

DETERMINANTS OF BANK OFFICERS' INTENTION TO REPAYMENT RISK  
MINIMIZATION OF SMALL AND MEDIUM SIZED ENTERPRISES IN  
MALAYSIA

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MALAYSIA

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## DEDICATION

This thesis is dedicated to my father, Yong Fatt, who taught me that the best kind of knowledge to have is that which is learned from experiencing it yourself. It is also dedicated to my mother, Liow Kim Choo, who taught me that even the largest task can be accomplished if it is done one step at a time. Also, a fond mention to my son, Aiden Yong Ern Liang, who showed me the meaning of perseverance, and to my dearest Yvonne De Souza, for your love and kindness, as well as to Wooi Meng and Siew Mee, for their kind words of encouragement. Also, to Barnitus De Souza, Mary Lau and Emmeline De Souza, for your emotional support away from home.

*‘Sacrifices are necessary. You can’t gain anything without losing something first. Although, if you can endure that pain and walk away from it, you’ll find that you now have a heart strong enough to overcome any obstacles – a heart made full metal’*

Edward Elric

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## **ABSTRACT**

The purpose of this study is to investigate the intention of Malaysian bank officers to minimise repayment risks when they offer products to Small and Medium-sized Enterprises (SME's). In the past, there were many studies about the demand side of the credit supply (for example, difficulties in obtaining credit). However, studies on the supply side of credit were largely neglected. This study aims to determine the factors that are hypothesised to influence the intention of the bank officers to minimise repayment risks from SME's. As the Theory of Planned Behaviour predominantly uses a quantitative research method, a research questionnaire was created as the research instrument and the non-probability sampling method (i.e. snowball sampling) was used to locate the respondents that fulfils the sampling criteria. The data collected was assessed using the measurement model and structural model and confirmed to be valid. The theory was extended by moderating the predictors of intention and the effects of past experience was also tested on intention. In addition, the model's out-of-sample predictive ability is also assessed and predictive power is confirmed. The results of the study confirms the validity of all of the hypothesis except two. These results show there is a way to minimise SME repayment risks by using the banks' human resources, and the application of Theory of Planned Behaviour can be extended to the banking field. It contributes to identifying factors that influences the intention of Malaysian bank officers to minimise repayment risks from SME's. Also, it may contribute to the training provided by banks to its loan officers with a view to minimising non-performing loans (NPL's) from SME's in the future.

## ABSTRAK

Kajian ini dilakukan bertujuan untuk mengkaji niat pegawai bank di Malaysia untuk meminimumkan risiko pembayaran balik pinjaman apabila mereka menawarkan produk pinjaman kepada Perusahaan Kecil dan Sederhana (PKS). Sebelum ini, kebanyakan kajian adalah berkenaan permintaan dana kredit (contohnya, kesukaran mendapatkan pinjaman). Walau bagaimanapun, kajian berkenaan penawaran kredit kurang mendapat perhatian. Kajian ini bertujuan mengenal-pasti faktor-faktor yang dihipotesiskan akan mempengaruhi niat pegawai-pegawai bank untuk meminimumkan risiko pembayaran balik dari PKS. Oleh kerana Teori Perilaku Terancang lazimnya menggunakan kaedah penyelidikan kuantitatif, borang soal-selidik kajian disediakan sebagai instrumen kajian serta kaedah persampelan bukan-kebarangkalian (*snowball sampling*) digunakan untuk mengenal-pasti responden yang memenuhi kriteria persampelan. Data terkumpul yang dinilai menggunakan model pengukuran dan model struktur disahkan. Teori ini diperluaskan dengan menyederhanakan peramal niat dan kesan pengalaman lalu juga diuji pada niat. Tambahan lagi, kebolehan model ini membuat ramalan di luar sampel juga diuji dan kuasa ramalan disahkan. Hasil kajian mengesahkan kesahihan semua hipotesis kecuali dua. Hasil kajian ini juga menunjukkan terdapat satu cara untuk meminimumkan risiko pembayaran balik PKS dengan menggunakan sumber manusia di bank, dan aplikasi Teori Perilaku Terancang boleh diperluaskan kepada bidang perbankan. Ia menyumbang untuk mengenal-pasti faktor-faktor yang mempengaruhi niat pegawai bank di Malaysia untuk meminimumkan risiko pembayaran balik dari PKS. Selain itu, ia boleh menyumbang kepada latihan yang diberikan oleh pihak bank kepada pegawai-pegawai pinjamannya yang bertujuan meminimumkan pinjaman tidak berbayar (NPL) dari PKS di masa hadapan.

