase my productivity" had the highest mean of 2.83 suggesting that respondents believe that using Social Media Banking will improve their efficiency and productivity. On the other hand, construct item PE2 "Using Social Media Banking would help me accomplish my banking more quickly" had the lowest mean (2.34). Only 9.7% of respondents had chosen Social Media Banking as a preferred way of banking. This means that majority would prefer to do their banking through other means.

Another reason could be the fact that the other banking channels being used now are as fast as Social Media Banking so would not necessarily make banking to be done more quickly. The overall mean for performance expectancy was 2.58 which implied that the respondents to the survey tend to agree that Social Media Banking would increase their productivity and enable them to manage their finances, however they don't necessarily think it would be useful in their day-to-day tasks or help to do their banking more quickly. There is a positive and significant relationship between performance expectancy and behavioural intention to use Social Media Banking (β =0.376, t= 5.741 and p<0.001). The hypothesis that Performance Expectancy will positively influence behavioural intention is supported and confirmed. This means that a student will most likely use Social Media Banking if performance expectancy is high. The fact that Social Media Banking can be used anywhere and at any time offers an added incentive compared to the traditional models of banking where you need to physically visit a branch. This is comparable to the work done by other researchers on intention to use mobile banking which suggests that there is a relationship between Performance Expectancy and Behavioural Intention to use mobile banking (Oliveira and Baptista, 2015).

6.6.2 Effort expectancy and Behavioural Intention to use Social Media Banking

Effort expectancy was defined as the degree to which a user expects that using Social Media Banking will not require an increase in effort and how easy it will be for them to use Social Media Banking. H2 hypothesised that effort expectancy would positively affect behavioural intention to use Social Media Banking. In previous research carried out on the effect of effort expectancy on the behavioural intention to use banking, some studies suggested that effort expectancy positively influenced behavioural intention (Abdallah et al., 2017; Martins et al., 2014; Riffai et al., 2012). This study proposed that effort expectancy would positively influence the behavioural intention to use Social Media Banking. From the study, effort expectancy is not statistically significant in predicting intention to use Social Media Banking. The empirical results from Chapter 5 (β=0.090, t=1.514, p=0.130) do not support this so the hypothesis is rejected. It may be the case that respondents have not actually used Social Media Banking so they do not necessarily know if using the service will be effortless or not. It could also be the case that they are very familiar with the use of social media and mobile devices and hence very comfortable and not worried about ease of use. This is corroborated by the research carried out by Oliveira et al. (2014) in Portugal on the use of mobile banking. We can infer by observing

the results from Chapter 5 that the students agreed that Social Media Banking will be easy to use, clear and understandable. This is not surprising as all the participants indicated they were a member of a social network. Afshan and Sharif (2016) also found that effort expectancy had no direct effect on intention to use mobile banking however there was an indirect link with trust. On the other hand, Oliveira and Bapista (2015) found that the impact of effort expectancy on intention to use mobile banking was positive. If consumers do not have faith that Social Media Banking will perform according to expectation, then they are more likely to not use the service and find other means of service that can show effort expectancy. If they believe that using the banking service will be effortless, then they are more likely to use it.

6.6.3 Social influence and Behavioural Intention to use Social Media Banking

In the context of Social Media Banking, social influence is the degree to which consumers perceive that people important to them believe they should use Social Media Banking services. The social influence construct was measured by three items. H3 hypothesised that social influence positively affects behavioural intention to use Social Media Banking. The findings from Chapter 5 (β=0.002, t=0.043, p=0.966) did not support this hence the hypothesis is rejected. In the world we live in now, social influence can be related to the effect social relationships can have on whether individuals tend to accept a new technology. However, it should be noted that typically people do not really talk about their finances to family and friends. Social influence does not have a positive influence on intention to use Social Media Banking. The results obtained from this study with regards to social influence are different to other studies who have investigated the role of social influence on other forms of banking (Zhou et al., 2010; Yu, 2012). However, it should be noted that there are also similar studies that have obtained similar results to the present study. Abdallah et al., (2017) in a study on mobile banking in Jordan found that social influence did not have a significant impact on behavioural intention to adopt Mobile Banking. In the same light, Afshan and Sharif 2016 found that social influence did not positively influence intention to use mobile banking.

6.6.4 Hedonic motivation and Behavioural Intention to use Social Media Banking

The hedonic motivation construct was measured by three items. H4 hypothesised that hedonic motivation will positively influence intentions to use Social Media Banking. The results obtained from the study (β=0.053, t= 0.973, p=0.331) showed that hedonic

motivation did not have a significant influence on behavioural intention to use Social Media Banking, hence the hypothesis is rejected. The results from the survey questions also indicate that participants did not feel that Social Media Banking would be fun, enjoyable or entertaining. In a study by Gupta and Arora (2019), they found that hedonic motivation had a weak influence on intentions to use mobile banking. Oliveira et al., (2016) in a study investigating intentions to use mobile payments in Portugal concluded that hedonic motivation is not relevant in the context of mobile adoption. Some studies on online and mobile banking however show that hedonic motivation positively influenced intentions to use. It is understandable that hedonic motivation is the opposite and does not influence intentions to use Social Media Banking. Even though the banks might make it fun and enjoyable to use Social Media Banking, customers may not see it as such and would rather keep their social networks separate from their banking. It is also worthy to note that this study involved potential users and not actual users, so it may be the case that actual users would find it entertaining and enjoyable when they use Social Media Banking services.

6.6.5 Innovativeness and Behavioural Intention to use Social Media Banking

Innovativeness is characterized by trying out something new and different to the norm. In this study, it refers to trying out a new form of banking (Social Media Banking). There are not many studies that have explored the impact of innovativeness on behavioural intention to use internet, mobile or Social Media Banking. The few studies that have included innovativeness as a construct found that innovativeness significantly predict behavioural intention (Thakur and Srivastava, 2014; Tan et al., 2014; Escobar –Rodriguez and Carvajal Trujill, 2014; Aroean and Michaellidou, 2014; Yang et al., 2012). H5 hypothesised that innovativeness will positively influence intentions to use Social Media Banking however the results from this study (β= 0.067, t= 1.106, p=0.269) show that there is no significant relationship between innovativeness and behavioural intention to use Social Media Banking. The innovativeness construct was measured by three items. The mean values ranged in value from 2.06 to 2.85. Over 70% of the participants agreed that they enjoyed experimenting with new technology however comparing this with the results from the hypothesis testing, we can infer that the innovativeness of Social Media Banking does not translate into intention to use it.

6.6.6 Perceived risk and Behavioural Intention to use Social Media banking

Perceived risk was measured by six items. Internal consistency of the construct items was 0.913. H6 hypothesised that perceived risk would negatively influence intentions to use Social Media Banking. The results from this study (β=-0.117, t= -1.642, p= 0.101) do not support this therefore the hypothesis is rejected. In a study by Lafraxo et al., (2018). They found that perceived risk does not influence positively the behavioural intention to use mobile banking. Oliveira and Popovic (2014) also found that perceived risk negatively influences behavioural intention to use internet banking in a study carried out in Portugal. Perceived risk is an important factor for intending users. Reducing perceived risk is important for would be users of Social Media Banking. Customers should be made to realise that their transactions are safe and secure. The banks may need to introduce strategies that explain how the transactions work through encryption and secure channels. This can be explained in layman's language that the customers can easily understand. In addition, banks may need to provide money back guarantees to customers in case an incident happened that would make the customer lose their funds.

6.6.7 Trust and Behavioural intention to use Social Media Banking

Trust has been used in many studies to extend UTAUT ((Cody-Allen and Kishore, 2006; Cheng et al., 2008; Zhou, 2012; Kershawani and Bisht, 2012; Zhou, 2014; Oliveira et al., 2014; Slade et al., 2015; Tarhini et al., 2016). This study focused on trust in Social Media Banking systems, and it was proposed that trust would have a positive effect on student's behavioural intention to use Social Media Banking as well as performance expectancy, hedonic motivation, perceived risk and social influence. The effect of trust on behavioural intention to use Social Media Banking was significant hence, the hypothesis was supported. This is in line with previous studies that confirm that trust will positively affect intention to adopt a new technology. Decision to use a banking service will usually be made depending on how a customer thinks the service is trustworthy. Security and trust is still a major determinant on if bank customers will use a product or not. If you trust something, you expect it to perform up to expectation. Trust in the use of Social Media Banking can be improved by making systems reliable and secure. This research confirms that trust has an effect on behavioural intention to use Social Media Banking. This is consistent with previous studies that suggest that trust is perceived to be key in determining users' intention to use mobile and internet banking (Zhou, 2013; Zhou, 2014). This implies that if users trust a new technology, then they may use the system. On the other hand, a lack of trust in Social Media Banking can be a barrier to behavioural

intention. Banking transactions performed via digital platforms involve risks and uncertainties. Zhou (2012) argue that building trust by the customers will mitigate risks and encourage transactions. There are different kinds of threats (Phishing, cyber-attacks) that may affect customers risk perception.

Table 6.2 Summary of the research hypothesis and results.

	Paths	Hypothesis Supported
H1	Performance Expectancy positively affects behavioural intention to use Social Media Banking	Yes
H2	Effort Expectancy positively affects behavioural intention to use Social Media Banking.	No
H3	Social influence positively affects behavioural intention to use Social Media Banking	No
H4	Hedonic Motivation positively affects behavioural intention to use Social Media Banking.	No
H5	Innovativeness positively affects behavioural intention to use Social Media Banking	No
H6	Perceived Risk negatively affects behavioural intention to use Social Media Banking	No
H7	Trust positively affects behavioural intention to use Social Media Banking.	Yes
H8	Trust will positively influence performance Expectancy to use Social Media Banking	Yes
H9	Trust will positively influence Hedonic Motivation to use Social Media Banking	Yes
H10	Trust will positively influence Social Influence to use Social Media Banking	Yes
H11	Trust will positively influence perceived risk	Yes

6.7 Summary of the Open-Ended Questions

The questionnaire had an open-ended question to find out what students thought of Social Media Banking. The quantitative analysis of the survey questions already showed that majority of the students were not aware of Social Media Banking. The open-ended question also confirmed this. A few respondents commented on the nature of social media and are of the opinion that it should only be for social networking and not used for banking activities. Some other respondents were also bothered about the fact that the bank will access the information a social network has on then once they sign up for Social Media Banking.

However, a few respondents were keen on finding out more about how it works and how to use it. Examples of respondents' comments are listed below.

- *"Never heard of it. Seems something unnecessary to be honest".*
- *"Sounds interesting but never heard of it before".*
- "*I would like to know more about it and how they would make me feel more secure."*

I have classified the responses into different themes and the major themes are namely:

1. Innovativeness
2. Privacy, risk and data protection
3. Usefulness and convenience

Innovativeness: Over the years, new ways of banking have evolved such as online banking and mobile banking. Social Media Banking can be said to be an offshoot of the preceding banking types. Since I started this research, there have been new trends in banking such as Fintech, block chain technology, social media payments and open banking services. Some of the students commented that they found Social Media Banking an Intriguing and interesting innovation. Innovation in the banking industry is quite dynamic and will continue to be as long as there are advances in technology. Some of these technologies will be disruptive and change how customers engage with the banks and the products they offer. Examples of the respondents' comments are listed below.

- *"In general, I like using new technologies, for example I was the first amongst my peers to use Apple Pay, but I think the risks of linking social media and finances are simply too high and I wouldn't feel comfortable using it."*
- *"Very interesting innovation"*

Privacy, Risk and Data Protection: Majority of those who responded to the open-ended question were concerned about the security of giving social networks access to their banking details Respondents were concerned about privacy, data protection. Questions were asked about the risk of linking their social media accounts to their bank accounts. The concerns raised by the respondent is a valid one. Further, along into this research, there was the news about Cambridge Analytica and as of the time of writing up this thesis, Facebook had just been fined $5billion over privacy violations. Examples of respondents' comments are listed below.

- " *I would never use Social Media Banking because I simply do not trust social media companies to protect my information. We already see Facebook and other companies selling personal information to third parties and I would never trust them with sensitive material such as financial records. Furthermore, I would not like to have my bank (or mortgage provider) to see my personal social media. I am also unaware of whether or not they are held to the same industry standards as banks."*
- *"The problem is to do with the terms Social implies with others in a relaxed environment e.g., chatting, gossip, sharing which is opposite to my idea of banking- professional, secure, and private. Media is the generic term for computing, and it lends itself to both; but less so to banking as security/ hacking/ fraud when linked with finance has disturbing outcomes when individuals suffer from theft or loss by crime.*
- *"God, the whole thing sound like a terrible idea as anyone who access your social media account could potentially access your cash, not to mention it give more power to a few companies who we know by now after numerous news reports are not trustworthy!"*
- *"Financial setups exist because someone financially gains from the exchange. Therefore, what does social media gain from me letting them into my finances? Do they store information to pass on elsewhere? I occasionally use PayPal for small transfers, but I do not entirely trust it because I do not know what they gain from*

my transactions. I prefer sticking to direct communication between myself and my bank."

- *"I've never heard of this being done before so I'm assuming it's quite a new thing. It will be quite difficult to convince me that it was safe to use until I saw many other people using it with no issue. However, with news on different companies being hacked, I do not feel like I would want to take the risk. Many banks already use apps such as the HSBC app which I use frequently so there is no drive for me to switch to something which may not be secure".*

Usefulness and Convenience: As people are already used to using social media, one would expect that using Social Media Banking would be easy to use as customers would have been familiar with the platforms being used. Respondents think it would be easy to use; however, they are concerned about the risks involved in using the platform as well as security of their funds.

- *"I would think it would be use and convenient to use, but I am not sure it would be 100% safe for my money."*
- *"I think it is a great initiative and much more convenient for customers, however there are many concerns that I would have related to security and the problem of people getting hold of my personal information."*

6.8 Chapter Summary

This chapter discussed the results of the data analysis in relation to the research objectives and hypotheses set at the beginning of the research. The overall aim and objectives of the research have been achieved. A new framework that combines other variables has been developed. The research questions have been successfully answered. The next chapter will present a conclusion of the research whilst also discussing implications of the research findings as well as limitations and future recommendations.

Chapter 7: Conclusion, Limitations and Further Research

7.1 Introduction

This thesis had the aim of investigating the intentions of students to use Social Media Banking and the relationships between the various factors outlined in the conceptual model. Chapters one to six presented the research aim and objectives, a review of literature on Social Media Banking and conceptual models, the research methodology and design, the data analysis and findings from the research. This final chapter highlights the key findings as well as presenting theoretical and practical contributions of this study. This chapter is divided into six sections. Section 7.2 and 7.3 presents the research findings based on the key objectives set out in Chapter 1. The theoretical and practical contributions are discussed in Section 7.4 and sets out the recommendations for stakeholders in the Social Media Banking industry. The study limitations are highlighted in Section 7.5 and finally recommendations for future research are proposed in section 7.6.

7.2 Research Summary

Social Media Banking cannot fully provide benefits to customers if they do not use the technology. This research was carried out in three phases. The aim of phase one was finding out what Social Media Banking is and what activities are provided by the banks that offer them. This phase also involved a systematic review of literature about the use of Social Media in the banking industry to identify research gaps. Phase two was a review of the technology acceptance models and the development of the conceptual model and pilot testing. The research was grounded in technology acceptance theories. The model was developed by exploring existing technology acceptance models and consequently identifying factors. Phase three tested and validated the extended model.

The main aim of this research was to undertake a literature review of the use of social media in the banking industry and to examine the intentions of bank customers to use Social Media Banking. To be able to accomplish this. The thesis was structured into seven chapters. Chapter 1 introduced Social Media Banking as well as the study aims and objectives. The chapter notes what research approach to use and research boundaries. Potential contribution and the structure of the thesis was decided. Chapter 2 was a literature review of Social Media Banking and its services. A thematic review of literature about the use of social media in the banking industry was carried out. Through this, the

research gaps were identified. It was revealed that the services being offered by the banks are in two categories namely transactional and non-transactional services. The chapter progressed to discuss the advantages and disadvantages of Social Media Banking. Chapter 3 discussed technology acceptance models and reviewed consumer behaviour theories about the banking industry. The conceptual framework incorporated new constructs and hypotheses were developed. Chapter 4 discussed research methodology. Chapter 5 presents the results from data analysis performed using Structural equation Modelling. Chapter 6 discussed the findings and Chapter 7 is a summary of the whole research. As stated in Chapter 1, a number of objectives were set out in order to achieve the research aim. The objectives set have been met and a summary of met objectives are listed below.

1. The literature review in Chapter 2 reveals that a considerable number of publications on the use of social media in the banking industry is focused mainly on marketing, customer relationship, and managerial perception. The first recorded Social Media banking activity was in 2009 and the first publication about Social Media banking Services was in 2016. Since then, there has been new banks joining the bandwagon yearly with the latest banks offering Social Media Banking activities recorded in 2018. The Social Media Banking activities are mainly transactional and non-transactional. Some of the activities include fund transfers, mobile recharge services, account opening, relationship management services, balance enquiries, cheque request, transaction alerts, bill payments, ATM/branch locator and mini bank statements.

2. One of the objectives was to identify the factors influencing students' intentions to use Social Media Banking. Evidence from the literature review, survey and open-ended questions suggest that the following factors influence students' intentions to use Social Media Banking. From the literature review, concerns about security, data protection, trust and privacy were highlighted as challenges. The results showed that performance expectancy and trust were direct predictors of intention to use Social Media Banking.

3. A model to aid understanding of intention to use Social Media Banking by students was developed. A review of existing technology acceptance models was carried out in Chapter 3. Technology acceptance models have evolved over the years and nowadays researchers would extend existing models with constructs from another to make a new robust model. This sometimes helps with the criticisms and shortcomings that some of the models have.

4. A new theoretical framework was developed, empirically tested and validated. UTAUT model was extended by additional variables namely trust, innovativeness and perceived risk. The measurement model had a good model fit. This was determined by assessing the values from the goodness of fit indices. The structural model showed the path analysis measuring relationships between the constructs.

7.3 Key findings from the research

The key findings from the survey questions analysis are summarised below:

1. The first use of Social Media for banking transactions was recorded in 1999 in Canada.
2. Prior to this research being carried out, literature on the use of social media in the banking industry was limited to the following:
    - Marketing
    - Customer services and engagement
    - Managerial perception
    - Customer perception of the use of social media in the banking industry
    - Theoretical perspectives
    - Impact of social media in the banking industry
3. The major social media platforms used by banks for services are Facebook, Twitter and WhatsApp.
4. Social media banking services offered by banks can be either transactional or non-transactional.
5. Online and mobile banking are the most common method for getting in touch with the bank.
6. Majority of students who responded to the survey were not aware of activities they could perform using Social Media Banking.
7. The most important factors important to intending users were confidentiality, trust, privacy and data security.
8. Trust and performance expectancy have significant effect on behavioural intention to use Social Media Banking.

7.4 Research Contribution

The study set out to investigate what Social Media Banking is and the intentions of students to use Social Media Banking. The contributions of this thesis can be categorized into two namely theoretical and practical contributions.

7.4.1 A summary of the theoretical contributions are presented below:

The theoretical research framework for this study was refined from the UTAUT model and modified with other variables (perceived risk, trust and innovativeness) identified from other literature to suit the context of Social Media Banking. The new theoretical model can be used by other studies to investigate intentions to use a product from a trust and perceived risk perspective. The relationships explored in the model provide a foundation for other researchers to build on. The model has been empirically tested. Whilst trust has been tested in previous studies (Zhou 2012; Kershawani and Bisht, 2012; Zhou, 2014; Oliveira et al., 2014; Slade et al., 2015), this research specifically looks at the effect of trust on some of the other factors included in the model.

Theoretically, this study contributes to the existing knowledge on technology acceptance models and adoption. There are few studies about Social Media Banking in general. There is also a scarcity of research investigating the intentions of individuals using Social Media Banking. Therefore, this research fills the gap in the existing body of knowledge about social media use in the banking industry. It provides insight into Social Media Banking, its services, benefits and challenges. This study also provides new insights into the factors that influence intention to use Social Media Banking.

7.4.2 Practical implications

This research has various practical implications for both users and developers of Social Media Banking services. This study provides an empirical view and insight for product managers in banks, product designers, system developers, policy and decision makers within the banking industry. An understanding of the consumers' behaviour will help product developers design products that will be fit for purpose. By being able to predict intention to use a technology before implementation, they will be able to make changes if possible that would guarantee an uptake of Social Media Banking. The results of this study suggests that there is interest in Social Media Banking however, this will be dependent on privacy and risk being mitigated. In addition, banks must understand their customers before investing in this new form of banking.

They would need to provide functionalities (such as demo videos on how to use Social Media Banking) that would encourage customers to use the technology. There is also the need for awareness or advertising, so customers know this banking channel exists. To address the issues of trust, the bank can promote and design adverts that show the trustworthiness of the corporation.

Secondly, this research alerts bank management to the issues that are most important to their customers. Privacy and security concerns have been raised as the most important issues to customers who would like to use the product. Policies should be adapted that should take these issues into consideration. There should be a focus by bank managers on building trust initially before the introduction of a new technology. This may mean that banks have promotional messages or videos that will allay the fears of their customers. They may also have to let the customers know what security measures are in place to protect their funds. This may help with addressing the trust issues that users may have.

Legal frameworks and policies that will address the concerns that the intended consumer has raised should be put in place.

7.5 Research Limitations

This study tried to gain insight into students' intention to use Social Media Banking and there were limitations. These limitations however provide future research opportunities.

1. Type and size of sample: The research utilised the convenience sampling method, which is a non-probabilistic method. Convenience sampling was used in this research, which means the sample is not representative of the entire population; hence, there might be a potential bias. The findings cannot be generalised. It is advised that future research utilize the probability sampling methods.

2. Secondly, the study context only focused on students who are of a particular age category. This does not represent the general population. Typically, students are very open to innovation and quick to use new technologies compared to an older or group who may not be keen to use new technologies. Therefore, the findings cannot be generalised.

3. The questionnaire was administered online so there might be a selection bias as only students with access to mobile devices or personal computers are included in the sample. Face to face, interaction with respondents might have been better.

4. Methodological limitations: The effects of moderator variables were not considered. In most studies that have used the UTAUT, the effect of moderating variables such as age and gender on the core constructs were considered. I have chosen not to include the moderating variable of age as the sample were majorly of the same age group.

5. This study is geographically limited to the United Kingdom. Future research could extend research to other geographical locations and compare results. A study comparing

the intention to use Social Media Banking in different cultures could be examined. A comparison between developed and developing countries could also be carried out.

7.6 Future research

Social Media Banking research is relatively new, and more research is needed for a better understanding of attitudes amongst the general populace. Model should be used for a broader population and in other countries (developed and developing). This research had a specific sample population. Future research can involve a wider audience, which would consist of different age groups.

Cross sectional studies: To improve the validity of the model, cross-cultural effects can be measured in other countries. This would enhance the understanding of intention to use new technologies across different cultural settings. External validity should be measured in different contexts and settings.

Longitudinal studies: This research was carried out at a specific point in time. A longitudinal survey, which allows measurement over time, should be carried out. This will improve our understanding of if intentions to use a particular technology changes over time. Findings can be compared with a cross sectional study and different collection periods.

This research only investigated intention to use Social Media Banking and not the actual use of the technology. Actual use and attitude towards the technology should be measured. This would provide a clearer picture of use behaviour. In addition, customers that reject the use of the technology can be interviewed to have an understanding of hindrances to adopting the technology.

The predictive power of the model can be improved by including other factors in the model.

The focus of this research was using a quantitative approach to understand intentions to use Social Media Banking. It would be useful to explore this research further by using a mixed method approach by incorporating interviews and focus groups. This would broaden the scope of the research. This would also help to gain an understanding of the motivation and underlying reasons why customers may or may not use Social Media Banking.

This research did not include moderating variables such as experience as it is not the actual use that is being studied. Impact of moderator variables should be considered for

further studies measuring adoption and use of Social Media Banking. This research mostly focused on positive factors influencing intention to use Social Media Banking. Negative factors influencing intention to use Social Media Banking can be investigated.

7.7 Post Thesis Reflections

From the first ever use of social media for services recorded in 2009, more banks have adopted social media for its innovativeness. However, from the initial literature review carried out, there was an initial increase in the number of banks, using social media for services and then there was a decline in banks adopting the innovation. What we have seen is more Fintech start-ups and more recently Facebook moving into the payments ecosystem. The question to ask now is would banks still go on to have more Social Media Banking products when the social media companies themselves are forging ahead in the payment space. Open Banking and API have also been a threat to banks adopting Social media banking services.

At the time of starting this research project, Fintech innovation was taking grounds in many parts of the world. At the time of completion of this project, Facebook had announced their cryptocurrency named Libra. In addition to this, GDPR laws came into existence during the period of conducting the research. The implications of this on privacy and data cannot be over emphasized.

7.8 Final Remarks

This research set out to understand what Social Media Banking is and to investigate what factors affect students' intention to use the service. This was achieved by extending an existing theoretical framework with new constructs namely trust, perceived risk, and innovation. The banking sector is evolving at a very fast pace with the innovation of new technologies. Despite this, it seems acceptance and adoption of these services is not growing at the same rate as the innovation. A good reason for this may be the combination of factors such as privacy, security and trust in banking systems as suggested by the answers provided by the students in the open-ended question section.

Previous studies on the precedents of Social Media Banking have focused mainly on factors that affect adoption and acceptance. Few studies have researched into intentions to use. Knowing what factors are important to users will aid banking systems and service development. Generally, students were concerned about using social media for banking purposes due to issues such as privacy and risk.

A model based on the UTAUT model was proposed and an empirical study was done between October 2017 and January 2018. This was conducted using a convenience sampling method administered by an online questionnaire. A Structural Equation Modelling technique was adopted. The model explained 76.7% of the variance in behavioural intention of students to use Social Media Banking. Two main constructs namely performance expectancy and trust had a significant impact on behavioural intention to use Social Media Banking. The study found that effort expectancy, social influence, hedonic motivation, innovation and perceived risk had no significance on behavioural intention to use Social Media Banking.