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## LIST OF ABBREVIATIONS

SME	-	Small and Medium sized Enterprises
MPC	-	Monetary Policy Committee
OPR	-	Overnight Policy Rate
BNM	-	Bank Negara Malaysia
SRR	-	Statutory Reserve Requirement
NPL	-	Non-Performing Loans
GDP	-	Gross Domestic Product
ASEAN	-	Association of South-East Asian Nations
TPB	-	Theory of Planned Behaviour
DTPB	-	Decomposed Theory of Planned Behaviour
TRA	-	Theory of Reasoned Action
CCRIS	-	Central Credit Reference Information System
CTOS	-	Credit Tip-Off Service
FICO	-	Fair Isaac Corporation
RAA	-	Reasoned Action Approach
CMV	-	Common Method Variance
ATT	-	Attitude
PFI	-	Perceived Financial Incentives
PFR	-	Perceived Financial Risks
SN	-	Subjective Norms
PBC	-	Perceived Behavioural Control
PB	-	Past Behaviour
VIF	-	Variance Inflation Factor
CR	-	Composite Reliability
AVE	-	Average Variance Extracted
HTMT	-	Heterotrait - Monotrait
MCAR	-	Missing Completely At Random

## LIST OF SYMBOLS

$R^2$	-	Score for the coefficient of determination
$f^2$	-	Effect Size
$Q^2$	-	Predictive relevance
$\rho_A$	-	Rho –A, score for internal consistency

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 The Importance of Small to Medium Sized Industries (SME's) to the Malaysian Economy**

Following BNM (2017), SME's contribute one third of the country's Gross Domestic Product (GDP). This has increased to 37.1% in 2018 (BNM, 2018) and comprises 97% of all formal business establishments in Malaysia. SME's employ 66% of the Malaysian workforce as of 2018 and BNM also believes that SME's have the potential to contribute more to the Malaysian economy. It is expected that by the year 2020, SME's contribution to the Malaysian GDP will increase to 41% (The Edge Daily, 2018). Despite the economic difficulties due to the global pandemic brought about by Covid-19, the economic contribution as a share of Malaysia's GDP from SME's still accounted for 38.2% (RM 518.2 billion) in 2020, although it was a drop from 38.9% (RM 533.5 billion) in 2019 (Datuk Seri Dr Mohd Uzir Mahidin, 2021).

BNM's survey in 2018 in which 1529 SME's took part found that 90% of the SME's served the domestic market, and 7% exporting their products and services overseas. Manufacturing firms also paid higher wages to new graduates compared to other sectors. In addition, 23% of SME's borrowed money to buy assets like buildings, property, machinery and equipment, and 22% of SME's used it for working capital. 19% of the SME's borrowed money from financial institutions to start new businesses (The Star, April 2019). SME's not only provided jobs to the local economy, they also provided jobs to other economic sectors of the Malaysian economy as well by being consumers of services and technology.

About 83% of the surveyed SME's report that they used information and communications technology (ICT) in their business operations, and 53% used professional services like auditors, accountants and financial advisors to manage their financial accounts. Also, about 50% of the SME's have bought insurance or takaful products, and there has been emerging interest by SME's to secure protection for themselves against risks associated with cyber security, professional indemnity, payment default and damages in crops (The Star, April 2019).

Clearly, SME's provide an important growth potential for the Malaysian economy in many economic sectors and helps improve the financial well-being of Malaysians. Also, financial institutions like banks are the main source of financing for SME's, and lending to SME's constitute almost half of the total sum of the financial institutions lending to the business sector (BNM, 2021, Appendix A, Table 1.23.1).