Appendix A: ERGO application form – Ethics form

All mandatory fields are marked (M*). Applications without mandatory fields completed are likely to be rejected by reviewers. Other fields are marked “if applicable”. Help text is provided, where appropriate, in italics after each question.

1. APPLICANT DETAILS

1.1 (M*) Applicant name:	Dola Majekodunmi
1.2 Supervisor (if applicable):	Dr Lisa Harris
1.3 Other researchers/collaborators (if applicable): *Name, address, email, telephone*	N/A

2. STUDY DETAILS

2.1 (M*) Title of study:	Intention to use Social Media Banking
2.2 (M*) Type of study (*e.g. Undergraduate, Doctorate, Masters, Staff*):	Doctorate
2.3 i) (M*) Proposed start date:	01/12/2016
2.3 ii) (M*) Proposed end date:	31/03/2017

2.4 (M*) What are the aims and objectives of this study?
To identify the factors that influence the intention of users to use Social Media Banking. To identify the constructs that have significant effects on Social Media Banking acceptance

2.5 (M*) Background to study (*a brief rationale for conducting the study. This involves providing a brief discussion of the past literature relevant to the project)*:
Social media banking is the use of social media as a form of delivery channel for banking services. This includes systems that enable accounts opening, funds transfer, bill payments, as well as customer relationship management, and these activities can be done without visiting a physical branch. Some banks have also referred to this as social banking, Twitter banking and Facebook banking. Even

though Internet banking and mobile banking are closely related and have made Social Media Banking possible, they are not classed as the same form of banking. With Social Media Banking comes the issue of trust and privacy. Benefits for banks using Social Media Banking include improving customer service, brand and reputation management and product marketing.

In the past decade, there has been a focus on internet, online and mobile banking research, however there has been little research done on the use of social media by banks (Murray, 2014). Limited empirical studies have been conducted within the context of Social Media Banking as it is relatively new. Previous work done on the use of social media by banks has been limited to managerial perception of the use of social media by banks (Danaiata et al, 2014), social media strategies for banks (Taskiran and Bolat, 2013), adoption of social media marketing by banks (Chikandiwa et al, 2013, Tarabasz, 2013) and bank brand reputation and customer service through social media (Issa, 2011; Dalziel and Hontoir, 2015).

This study will focus on the attitudes of customers towards Social Media Banking and aim to gain a better understanding of the factors that influence intention to adopt and accept this new form of banking. This research aims to understand what consumers attitudes are towards this form of banking.

2.6 (M*) Key research question (*Specify hypothesis if applicable*):

What are the main factors that determine the usage, acceptance and adoption of Social Media Banking?

What are the constructs that significantly affect the acceptance of Social Media Banking?

2.7 (M*) Study design (*Give a brief outline of basic study design*)

Outline what approach is being used, why certain methods have been chosen.

The study is exploratory in nature and the quantitative approach has been chosen. A quantitative approach was selected because of the nature of the research question (relationship between the constructs of the model used and intention to use Social Media Banking will be measured). The survey method was selected as it allows the researcher to get information from a wide range of participants.

3. SAMPLE AND SETTING

3.1 (M*) How are participants to be *approached*? *Give details of what you will do if recruitment is insufficient. If participants will be accessed through a third party (e.g. children accessed via a school, employees accessed via a specific organisation) state if you have permission to contact them and upload any letters of agreement to your submission in ERGO or provide the name and contact details of the person granting you permission to access the sample (to check that permission has been granted)*.
Participants will be approached through social media platforms

3.2 (M*) Who are the proposed sample and where are they from (e.g. fellow students, club members)? How many participants do you intend to recruit? *List inclusion/exclusion criteria if applicable*. *NB The University does not condone the use of 'blanket emails' for contacting potential participants (i.e. fellow staff and/or students).* *It is usually advised to ensure groups of students/staff have given prior permission to be contacted in this way, or to use of a third party to pass on these requests. This is because there is a potential to take advantage of the access to 'group emails' and the relationship with colleagues and subordinates; we therefore generally do not support this method of approach.* *If this is the only way to access a chosen cohort, a reasonable compromise is to obtain explicit approval from the Faculty Ethics Committee (FEC) and also from a senior member of the Faculty in case of complaint.*
The convenience sampling approach is being used for this study so there is no inclusion criteria and all subjects in the population are eligible to participate.

3.3 (M*) Describe the relationship between researcher and sample (*Describe any relationship e.g. teacher, friend, boss, clinician, etc.*)
There is no relationship between the researcher and the sample.

3.4 (M*) Describe how you will ensure that fully informed consent is being given. *You must specify how participants will be told what to expect by participating in your research. For example, will participants be given a participant information sheet before being asked to provide their consent? Upload copies of the participant information sheet and consent form to your submission in ERGO.*
Participants will need to tick a box to show that they consent before being asked to do the survey. A participant information sheet will also be provided so that participants know the details of the research.

3.5 (M*) Describe the plans that you have for feeding back the findings of the study to participants. *You must specify how participants will be informed of your research questions and/or hypotheses. For example, will participants be given a debriefing form at the end of your study? Upload a copy of the debriefing form to your submission in ERGO.*
As the survey will be anonymous, the researchers email is included in the Participant Information Sheet for anyone who would like to know the findings of the research.

4. RESEARCH PROCEDURES, INTERVENTIONS AND MEASUREMENTS

4.1 (M*) Give a brief account of the procedure as experienced by the participant *Make clear who does what, how many times and in what order. Make clear the role of all assistants and collaborators. Make clear total demands made on participants, including time and travel. You must also describe the content of your questionnaire/interview questions and EXPLICITLY state if you are using existing measures. If you are using existing measures, please provide the full academic reference as to where the measures can be found. Upload any copies of questionnaires and interview schedules to your submission in ERGO.*
Participants will be asked to fill out a questionnaire online after obtaining their consent. It will be stated that participation is voluntary and responses will be anonymous. The questionnaire would ask questions relating to the use of social media by banks and the participants intention to use this form of banking. The questionnaire would take approximately 10 minutes.

The questionnaire would be in 2 sections. The first section will be about demographic characteristics of participants and the second section will be questions that seek to investigate the effects of specific constructs on Social Media Banking.

5. STUDY MANAGEMENT

5.1 (M*) State any potential for psychological or physical discomfort and/or distress?
There will be no psychological/physical discomfort to participants.

5.2 Explain how you intend to alleviate any psychological or physical discomfort and/or distress that may arise? (if applicable)
There will be no psychological or physical discomfort as there are no interviews or any physical examinations involved.

5.3 Explain how you will care for any participants in 'special groups' *(i.e. those in a dependent relationship, vulnerable or lacking in mental capacity)* (if applicable)?
This is not applicable to this project.

5.4 Please give details of any payments or incentives being used to recruit participants (if applicable)?
There are no incentives for filling the questionnaire.

5.5 i) (M*) How will participant anonymity and/or data anonymity be maintained (if applicable)?
Two definitions of anonymity exist:
i) Unlinked anonymity - *Complete anonymity can only be promised if questionnaires or other requests for information are not targeted to, or received from, individuals using their name or address or any other identifiable characteristics. For example if questionnaires are sent out with no possible identifiers when returned, or if they are picked up by respondents in a public place, then anonymity can be claimed.*

Research methods using interviews cannot usually claim anonymity – unless using telephone interviews when participants dial in. *ii)* Linked anonymity - *Using this method, complete anonymity cannot be promised because participants can be identified; their data may be coded so that participants are not identified by researchers, but the information provided to participants should indicate that they could be linked to their data.*
Anonymity will be maintained by using the University's survey site Isurvey. No personal details will be requested for.

5.5 ii) (M*) How will participant confidentiality be maintained (if applicable)? *Confidentiality is defined as the non-disclosure of research information except to another authorised person. Confidential information can be shared with those who are already party to it, and may also be disclosed where the person providing the information provides explicit consent.*
All data collected from the participant will be completely anonymous and the data will be stored according to the Data Protection Act/University Policy. The data will be stored on a password protected computer and only accessible to me and my supervisor.

5.6 (M*) How will personal data and study results be stored securely during and after the study? *Researchers should be aware of, and compliant with, the Data Protection policy of the University (for more information see* www.southampton.ac.uk/inf/dppolicy.pdf*). You must be able to demonstrate this in respect of handling, storage and retention of data (e.g. you must specify that personal identifiable data, such as consent forms, will be separate from other data and that the data will either be stored as an encrypted file and/or stored in a locked filing cabinet).*
The research will be conducted in compliance to the University's Data Protection policy meaning that all information obtained will be stored on a password protected computer and remain confidential as only investigator has access to it. All data will be pooled and published in aggregate form only. All data obtained will be stored on a password protected computer and remain confidential

5.7 (M*) Who will have access to these data?
Myself and my supervisor

N.B. – Before you upload this document to your ERGO submission remember to:

1. Complete ALL mandatory sections in this form

2. Upload any letters of agreement referred to in question 3.1 to your ERGO submission

3. Upload copies of your participant information sheet, consent form and debriefing form referred to in questions 3.4 and 3.5 to your ERGO submission

4. Upload any interview schedules and copies of questionnaires referred to in question 4.1

Appendix B: Sample Questionnaire

Intention to use Social Media Banking

Participant Information Sheet and Consent for Research Participants (ERGO ID 24003)

I am Dola Majekodunmi a PhD student at the Web Science Doctoral Training Centre at the University of Southampton. I am requesting your participation in a study regarding Social Media Banking. Please help me to achieve this by participating in a short survey which should last approximately 10 minutes. You will be asked to fill out a short questionnaire. Personal information will not be released or viewed by anyone other than researchers involved in this project.

Any information you give will be kept completely confidential and in no cases will responses from individual participants be identified. As with any piece of research it is important to consider whether there are any risks to participants. The study involves minimal risk to participants (i.e., the level of risk encountered in daily life). There may be no direct benefit to you other than the sense of helping the public at large and contributing to knowledge.

All responses are treated as confidential, and in no case will responses from individual participants be identified. Rather, all data will be pooled and published in aggregate form only. Participants should be aware, however, that the experiment is not being run from a 'secure' https server of the kind typically used to handle credit card transactions, so there is a small possibility that responses could be viewed by unauthorized third parties (e.g., computer hackers). However, the data would appear only as a string of numbers, so your responses will remain totally anonymous. Visitors to this web site are welcome to complete the study, although they will receive no credit or monetary compensation.

Participation is voluntary, refusal to take part in the study involves no penalty or loss of benefits to which participants are otherwise entitled, and participants may withdraw from the study at any time without penalty or loss of benefits to which they are otherwise entitled. If participants have further questions about this study,

they may contact the principal investigator, Dola Majekodunmi at oam1g14@soton.ac.uk.

If participants have further questions about their rights or if they wish to lodge a complaint or concern, they may contact Head of Research Governance, Research Governance Office, University of Southampton, Southampton, SO17 1BJ. (Phone: 02380 595058, Email: rgoinfo@soton.ac.uk)

Do you consent to participate in this research project?

- I agree
- I disagree

Q2 Social media banking is the use of social media as a form of delivery channel for banking services. This includes systems that enable accounts opening, funds transfer, bill payments, mobile recharge services and balance enquiries. I'm investigating attitudes of

customers towards Social Media Banking and aim to gain a better understanding of the factors that will influence the adoption and acceptance of this new form of banking.

Q1. How old are you?

18-24
25-34
35-44
45-54
55-65

Q2. What is your gender?

Female
Male
Prefer not to say

Q4. Are you a member of a social networking website?

Yes
No

Q5. If yes, please tick all that apply.

Facebook
Twitter
Linkedin
Instagram
Google+
Snapchat
Youtube
Whatsapp
Other (What other sites do you use?) _____

Q6. What is your preferred method of getting in touch with your bank?

Online
Mobile
By email
Web chat
Social media
Other _____

Q7. Did you know that you could use social media in some banks for the following activities before starting this survey?

	Yes	No
Bill payments		
Fund transfers		
Mobile recharge services		
Account opening		
Balance enquiry		
Transaction alerts		

Q8. How important would you consider the following if you were to use Social Media Banking?