Giving loans has always been an integral part of banking operations. For example, on 22 January 2020, the Monetary Policy Committee (MPC) of Bank Negara Malaysia decided to reduce the Overnight Policy Rate (OPR) to 2.75 percent, and considers the adjustment to the OPR as a pre-emptive measure to secure economic growth with price stability (BNM, 2020). Overnight Policy Rate (OPR) dropped to 2% in May 2020 (BNM cuts OPR by 50bps to 2%, lowest in 10 years, 2020). Giving loans has been an integral part of banking operations.

In 2019, CIMB Group, Malaysia's second largest commercial bank by assets, recorded that it's gross loans account for 64.4% (up from 63% in 2018) of it's total assets and Maybank, Malaysia's largest commercial bank with over 20 million customers, recorded that it's gross loans is 62.8% (2018) and 61.5% (2019) over it's total assets (CIMB Interim Financial Statement 2018 and Annual Report 2019, and Maybank Annual Reports 2018 and 2019; Misachi, 2017; "Top Malaysian Lenders", 2018). This shows that banks must continue its lending activities as it is the most important income generating activity for banks (Yong, 2019).

Banks rely on lending policies to help them make effective loans, and lending policies is usually seen as a statement of the bank's philosophy and concept of lending. It includes standards, guidelines and limits to help the decision-making process easier (Shamsudin, 1998; Rose, 1999). In addition, the Central Bank of Malaysia, Bank Negara Malaysia (BNM) has signalled to the banking industry that they should continue to give out more loans by reducing the Statutory Reserve Requirement (SRR) Ratio from 4% to 3.5%, effective from February 2016 (BNM "Decrease in the Statutory Reserve Requirement Ratio", 2016).

The SRR ratio was further reduced to 3% from 16 November 2019 ("Decrease in the Statutory Reserve Requirement Ratio", 2019). Despite this policy, Malaysian banks loan growth remains low at 5% as of June 2018, due to the poor performance of working capital loans (Malaysian banks loan growth remains dismal at 5% in June, 2018) and is projected to remain flat at 5% to 6% level in 2019 (Starbiz, Dec 2018).

This situation is expected to make smaller Malaysian banks more willing to take risks compared to bigger banks (Powell, 2017). The combination of poor loan growth in the immediate future and a greater willingness by banks to take risks had the potential of creating more impaired loans/NPL's. This is evidenced by data from 2010, where the bulk of the Malaysian banking system's non-performing loans is from the business sector at 56% (Karim, Chan and Hassan, 2010) This had increased to 57.6% by January 2019 (BNM Monthly Highlights and Statistics, January 2019).

Coupled by the uncertain global economic conditions, it is understandable that banks view business loans as riskier compared to other types of loans (Yong and Yong, 2020). In the bank loan evaluation process, banks would evaluate potential borrowers, and then decide the level of risk such a loan would impose, charge the appropriate interest and disburse the amount requested, while ensuring that the capital borrowed is returned over the agreed time-frame of the loan. The interest charged will then yield interest income to the banks.

In the event the borrower defaults on paying back the loan, the bank's Non-Performing Loans will be higher. This was the case in Malaysia during the Asian Financial Crisis of 1997-1998, when cases of Non-Performing Loans (NPL's)/Impaired Loans (as expressed as the ratio of net impaired loans to net total loans in percentage) reached 8% to 9% (Appendix A, Table 1.21). High bank NPL's led to several implications including financial loss and acquisition of the smaller banks.

Therefore, it is clear that anything that affects the banking sector's lending activity will adversely affect the income of the banks. The factors that may affect such activities may be divided into two types of factors, firstly, external factors like the economic climate or political climate and secondly, bank specific factors. By its nature, external factors may not be readily controlled by the bank.

However, bank specific factors like adverse selection, information asymmetry and competency of loan officers in evaluating credit worthiness of customers are factors that are worthwhile for banks to concentrate their efforts on, as these factors are within their control, and the proper internal procedures and evaluation processes should allow a minimisation of repayment risks to the bank.

## **1.2 Background to the Study**

In the recent past, the non-availability of financing has been cited by Malaysian SME's as their most frequently encountered problem (Harif, Hoe and Zali, 2011). Despite highlighting this issue over the years, SME's continue to encounter difficulties in obtaining financing from lending institutions due to their size, high risk of investment and the level of information asymmetry (Abdulsaleh and Worthington, 2016). However, there has been a change in policy since then, leading to an increase in loan approval rates to SME's.

The financing approval rate from financial institutions has exceeded 80% (BNM, 2017), with the financing approval rate reaching 91% in 2019 (The Star, April 2019). As of February 2018, there was still RM 3.3 billion still available to SME's to use for working capital and for buying machinery (BNM, 2018).

However, the higher loan approval rates to SME's have also had some unintended consequences to financial institutions, which showed an increase in NPL's from the business sector in 2019 and 2020 (BNM, 2021 – Appendix A, Table 1.23.1). Using the BNM data, Figure 1.1 below shows the increasing trend of NPL from the business sector, especially from 2018 to the second quarter of 2021.

Figure 1.1 SME Yearly Total NPL

Because of the importance of continued funding for SME activities so that SME's can continue to contribute to the Malaysian economy, the solution has to be that financial institutions must be more skillful during the process of recommending the right financial products to SME's, and at the same time managing it's risk of accumulating non-performing loans.



The last 50 years has seen much change in the bank sales officer's role in credit assessments. The role evolved from a community based local banker with family-like knowledge of his clients, changing to a technocratic banker in the 1960's, and becoming the client-oriented banker in the 1980's.

Today's banker largely assumes the third role, but since then banks have grown larger. Banks that were once local and regional banks are now national and international institutions. Accordingly, there is a larger number of clients from society's growing middle class. This has caused great difficulties for bank officers to maintain personal contact with their clients (Lynch, 1996). In addition, due to the changes to the nature of banking, banks now have a decreased possibility to make personal evaluations of their clients.

This brought about the demand for more rules and regulations related to bank clients. In general, this led to a greater centralization of banking, for example the requirement that local bank branches get approval from their head offices before making their lending decisions. The banking industry's move towards greater computerisation has allowed faster decision making in accordance with bank policies (Rosenberg and Gleit, 1994).

Today, the process of approving financial products are mainly made based on financial and other quantitative data on the client's financial status as well as the personal relationships between the bank sales officers and their clients (Lynch, 1996; Udell, 2008). There are different ways in which banks assesses the risks associated with approving financial products for its clients. The use of quantitative information, for example, by analysing financial statements, the use of credit scoring as well as asset-backed lending are used (Berger and Udell, 2006).

In order to reduce impaired loans/NPL's and handle the problem of the ever-growing numbers of clients, banks use technology like credit scoring methods to assess the financial health of those applying for loans. However, before banks even use quantitative methods discussed here, bank sales officers must first pre-qualify the individual applications before submission in order to get better sales results.

However, while using technology may be effective in assessing the retail banking consumer lending base, lending money to SME's is different situation because the necessary systems is not in place to provide transparent information to investors or lenders, and SME's often cannot provide the collateral that banks require for taking on the higher risk (Harif et al., 2011).

### **1.3 Problem Statement**

Therefore, since the bank's role is that of a risk taker, the determinants of funding to SME's from the financial institution's perspective is an important issue that must be addressed (Ramlee and Berma, 2013). While it is recognised that SME's contribute significantly to the growth of the economy as there are about one million SME's comprises 97% of formal business establishments in Malaysia and contributes to 38.2% of the country's GDP (Mahidin, 2021), it is also recognised that at the same time the bank's business sector NPL's are also increasing along with the increasing loan approval rates – as shown in Figure 1.1, banking system NPL's has been climbing and exceeded RM 300 Million mark at the end of 2018 (Karim, Chan and Hassan, 2010 and BNM Monthly Highlights and Statistics, January 2020).

Although banks have been using technology to screen out potential good borrowers, this method is not as effective for discriminating SME applications since each SME lending case is different from each other, and the need for a case-by-case evaluation of SME loan applications defeats this method of screening (Abdulsaleh and Worthington, 2013).

Therefore, SME's are required to provide sufficient documentation when making their loan applications, which includes collateral, financial statements with good cash flow, proper business documentation – for example the business registration and a convincing project paper which explains the SME's businesses and outlines the direction of those businesses (Zairani and Zaimah, 2013).