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Convenience					
Ease of use					
Confidentiality					
Usefulness					
Quality of service					
Speed of service					
Trust					
Privacy					
Data security					

Q9. Based on your current knowledge and opinions about Social Media Banking, even if you've not used it before, please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
I would find Social Media Banking useful in my daily life					
Using Social Media Banking would help me accomplish my banking more quickly					
Using Social Media Banking would increase my productivity					
Using Social Media Banking would enable me to manage my finances better					
Learning how to use Social Media Banking would be easy for me					

Q10. Based on your current knowledge and opinions about Social Media Banking, even if you've not used it before, please indicate the extent to which you agree or disagree with each of the following statements

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
My interactions with Social Media Banking would be clear and understandable					
I would find Social Media Banking easy to use					
It would be easy for me to become skillful at using Social Media Banking					
People who are important to me would think I should use Social Media Banking					
People who influence my behaviour would think I should use Social Media Banking					

Q11. Based on your current knowledge and opinions about Social Media Banking, even if you've not used it before, please indicate the extent to which you agree or disagree with each of the following statements

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
People whose opinions I value would think I should use Social Media Banking					
Using Social Media Banking would be fun					
Using Social Media Banking would be enjoyable					
Using Social Media Banking would be entertaining					
I enjoy experimenting with new technology					

Q12. Based on your current knowledge and opinions about Social Media Banking, even if you've not used it before, please indicate the extent to which you agree or disagree with each of the following statements

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Among my peers I am usually the first to explore new technologies					
I like to experiment with new information technologies					
I would not feel totally safe providing my information over Social Media Banking					
I am worried about using Social Media Banking because other people may be able to access my account					
I would not feel secure sending information over Social Media Banking					

Q13. Based on your current knowledge and opinions about Social Media Banking, even if you've not used it before, please indicate the extent to which you agree or disagree with each of the following statements

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
I believe that overall risk of Social Media Banking is high					
The security measure built into Social Media Banking are not strong enough to protect my finances					
Using Social Media Banking subjects your account to financial risk					
I believe Social Media Banking systems are trustworthy					
I believe Social Media Banking systems would be reliable					

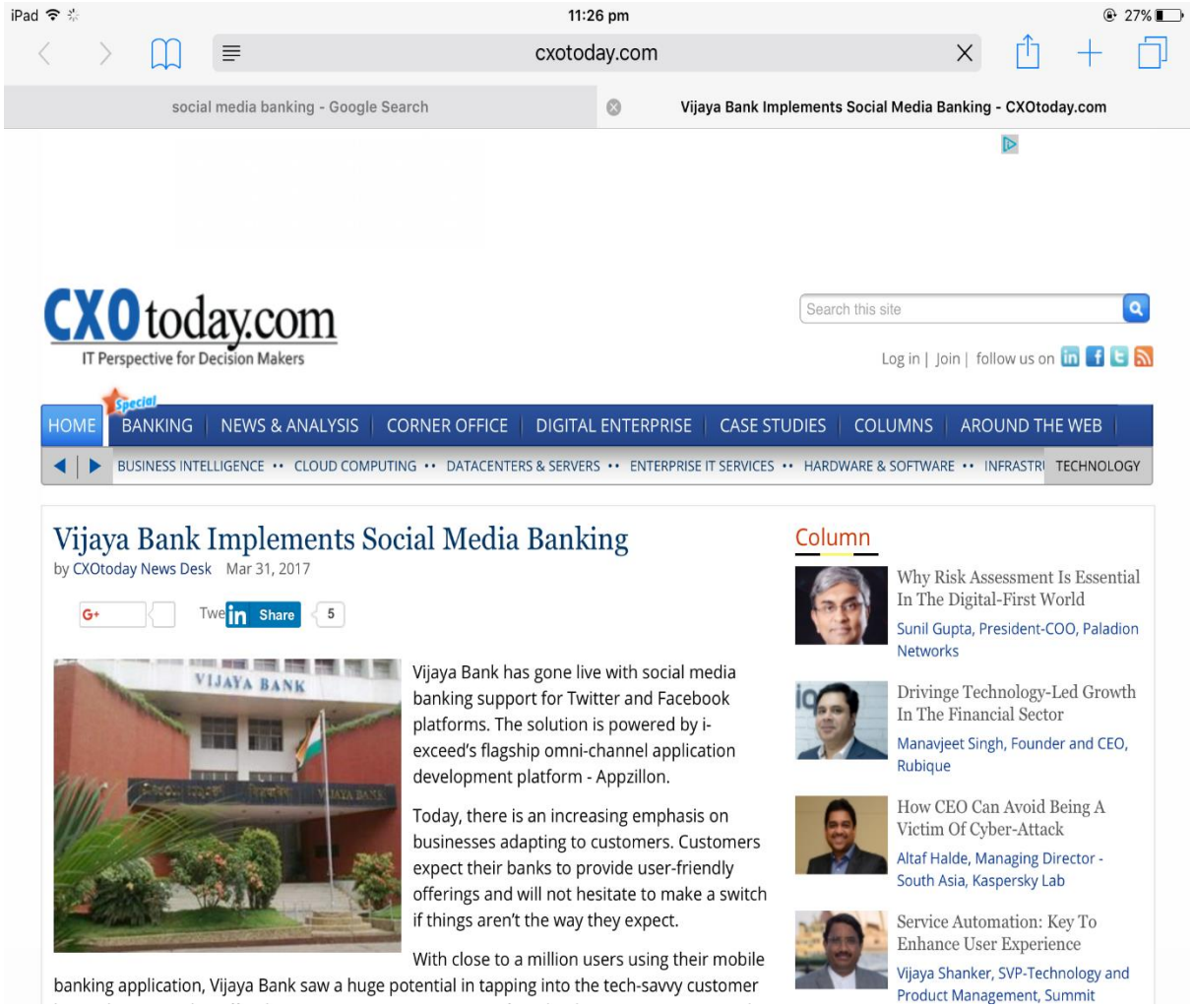
Q14. Based on your current knowledge and opinions about Social Media Banking, even if you've not used it before, please indicate the extent to which you agree or disagree with each of the following statements

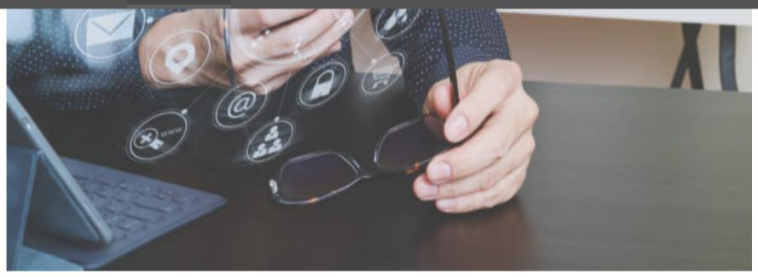
	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I believe Social Media Banking systems would be secure					
I believe Social Media Banking systems would be accurate					
I intend to use Social Media Banking in the future					
I might use Social Media Banking in my daily life					
I plan to use Social Media Banking frequently					

Q15 Do you have any other comments about Social Media Banking? (Please type your response in the box below)

s

Appendix C: News articles related to Social Media Banking





Praseeda Nair

Logging into your bank via Facebook or other social media platforms is soon to be the norm. Experts are touting the benefits, and big names are joining the movement such as ING Bank and Emirates Islamic Bank. This might have seemed unthinkable even five years ago. However, with the growing population of Gen Y and Gen Z, we are becoming more reliant on social media, and in turn it's offering access to more online services and functionality – beyond chatting with friends and posting news.

Digital giant WeChat is one such platform at the

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LATEST POPULAR

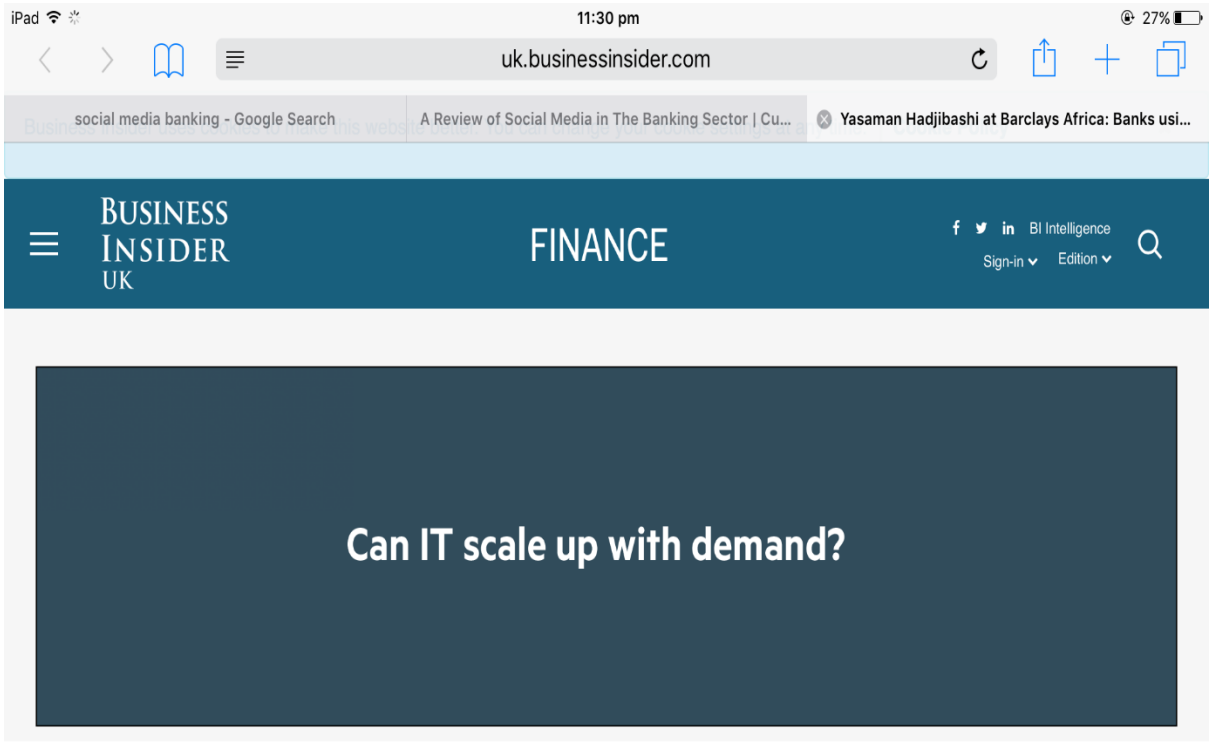
1. Beauty, inside and out: Pollen + Grace providing the healthy option to London
2. Brexit, Trump, and Asia's slowing economy: are you ready for the new world order?
3. The rise of the full-service office space
4. How to encourage whistleblowing policies in the workplace
5. "Data protection is here to stay, get used to it," says Ravelin CEO on GDPR

Banks log on to social media networks for business

Rachel Chitra & Ranjani Ayyarl TNN | Aug 27, 2016, 07.15 AM IST

CHENNAI: Ever thought of tweeting for a mobile recharge? Or Facebook-ing for a fund transfer? Banks are making a start in social media banking with the aim of easing transactions for customers.

1 Banks log on to social media networks for
2 Tiger executive gets wider role at Flipkart
3 Don't ban innovation to feel safer: Raghuram
4 Unmarried couples can book Oyo Rooms now
5 Banks use artificial intelligence to prevent frauds



Banks are working on using info from Facebook and other social media when millennials have no credit history

Lianna Brinded

Sep. 23, 2016, 7:00 AM 861

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17 fintech businesses that could one day be worth over $1 billion

BARCLAYS

iPad 11:32 pm bbc.co.uk 27%

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How your social media reputation could secure you a loan

By Tom Jackson
Technology of Business reporter

2 September 2016 | Business

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Top Stories

Strengthen my hand, PM urges voters
Theresa May targets Labour heartlands on election campaign visit to Wales.
7 hours ago

Trump backs down on border wall funding
3 hours ago

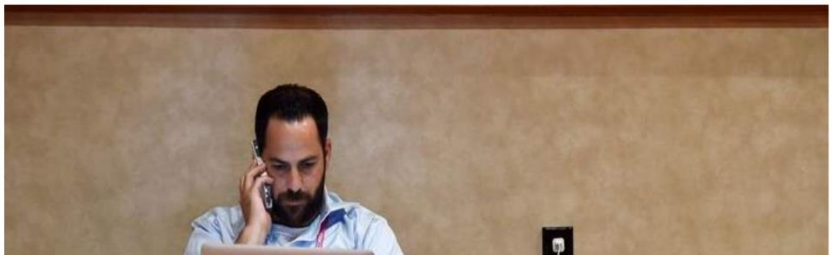
McCann case still pursuing 'critical' lead
1 hour ago