In addition, the bank must also be convinced that the industries or businesses are viable, and that the SME's must also have a good and continuous relationship with the bank, having a good repayment record as well as having the proper experience in their business or industry (Zairani and Zaimah, 2013). Indeed, Wasiuzzaman, Nurdin, Abdullah and Vinayan (2020) found that creditworthiness is a key factor in influencing SME access to financing, especially the good character of the management team of the SME, especially considering the ability of the SME to repay the loan in the future.

This qualitative information can only be evaluated by bank officers. Consequently, banks need better "soft" information, which means that bank officers must consider each SME loan application properly, with the objective of minimising risks in general, and specifically minimising repayment risks. This shows that banks must still depend on the banks' sales staff to further reduce the possibility of impaired loans/NPL's from SME's by relying on their judgement and knowledge on their prospective borrowers and clients. Bank sales officers also have a duty to protect their banks' interests as well.

This responsibility falls first on the shoulders of bank sales officers when they analyse the potential SME customer and the information that is available to them when considering those decisions. When a potential customer comes to the bank to request an SME loan, he/she is typically met by a bank customer relationship officer and they are then directed to the bank's sales officer at the SME business division. The bank sales officer then checks the documentation provided by the potential borrower and discusses the relevant SME loan products with the entrepreneurs depending on the suitability of the borrower.

The bank sales officer will also arrange a visit to the SME's premises if necessary in addition to collecting confidential information about the potential borrower from various sources before making the relevant loan recommendation to the bank's lending committee. Finally if the bank lending committee concludes that the risks are acceptable, they will make a final loan approval in favour of the SME.

This highlights the relative importance of the banking sales officer in the process of SME lending. Figure 1.2 below illustrates a bank loan flowchart for SME's.

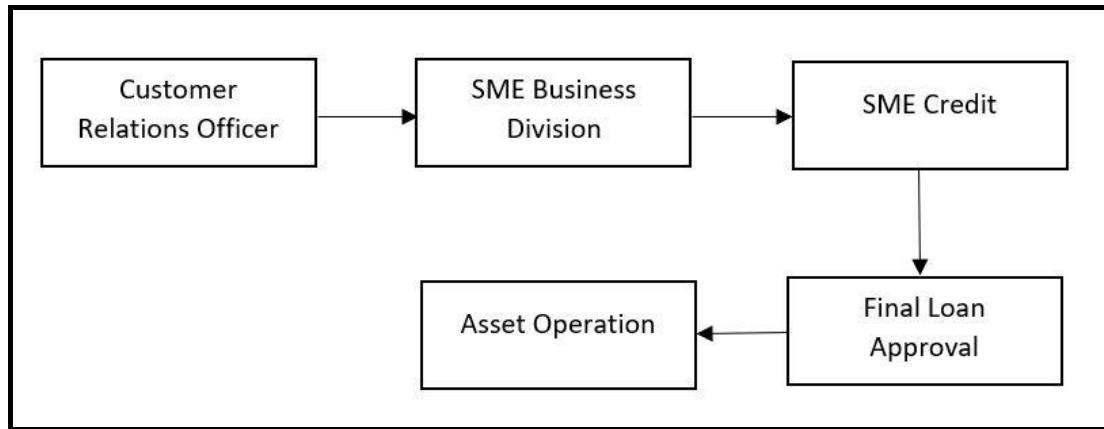


Figure 1.2 Bank Loan Flowchart

The interplay between the bank sales officer's desire to make the best choices for their clients (and the subsequent financial rewards to themselves) while balancing the requirement of minimising repayment risks to their employer (bank) is a form of contract that is not commonly explored (Yong, 2019). This situation gives rise to the creation of potential information asymmetry, moral hazard and adverse selection (Akerlof, 1970).

In this situation, the bank (principal) designates certain work and decisions to the bank officer (agent). Accordingly, Mitchell and Meacheam (2011) states that Agency Theory is the relationship between one party, the principal, who designates certain tasks and decisions to another party, the agent. The assumption of Agency Theory is that the agent will behave opportunistically, particularly if their interests conflicts with the principal (Mitchell and Meacheam, 2011).