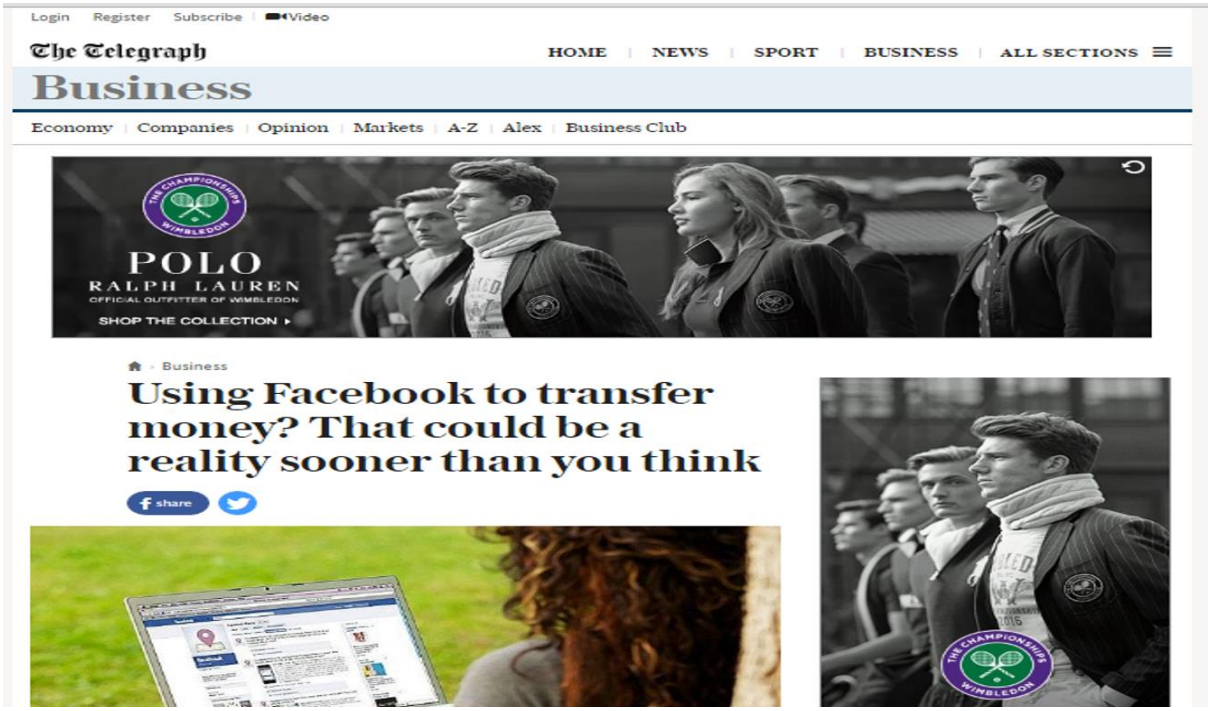
Features

GCC social media banking should gear up for risks

R. Seetharaman
Doha Dateline/Dubai

Filed on August 6, 2016 | Last updated on August 6, 2016 at 08.11 pm

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Business
Using Facebook to transfer money? That could be a reality sooner than you think
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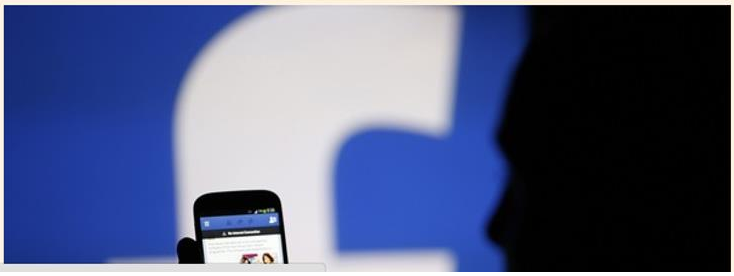
July 3, 2016 6:50 am

Singapore banks eye Facebook IDs for transfers

Jeevan Vasagar in Singapore

Share Print Clip Comments



BEST OF BREXIT COVERAGE

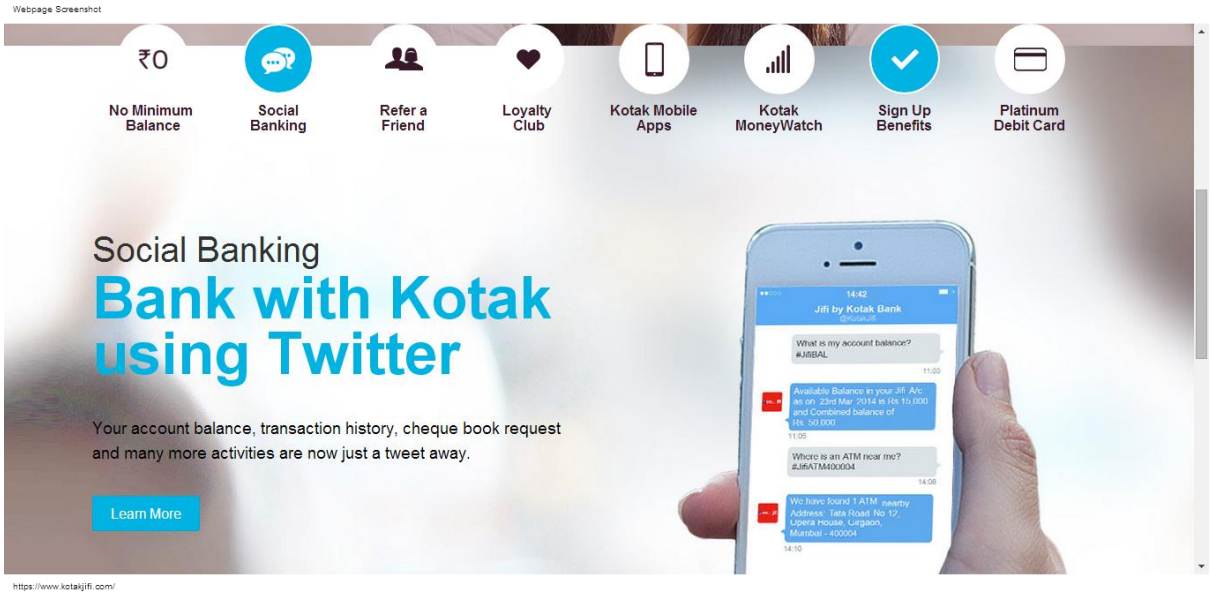
Business tracker SCOREBOARD
See how groups from HSBC to easyJet are affected

Find a haven ANALYSIS
Some British companies are enjoying the crisis

Wider impact ANALYSIS
Global groups with UK assets hit by uncertainty

Property fears NEWS
Funds bar investors from cashing in their assets

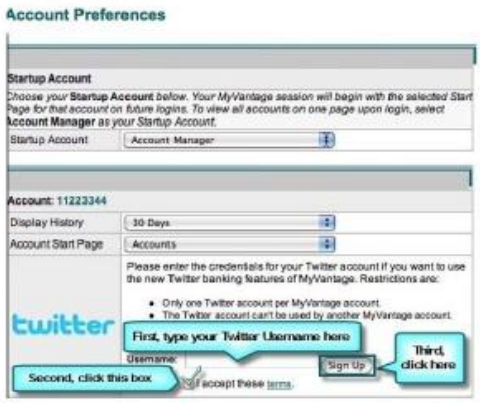
Appendix D: Example of Social Media Banking services



Vantage CU's tweetMyMoney

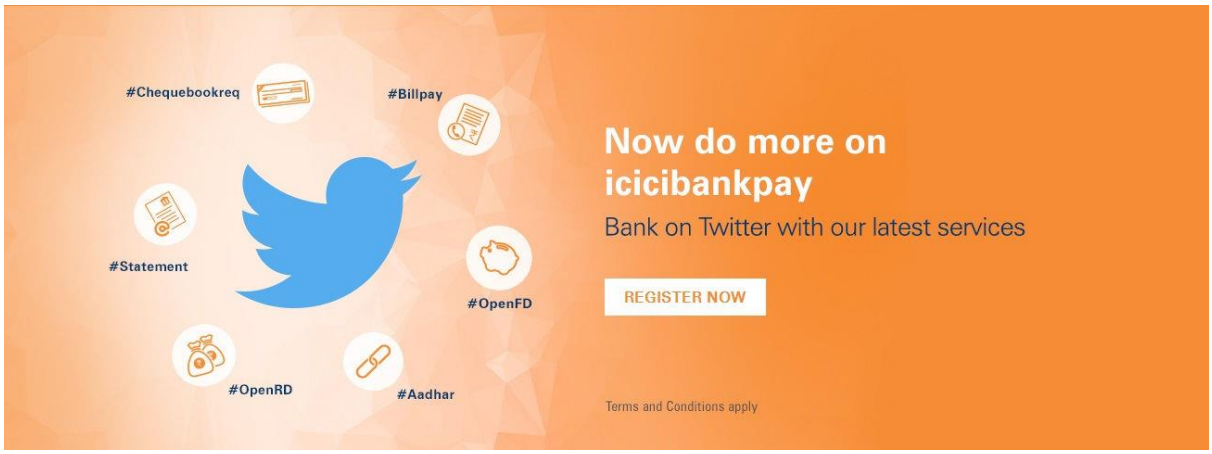
Allows members who use the CU's MyVantage online banking to conduct such transactions as:

1. monitor balances
2. holds
3. check clearing
4. ATM withdrawals and deposits
5. transfer money between their own accounts — *but not to other members, a security precaution*

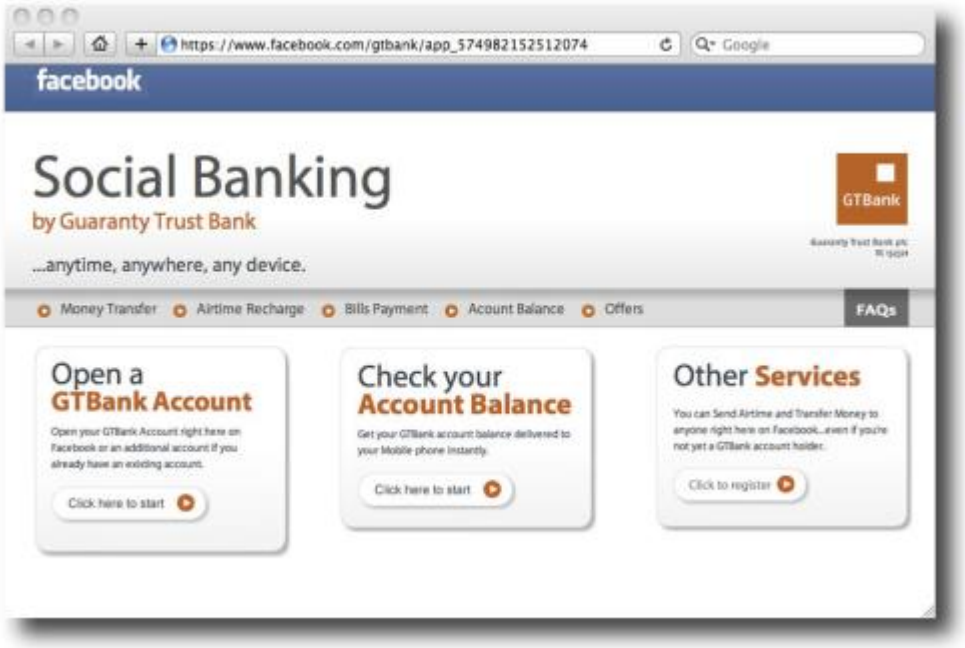


It is important to read the ***Important Terms*** by clicking on the link prior to accepting the terms.

There will be a momentary pause while the system processes your request. You will see the notice shown above reminding you to go the ***"myvcu" Twitter page*** and click the ***Follow*** button.


#Chequebookreq
#Billpay
#Statement
#OpenFD
#OpenRD
#Aadhar
Now do more on icicibankpay
Bank on Twitter with our latest services
REGISTER NOW
Terms and Conditions apply


UBA
Twitter Notification Service
Receive your transaction notifications in your Twitter Direct Message Box
Enroll Now
UBA Group
@UBAGroup
Alert:Credit
Alert: Debit


https://www.facebook.com/gtbank/app_574982152512074
Google
facebook
Social Banking
by Guaranty Trust Bank
...anytime, anywhere, any device.
GTBank
Money Transfer
Airtime Recharge
Bills Payment
Acount Balance
Offers
FAQs
Open a
GTBank Account
Open your GTBank Account right here on Facebook or an additional account if you already have an existing account.
Click here to start
Check your
Account Balance
Get your GTBank account balance delivered to your Mobile phone instantly.
Click here to start
Other Services
You can Send Airtime and Transfer Money to anyone right here on Facebook...even if you're not yet a GTBank account holder.
Click to register


facebook
Search for people, places and things
ICICI Bank
Your Bank Account
Like
Subscribe
Your Bank Account
Discover an all new banking experience without leaving Facebook through the 'ICICI Bank App'.
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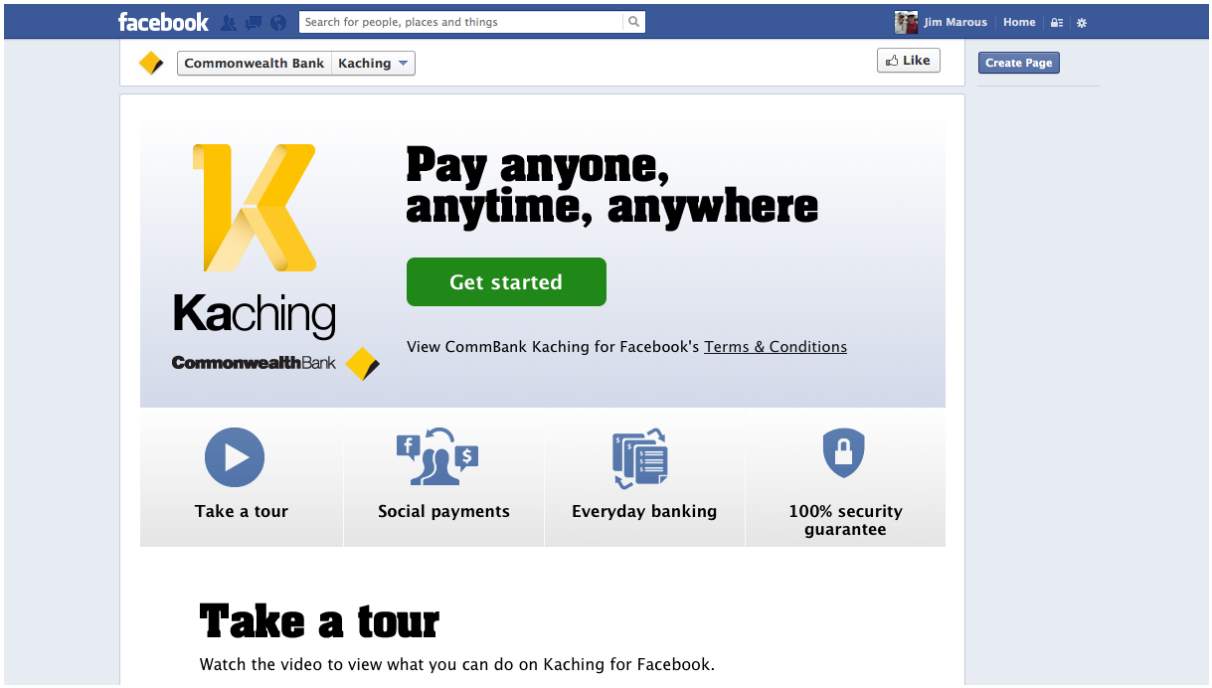
APP FEATURES
You can carry out a number of banking related tasks such as:
Checking account details
Getting account statements
Upgrading debit card
Cheque book enquiry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Kaching
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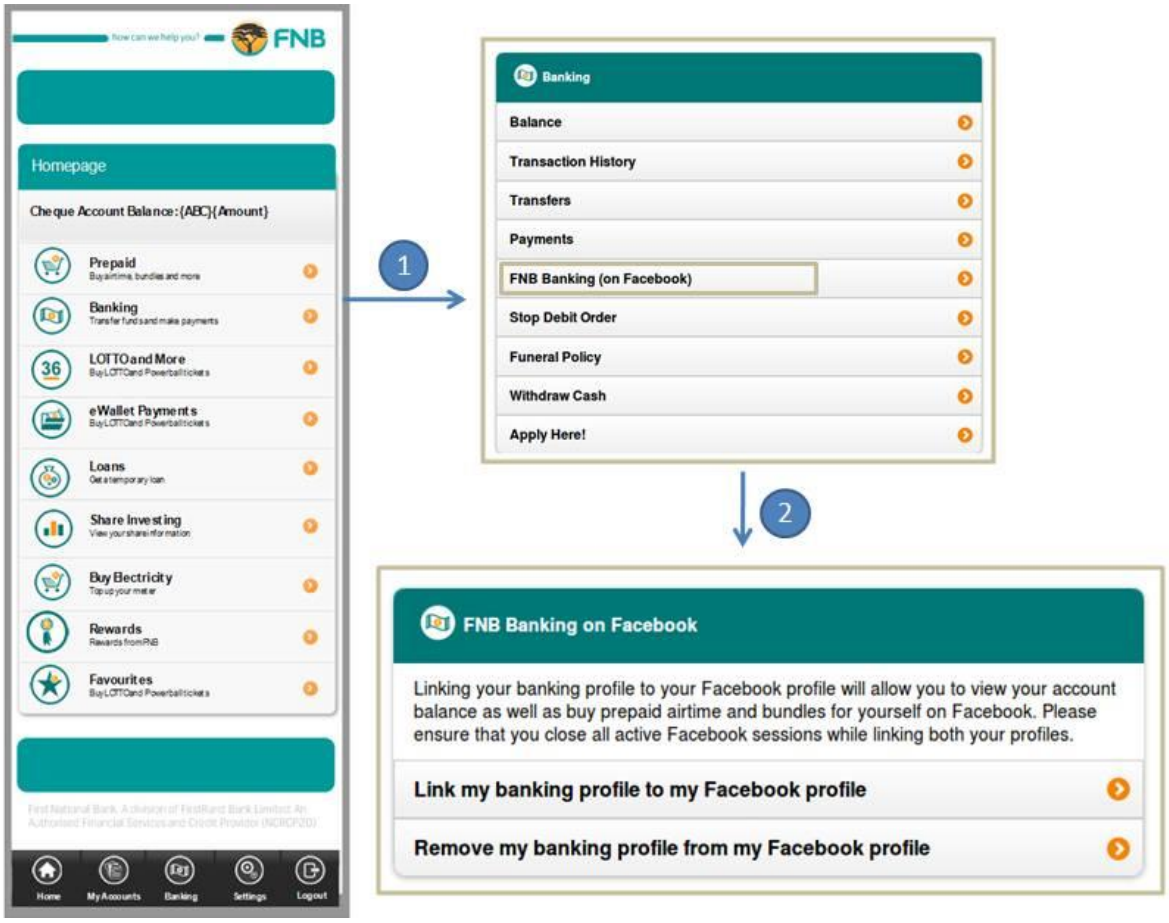
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Banking
LOTTO and More
eWallet Payments
Loans
Share Investing
Buy Electricity
Rewards
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Home
My Accounts
Banking
Settings
Logout
1
Banking
Balance
Transaction History
Transfers
Payments
FNB Banking (on Facebook)
Stop Debit Order
Funeral Policy
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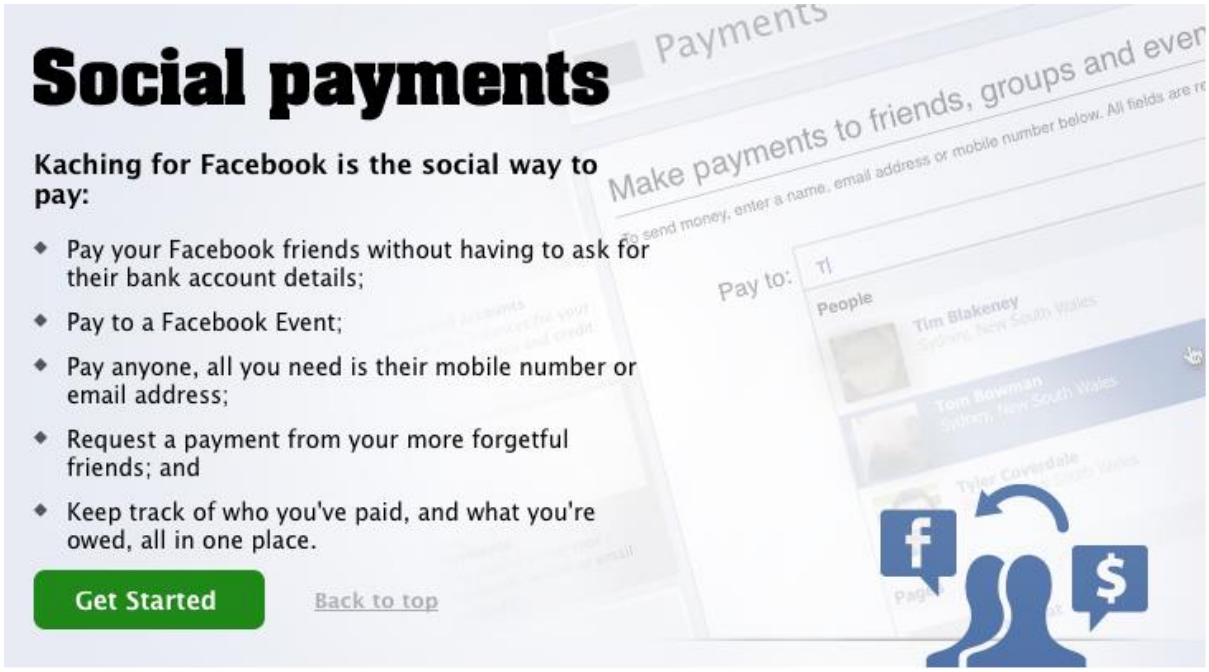
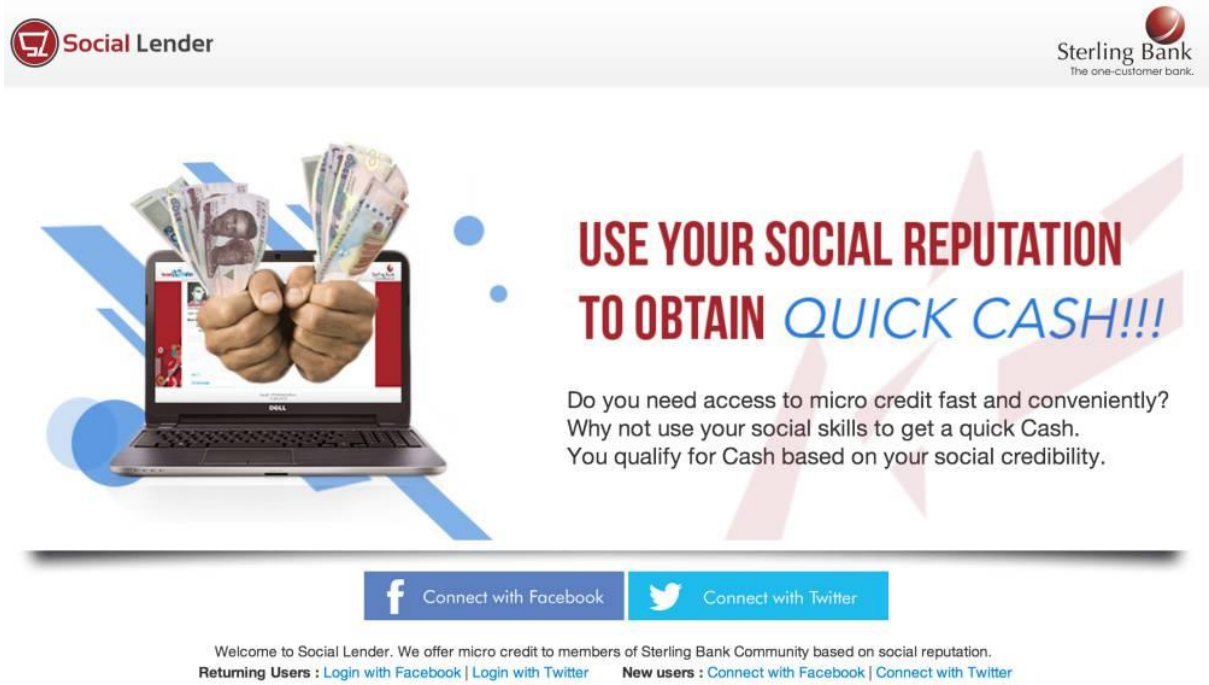
2
FNB Banking on Facebook
Linking your banking profile to your Facebook profile will allow you to view your account balance as well as buy prepaid airtime and bundles for yourself on Facebook. Please ensure that you close all active Facebook sessions while linking both your profiles.
Link my banking profile to my Facebook profile
Remove my banking profile from my Facebook profile


Your Bank on Facebook.
Register to access your ICICI Bank Account from anywhere in the world. Right here on Facebook.
Register Now
Account
Account Summary
Account Details
Mini Statement
Services
Apply for Email Statement
Cheque Book Request
Stop Cheque Request
Cheque Status Inquiry
Upgrade Debit Card
ICICI Bank
khayaal aapka


FNB SOCIAL BANKING
Do your Banking right here on Facebook.
Welcome to the world of Social Banking with FNB. This service allows you to use your FNB account to send vouchers to your Facebook friends and do limited banking and prepaid purchases directly on Facebook.
FNB VOUCHERS
Send cash and airtime to your Facebook friends.
FNB BANKING
You don't need to leave Facebook to do your banking.


Social payments
Kaching for Facebook is the social way to pay:
Pay your Facebook friends without having to ask for their bank account details;
Pay to a Facebook Event;
Pay anyone, all you need is their mobile number or email address;
Request a payment from your more forgetful friends; and
Keep track of who you've paid, and what you're owed, all in one place.
Get Started
Back to top
Payments
Make payments to friends, groups and ever
Pay to:
People
Tim Blakeney
Tom Bowman


Social Lender
Sterling Bank
The one-customer bank.
USE YOUR SOCIAL REPUTATION
TO OBTAIN QUICK CASH!!!
Do you need access to micro credit fast and conveniently?
Why not use your social skills to get a quick Cash.
You qualify for Cash based on your social credibility.
Connect with Facebook
Connect with Twitter
Welcome to Social Lender. We offer micro credit to members of Sterling Bank Community based on social reputation.
Returning Users : Login with Facebook | Login with Twitter
New users : Connect with Facebook | Connect with Twitter

Appendix D: Statistics for pilot study

Construct and Item Analysis						
Construct	Item	Mean	Standard deviation	Mean	Standard deviation	Cronbach's alpha
Performance Expectancy	PE1	2.22	1.132	2.4593	.94878	0.885
	PE2	2.20	1.011			
	PE3	2.67	1.091			
	PE4	2.74	1.161			
Effort Expectancy	EE1	1.89	.937	2.0504	.80245	0.904
	EE2	2.12	.863			
	EE3	2.09	.905			
	EE4	2.10	.934			
Social Influence	SI1	2.95	1.155	2.8889	1.02937	0.917
	SI2	2.91	1.083			
	SI3	2.81	1.097			
Hedonic Motivation	HM1	2.78	1.055	2.8527	.94732	0.931
	HM2	2.78	.992			
	HM3	3.00	.984			
Innovativeness	IV1	2.08	.957	2.4005	.85734	0.813
	IV2	2.85	1.083			
	IV3	2.27	.974			
Perceived Risk	PR1	2.33	1.099	2.2894	.88081	0.914
	PR2	2.13	1.049			
	PR3	2.21	1.028			
	PR4	2.19	1.037			
	PR5	2.55	1.089			
	PR6	2.33	1.024			
Trust	TR1	3.00	1.000	2.8023	.83775	0.870
	TR2	2.82	.964			
	TR3	2.88	1.122			
	TR4	2.50	.849			
Behavioural Intention	BI1	2.74	1.070	2.8527	1.04076	0.931
	BI2	2.81	1.105			
	BI3	3.01	1.156			

Correlations[b]									
		PE	EE	SI	HM	IV	PR	TR	BI
PE	Pearson Correlation	1	.359**	.607**	.563**	.100	-.383**	.500**	.665**
	Sig. (2-tailed)		.000	.000	.000	.258	.000	.000	.000
	Sum of Squares and Cross-products	115.224	35.015	75.917	64.810	10.436	-40.939	50.900	84.060
	Covariance	.900	.274	.593	.506	.082	-.320	.398	.657
EE	Pearson Correlation	.359**	1	.276**	.403**	.521**	-.070	.295**	.333**
	Sig. (2-tailed)	.000		.002	.000	.000	.433	.001	.000
	Sum of Squares and Cross-products	35.015	82.422	29.139	39.207	45.897	-6.298	25.410	35.624
	Covariance	.274	.644	.228	.306	.359	-.049	.199	.278
SI	Pearson Correlation	.607**	.276**	1	.615**	.295**	-.392**	.491**	.570**
	Sig. (2-tailed)	.000	.002		.000	.001	.000	.000	.000
	Sum of Squares and Cross-products	75.917	29.139	135.630	76.778	33.296	-45.463	54.250	78.222
	Covariance	.593	.228	1.060	.600	.260	-.355	.424	.611
HM	Pearson Correlation	.563**	.403**	.615**	1	.318**	-.301**	.460**	.572**
	Sig. (2-tailed)	.000	.000	.000		.000	.001	.000	.000
	Sum of Squares and Cross-products	64.810	39.207	76.778	114.868	33.054	-32.112	46.744	72.202
	Covariance	.506	.306	.600	.897	.258	-.251	.365	.564
IV	Pearson Correlation	.100	.521**	.295**	.318**	1	-.069	.127	.235**
	Sig. (2-tailed)	.258	.000	.001	.000		.437	.150	.007
	Sum of Squares and Cross-products	10.436	45.897	33.296	33.054	94.084	-6.675	11.713	26.832
	Covariance	.082	.359	.260	.258	.735	-.052	.092	.210
PR	Pearson Correlation	-.383**	-.070	-.392**	-.301**	-.069	1	-.533**	-.474**
	Sig. (2-tailed)	.000	.433	.000	.001	.437		.000	.000
	Sum of Squares and Cross-products	-40.939	-6.298	-45.463	-32.112	-6.675	99.307	-50.370	-55.612
	Covariance	-.320	-.049	-.355	-.251	-.052	.776	-.394	-.434
TR	Pearson Correlation	.500**	.295**	.491**	.460**	.127	-.533**	1	.652**
	Sig. (2-tailed)	.000	.001	.000	.000	.150	.000		.000
	Sum of Squares and Cross-products	50.900	25.410	54.250	46.744	11.713	-50.370	89.834	72.744
	Covariance	.398	.199	.424	.365	.092	-.394	.702	.568
BI	Pearson Correlation	.665**	.333**	.570**	.572**	.235**	-.474**	.652**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.007	.000	.000	
	Sum of Squares and Cross-products	84.060	35.624	78.222	72.202	26.832	-55.612	72.744	138.646

	Covariance	.657	.278	.611	.564	.210	-.434	.568	1.083
**. Correlation is significant at the 0.01 level (2-tailed).									
b. Listwise N=129									

Descriptive Statistics

	Mean	Std. Deviation	N
PE	2.4593	.94878	129
EE	2.0504	.80245	129
SI	2.8889	1.02937	129
HM	2.8527	.94732	129
IV	2.4005	.85734	129
PR	2.2894	.88081	129
TR	2.8023	.83775	129
BI	2.8527	1.04076	129

Reliability Statistics for Performance Expectancy

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.885	.887	4

Inter-Item Correlation Matrix for Performance Expectancy

	PE1	PE2	PE3	PE4
PE1	1.000	.740	.659	.607
PE2	.740	1.000	.648	.597
PE3	.659	.648	1.000	.717
PE4	.607	.597	.717	1.000

Item-Total Statistics for Performance Expectancy

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PE1	7.62	8.206	.758	.612	.849
PE2	7.64	8.858	.752	.601	.853
PE3	7.16	8.340	.773	.611	.844

PE4	7.09	8.241	.722	.554	.864

Reliability Statistics for Effort Expectancy		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.904	.905	4

Inter-Item Correlation Matrix				
	EE1	EE2	EE3	EE4
EE1	1.000	.673	.638	.646
EE2	.673	1.000	.716	.722
EE3	.638	.716	1.000	.830
EE4	.646	.722	.830	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EE1	6.31	6.122	.712	.516	.903
EE2	6.09	6.188	.785	.617	.877
EE3	6.11	5.879	.821	.722	.863
EE4	6.10	5.732	.827	.729	.861

Reliability Statistics for Social Influence		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.917	.917	3

Inter-Item Correlation Matrix			
	SI1	SI2	SI3
SI1	1.000	.834	.756
SI2	.834	1.000	.768
SI3	.756	.768	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SI1	5.72	4.203	.845	.728	.869
SI2	5.75	4.454	.856	.740	.861
SI3	5.86	4.590	.796	.634	.908

Reliability Statistics for Hedonic Motivation		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.931	.931	3

Inter-Item Correlation Matrix			
	HM1	HM2	HM3
HM1	1.000	.864	.775
HM2	.864	1.000	.816
HM3	.775	.816	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
HM1	5.78	3.546	.860	.761	.899
HM2	5.78	3.691	.893	.800	.872
HM3	5.56	3.905	.823	.685	.926

Reliability Statistics for Innovativeness		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.811	.813	3

Inter-Item Correlation Matrix			
	IV1	IV2	IV3
IV1	1.000	.516	.631

IV2	.516	1.000	.630
IV3	.631	.630	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IV1	5.12	3.453	.632	.421	.771
IV2	4.35	3.041	.635	.421	.774
IV3	4.93	3.159	.724	.525	.677

Reliability Statistics for Perceived Risk		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.913	.914	6

Inter-Item Correlation Matrix						
	PR1	PR2	PR3	PR4	PR5	PR6
PR1	1.000	.666	.615	.555	.498	.527
PR2	.666	1.000	.844	.638	.606	.622
PR3	.615	.844	1.000	.608	.580	.573
PR4	.555	.638	.608	1.000	.753	.671
PR5	.498	.606	.580	.753	1.000	.818
PR6	.527	.622	.573	.671	.818	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PR1	11.40	20.149	.666	.484	.911
PR2	11.60	19.366	.809	.765	.890
PR3	11.53	19.861	.765	.724	.896
PR4	11.55	19.781	.767	.632	.896
PR5	11.19	19.340	.773	.747	.895
PR6	11.41	19.900	.764	.699	.897

Reliability Statistics for Trust		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.869	.870	4

Inter-Item Correlation Matrix				
	TR1	TR2	TR3	TR4
TR1	1.000	.746	.675	.469
TR2	.746	1.000	.725	.617
TR3	.675	.725	1.000	.521
TR4	.469	.617	.521	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TR1	8.21	6.479	.737	.595	.826
TR2	8.39	6.286	.831	.694	.789
TR3	8.33	5.893	.748	.574	.826
TR4	8.71	7.709	.594	.392	.880

Reliability Statistics for Behavioural Intention		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.931	.931	3

Inter-Item Correlation Matrix			
	BI1	BI2	BI3
BI1	1.000	.843	.835
BI2	.843	1.000	.778
BI3	.835	.778	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
BI1	5.81	4.543	.890	.793	.875
BI2	5.75	4.547	.845	.729	.909
BI3	5.55	4.359	.840	.717	.915

Exploratory factor analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.879
Bartlett's Test of Sphericity	Approx. Chi-Square	3236.823
	df	435
	Sig.	.000

Pattern Matrix[a]								
	Component							
	1	2	3	4	5	6	7	8
PR5	.979							
PR4	.932							
PR6	.932							
PR2	.752							
PR3	.669							
PR1	.640							
EE3		.871						
EE4		.864						
EE1		.783						
EE2		.749						
PE4			.958					
PE3			.899					
PE2			.738					
PE1			.583					
TR4		.373		.887				
TR2				.848				
TR1				.802				
TR3				.613				
HM2					.984			
HM1					.934			

HM3					.836			
SI2						.913		
SI1						.836		
SI3						.828		
BI2							.997	
BI1							.883	
BI3							.748	
IV2								.858
IV3								.732
IV1								.731
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.								
a. Rotation converged in 8 iterations.								

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.424	38.080	38.080	11.424	38.080	38.080	6.721
2	4.060	13.534	51.614	4.060	13.534	51.614	4.699
3	2.364	7.879	59.493	2.364	7.879	59.493	7.602
4	1.795	5.982	65.475	1.795	5.982	65.475	6.694
5	1.455	4.851	70.327	1.455	4.851	70.327	7.128
6	1.122	3.739	74.066	1.122	3.739	74.066	6.804
7	1.002	3.340	77.405	1.002	3.340	77.405	8.085
8	.821	2.737	80.142	.821	2.737	80.142	3.427
9	.745	2.485	82.627				
10	.544	1.813	84.440				
11	.520	1.734	86.175				
12	.422	1.407	87.581				
13	.389	1.297	88.878				
14	.373	1.245	90.123				
15	.330	1.099	91.222				
16	.320	1.066	92.288				
17	.297	.988	93.276				
18	.258	.860	94.136				
19	.244	.815	94.951				
20	.232	.773	95.723				
21	.213	.711	96.435				
22	.179	.597	97.032				
23	.168	.559	97.591				
24	.137	.458	98.049				
25	.126	.421	98.470				
26	.117	.390	98.860				
27	.103	.342	99.202				
28	.097	.325	99.526				
29	.081	.269	99.796				
30	.061	.204	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Communalities		
	Initial	Extraction
PE1	1.000	.801
PE2	1.000	.701
PE3	1.000	.807
PE4	1.000	.794
EE1	1.000	.728
EE2	1.000	.794
EE3	1.000	.837
EE4	1.000	.830
SI1	1.000	.871
SI2	1.000	.880
SI3	1.000	.843
HM1	1.000	.895
HM2	1.000	.931
HM3	1.000	.847
IV1	1.000	.683
IV2	1.000	.766
IV3	1.000	.777
PR1	1.000	.657
PR2	1.000	.765
PR3	1.000	.738
PR4	1.000	.777
PR5	1.000	.809
PR6	1.000	.757
TR1	1.000	.786
TR2	1.000	.831
TR3	1.000	.770
TR4	1.000	.727
BI1	1.000	.901
BI2	1.000	.892
BI3	1.000	.848
Extraction Method: Principal Component Analysis.		

Correlations for Performance Expectancy				
	PE1	PE2	PE3	PE4

PE1	Pearson Correlation	1	.740**	.659**	.607**
PE2	Pearson Correlation	.740**	1	.648**	.597**
PE3	Pearson Correlation	.659**	.648**	1	.717**
PE4	Pearson Correlation	.607**	.597**	.717**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Correlations for Effort Expectancy					
		EE1	EE2	EE3	EE4
EE1	Pearson Correlation	--			
EE2	Pearson Correlation	.673**	--		
EE3	Pearson Correlation	.638**	.716**	--	
EE4	Pearson Correlation	.646**	.722**	.830**	--
**. Correlation is significant at the 0.01 level (2-tailed).					

Correlations for Social Influence				
		SI1	SI2	SI3
SI1	Pearson Correlation	1	.834**	.756**
SI2	Pearson Correlation	.834**	1	.768**
SI3	Pearson Correlation	.756**	.768**	1
**. Correlation is significant at the 0.01 level (2-tailed).				

Correlations for Hedonic Motivation				
		HM1	HM2	HM3
HM1	Pearson Correlation	1	.864**	.775**
HM2	Pearson Correlation	.864**	1	.816**
HM3	Pearson Correlation	.775**	.816**	1
**. Correlation is significant at the 0.01 level (2-tailed).				

Correlations				
		IV1	IV2	IV3
IV1	Pearson Correlation	1	.516**	.631**
IV2	Pearson Correlation	.516**	1	.630**
IV3	Pearson Correlation	.631**	.630**	1
**. Correlation is significant at the 0.01 level (2-tailed).				

Correlations for Perceived Risk							
		PR1	PR2	PR3	PR4	PR5	PR6
PR1	Pearson Correlation	1	.666**	.615**	.555**	.498**	.527**
PR2	Pearson Correlation	.666**	1	.844**	.638**	.606**	.622**
PR3	Pearson Correlation	.615**	.844**	1	.608**	.580**	.573**
PR4	Pearson Correlation	.555**	.638**	.608**	1	.753**	.671**
PR5	Pearson Correlation	.498**	.606**	.580**	.753**	1	.818**
PR6	Pearson Correlation	.527**	.622**	.573**	.671**	.818**	1
**. Correlation is significant at the 0.01 level (2-tailed).							

Correlations for Trust					
		TR1	TR2	TR3	TR4
TR1	Pearson Correlation	1	.746**	.675**	.469**
TR2	Pearson Correlation	.746**	1	.725**	.617**
TR3	Pearson Correlation	.675**	.725**	1	.521**
TR4	Pearson Correlation	.469**	.617**	.521**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Correlations for Behavioural Intention				
		BI1	BI2	BI3
BI1	Pearson Correlation	1	.843**	.835**
BI2	Pearson Correlation	.843**	1	.778**
BI3	Pearson Correlation	.835**	.778**	1
**. Correlation is significant at the 0.01 level (2-tailed).				

One Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
PE1	129	2.22	1.132	.100
PE2	129	2.20	1.011	.089
PE3	129	2.67	1.091	.096

PE4	129	2.74	1.161	.102
EE1	129	1.89	.937	.083
EE2	129	2.12	.863	.076
EE3	129	2.09	.905	.080
EE4	129	2.10	.934	.082
SI1	129	2.95	1.155	.102
SI2	129	2.91	1.083	.095
SI3	129	2.81	1.097	.097
HM1	129	2.78	1.055	.093
HM2	129	2.78	.992	.087
HM3	129	3.00	.984	.087
IV1	129	2.08	.957	.084
IV2	129	2.85	1.083	.095
IV3	129	2.27	.974	.086
PR1	129	2.33	1.099	.097
PR2	129	2.13	1.049	.092
PR3	129	2.21	1.028	.091
PR4	129	2.19	1.037	.091
PR5	129	2.55	1.089	.096
PR6	129	2.33	1.024	.090
TR1	129	3.00	1.000	.088
TR2	129	2.82	.964	.085
TR3	129	2.88	1.122	.099
TR4	129	2.50	.849	.075
BI1	129	2.74	1.070	.094
BI2	129	2.81	1.105	.097
BI3	129	3.01	1.156	.102

One-Sample Test

	Test Value = 3.0					
					99% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
PE1	-8.862	128	<0.001	-.883	-1.14	-.62
PE2	-10.096	128	<0.001	-.898	-1.13	-.67

PE3	-4.431	128	<0.001	-.426	-.68	-.17
PE4	-3.481	128	<0.001	-.356	-.62	-.09
EE1	-14.643	128	<0.001	-1.209	-1.42	-.99
EE2	-12.952	128	<0.001	-.984	-1.18	-.79
EE3	-12.635	128	<0.001	-1.007	-1.22	-.80
EE4	-12.149	128	<0.001	-.999	-1.21	-.78
SI1	-1.518	128	.132	-.154	-.42	.11
SI2	-1.943	128	.054	-.185	-.43	.06
SI3	-3.041	128	.003	-.294	-.55	-.04
HM1	-3.497	128	<0.001	-.325	-.57	-.08
HM2	-3.631	128	<0.001	-.317	-.55	-.09
HM3	-1.154	128	.251	-.100	-.33	.13
IV1	-12.135	128	<0.001	-1.022	-1.24	-.80
IV2	-2.593	128	.011	-.247	-.50	.00
IV3	-9.660	128	<0.001	-.829	-1.05	-.60
PR1	-7.922	128	<0.001	-.767	-1.02	-.51
PR2	-10.487	128	<0.001	-.968	-1.21	-.73
PR3	-9.838	128	<0.001	-.891	-1.13	-.65
PR4	-10.014	128	<0.001	-.914	-1.15	-.68
PR5	-5.730	128	<0.001	-.550	-.80	-.30
PR6	-8.586	128	<0.001	-.774	-1.01	-.54
TR1	-1.136	128	.258	-.100	-.33	.13
TR2	-3.280	128	<0.001	-.278	-.50	-.06
TR3	-2.189	128	.030	-.216	-.47	.04
TR4	-7.975	128	<0.001	-.596	-.79	-.40
BI1	-3.777	128	<0.001	-.356	-.60	-.11
BI2	-3.021	128	.003	-.294	-.55	-.04
BI3	-.907	128	.366	-.092	-.36	.17

Appendix E: Statistics for main study

Reliability Statistics for Performance Expectancy		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.885	.886	4

Inter-Item Correlation Matrix				
	PE1	PE2	PE3	PE4
PE1	1.000	.720	.654	.627
PE2	.720	1.000	.668	.577
PE3	.654	.668	1.000	.715
PE4	.627	.577	.715	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PE1	7.99	8.633	.759	.597	.849
PE2	8.07	9.380	.744	.587	.855
PE3	7.58	8.979	.778	.620	.842
PE4	7.58	9.035	.721	.557	.863

Reliability Statistics for Effort Expectancy		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.875	.877	4

Inter-Item Correlation Matrix				
	EE1	EE2	EE3	EE4
EE1	1.000	.578	.611	.548
EE2	.578	1.000	.679	.659
EE3	.611	.679	1.000	.765
EE4	.548	.659	.765	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EE1	6.42	5.806	.646	.427	.875
EE2	6.16	5.829	.732	.538	.841
EE3	6.30	5.572	.802	.664	.813
EE4	6.28	5.490	.757	.623	.830

Reliability Statistics for Social Influence		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.902	.902	3

Inter-Item Correlation Matrix			
	SI1	SI2	SI3
SI1	1.000	.816	.731
SI2	.816	1.000	.718
SI3	.731	.718	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SI1	5.99	3.953	.834	.709	.836
SI2	6.03	4.111	.825	.698	.844
SI3	6.12	4.309	.760	.578	.898

Reliability Statistics for Hedonic Motivation		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.936	.937	3

Inter-Item Correlation Matrix			
	HM1	HM2	HM3
HM1	1.000	.863	.796
HM2	.863	1.000	.834
HM3	.796	.834	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
HM1	5.91	3.600	.866	.764	.910
HM2	5.92	3.659	.896	.804	.887
HM3	5.71	3.697	.844	.719	.926

Reliability Statistics for Innovativeness		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.790	.796	3

Inter-Item Correlation Matrix			
	IV1	IV2	IV3
IV1	1.000	.441	.648
IV2	.441	1.000	.607
IV3	.648	.607	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IV1	5.12	3.356	.598	.424	.750
IV2	4.33	2.954	.577	.372	.786
IV3	4.91	3.043	.737	.548	.608

Reliability Statistics for Perceived Risk		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.913	.914	6

Inter-Item Correlation Matrix						
	PR1	PR2	PR3	PR4	PR5	PR6
PR1	1.000	.663	.667	.529	.537	.532
PR2	.663	1.000	.851	.587	.575	.593
PR3	.667	.851	1.000	.611	.605	.594
PR4	.529	.587	.611	1.000	.751	.706
PR5	.537	.575	.605	.751	1.000	.774
PR6	.532	.593	.594	.706	.774	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PR1	10.84	19.711	.686	.503	.908
PR2	11.00	19.385	.782	.748	.893
PR3	10.96	19.286	.799	.758	.891
PR4	10.91	20.237	.753	.629	.898
PR5	10.65	19.451	.765	.692	.896
PR6	10.85	20.229	.757	.654	.897

Reliability Statistics for Trust		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.876	.875	4

Inter-Item Correlation Matrix				
	TR1	TR2	TR3	TR4
TR1	1.000	.744	.718	.494
TR2	.744	1.000	.705	.580
TR3	.718	.705	1.000	.581
TR4	.494	.580	.581	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TR1	8.51	6.582	.762	.627	.830
TR2	8.64	6.455	.793	.641	.817
TR3	8.58	6.121	.780	.612	.823
TR4	9.06	7.838	.612	.395	.885

Reliability Statistics for Behavioural Intention		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.937	.937	3

Inter-Item Correlation Matrix			
	BI1	BI2	BI3
BI1	1.000	.828	.857
BI2	.828	1.000	.815
BI3	.857	.815	1.000

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
BI1	6.15	4.989	.884	.784	.898
BI2	6.20	5.087	.852	.727	.923
BI3	5.91	5.013	.874	.770	.906

Correlations[c]									
		PE	EE	SI	HM	IV	PR	TR	BI
PE	Pearson Correlation	1	.352**	.586**	.547**	.118*	-.451**	.561**	.687**
	Sig. (2-tailed)		.000	.000	.000	.049	.000	.000	.000
EE	Pearson Correlation	.352**	1	.273**	.387**	.355**	-.098	.303**	.360**
	Sig. (2-tailed)	.000		.000	.000	.000	.101	.000	.000
SI	Pearson Correlation	.586**	.273**	1	.542**	.166**	-.382**	.455**	.529**
	Sig. (2-tailed)	.000	.000		.000	.006	.000	.000	.000
HM	Pearson Correlation	.547**	.387**	.542**	1	.225**	-.269**	.447**	.514**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
IV	Pearson Correlation	.118*	.355**	.166**	.225**	1	-.090	.106	.202**
	Sig. (2-tailed)	.049	.000	.006	.000		.135	.076	.001
PR	Pearson Correlation	-.451**	-.098	-.382**	-.269**	-.090	1	-.599**	-.545**
	Sig. (2-tailed)	.000	.101	.000	.000	.135		.000	.000
TR	Pearson Correlation	.561**	.303**	.455**	.447**	.106	-.599**	1	.692**
	Sig. (2-tailed)	.000	.000	.000	.000	.076	.000		.000
BI	Pearson Correlation	.687**	.360**	.529**	.514**	.202**	-.545**	.692**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.001	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).									
N=279									

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
PE1	279	2.42	1.199	.072
PE2	279	2.34	1.073	.064
PE3	279	2.83	1.115	.067
PE4	279	2.82	1.161	.070
EE1	279	1.97	.953	.057
EE2	279	2.23	.875	.052
EE3	279	2.09	.881	.053
EE4	279	2.11	.936	.056
SI1	279	3.08	1.106	.066
SI2	279	3.04	1.072	.064
SI3	279	2.95	1.073	.064
HM1	279	2.86	1.015	.061
HM2	279	2.85	.978	.059
HM3	279	3.06	1.004	.060
IV1	279	2.06	.952	.057
IV2	279	2.85	1.101	.066
IV3	279	2.27	.941	.056
PR1	279	2.20	1.134	.068
PR2	279	2.04	1.070	.064
PR3	279	2.09	1.066	.064
PR4	279	2.13	.988	.059
PR5	279	2.39	1.080	.065
PR6	279	2.19	.985	.059
TR1	279	3.09	1.005	.060
TR2	279	2.96	1.006	.060
TR3	279	3.01	1.091	.065
TR4	279	2.54	.859	.051
BI1	279	2.98	1.169	.070
BI2	279	2.93	1.173	.070
BI3	279	3.22	1.172	.070

One-Sample Test						
	Test Value = 3.0					
	t	df	Sig. (2-tailed)	Mean Difference	99% Confidence Interval of the Difference	
					Lower	Upper
PE1	-9.479	278	<0.001	-.681	-.87	-.49
PE2	-11.874	278	<0.001	-.763	-.93	-.60
PE3	-4.075	278	<0.001	-.272	-.45	-.10
PE4	-4.015	278	<0.001	-.279	-.46	-.10
EE1	-19.836	278	<0.001	-1.132	-1.28	-.98
EE2	-16.691	278	<0.001	-.874	-1.01	-.74
EE3	-19.217	278	<0.001	-1.014	-1.15	-.88
EE4	-17.647	278	<0.001	-.989	-1.13	-.84
SI1	-.319	278	.750	-.021	-.19	.15
SI2	-.888	278	.375	-.057	-.22	.11
SI3	-2.393	278	.017	-.154	-.32	.01
HM1	-4.006	278	<0.001	-.243	-.40	-.09
HM2	-4.281	278	<0.001	-.251	-.40	-.10
HM3	-.650	278	.516	-.039	-.19	.12
IV1	-18.231	278	<0.001	-1.039	-1.19	-.89
IV2	-3.747	278	<0.001	-.247	-.42	-.08
IV3	-14.811	278	<0.001	-.835	-.98	-.69
PR1	-13.196	278	<0.001	-.896	-1.07	-.72
PR2	-16.549	278	<0.001	-1.061	-1.23	-.89
PR3	-15.887	278	<0.001	-1.014	-1.18	-.85
PR4	-16.416	278	<0.001	-.971	-1.12	-.82
PR5	-10.968	278	<0.001	-.709	-.88	-.54
PR6	-15.376	278	<0.001	-.906	-1.06	-.75
TR1	-.173	278	.863	-.010	-.17	.15
TR2	-2.374	278	.018	-.143	-.30	.01
TR3	-1.366	278	.173	-.089	-.26	.08
TR4	-10.929	278	<0.001	-.562	-.70	-.43
BI1	-1.736	278	.084	-.122	-.30	.06
BI2	-2.445	278	.015	-.172	-.35	.01
BI3	1.691	278	.092	.119	-.06	.30

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