This is the fundamental problem of the agency relationship (Bouckova, 2015), which is dealing with the behaviour of the agent and their own benefits, and this objective may not be consistent with the objectives of the principal. The desire to maximise their own benefits could occur when bank officers are considering a bank loan application from an SME, especially when financial incentives are given as a sales commission by the principal.

Frequently, it is the agent (bank officers) that possess the information advantage over the principal (Bouckova, 2015). This may lead to moral hazard, where the agent exploits the information asymmetry for their own benefit as a result of the principal's inability to fully monitor the agent for any moral hazard behaviour without incurring additional costs to do so. Information asymmetry can also lead to adverse selection, which arises due to the principal lacking information to assess the effectiveness of the agent's behaviour (Bouckova, 2015).

As a result of the necessity for the banks to rely on their officers to do the right thing with regards to their daily operations, the 7 fundamental assumptions of self-interest, goal conflict, bounded rationality, information asymmetry, preeminence of efficiency, risk aversion and information as a commodity found in the agency relationship has to be taken into account to minimise the negative effects to the banks (Eisenhardt, 1989).

Therefore, understanding bank sales officer's intention to minimise repayment risks from SME's is important for several reasons. For example, improved understanding of the factors that influences the bank sales officer's intention to minimise risks when considering loans to SME's will help the banking industry determine how to formulate even more effective training methods that could increase the efficiency and accuracy of their sales officers when they recommend bank products to future customers that will result in the dual goal of more profitable lending as well as their quest for reduced non-performing loans (NPL's), as according to Ismail, Azlan, Md. Husin, Ishak and Md. Hashim (2017), increases in bank efficiencies decreases bank NPL's.

As such, this study will show that bank lending to SME's can be better managed by understanding factors that influences bank sales officer's intention when they deal with SME's loan applications specifically to reduce repayment risks to the bank. In addition, there are financial institutions in other developing nations, for example the neighbouring member countries of the Association of Southeast Asian Nations (ASEAN) which might share the same issues with Malaysian financial institutions too, and it is expected that the findings from this study will help banking industry executives in these countries to better understand the lending issues with respect to their banking business as well.

To meet this objective, this study extended the Theory of Planned Behavior (TPB) to identify the variables that influences bank officers when they are deciding to offer a loan to SME's. Although TPB is a frequently used model in information system research and social sciences, it's use in financial services research is relatively fewer. This study therefore intends to extend the model by investigating the ability of the TPB model to explain bank officers behavior in minimising bank financial risks, while at the same time examining the TPB model's limitations. This study contributes to the study of financial product sales literature by presenting a test of the latest iteration of the TPB model.

### **1.3.1 Gaps Identified in the Study**

From the literature review, it is found that there are some gaps in the literature as outlined. These include the population sample and gaps in the theories that were used to study issues that were similar to those proposed for this study. In addition, this study also tests the updated Theory of Planned Behaviour to test Malaysian bank officer's intention in the context of repayment risk minimization from SME's. Following Miles (2017), there are 7 research gaps possible, namely the evidence gap, knowledge gap, practical-knowledge gap, methodology gap, empirical gap, theoretical gap, and the population gap. According to Khettab (2020), these gaps can be slotted into three main categories – theoretical problems, reasoning problems and empirical problems.

Accordingly, the gaps in this study will be identified and classified according to whether they are an empirical, methodological or theoretical gap.

### **1.3.2 Empirical Gap**

Following Khettab (2020), one of the main rules of science is to allow hypothesis and research statements to be verified by multiple researchers. This means that if researchers are able to verify and falsify a theory or hypothesis, then they are dealing with scientific theory and in doing so, a new context and new data are explored.

It allows for theories to be tested, engender new theories to be tested and then the cycle is repeated, all the while generating new data and exploring new contexts.

The empirical gap in this study is accordingly outlined. The population in this study is bank sales officers working in Malaysian banks selling SME financial products. In previous studies related to the banking industry, it is found that the population sampled consisted of nationals from foreign countries like Singapore (Tan and Teo, 2000), Finland (Kuisma, Laukkanen and Hiltunen, 2007), Jordan (Al-Majali and Nik Mat, 2010) or Tunisia (Nasri, 2011), but these studies did not analyse the staff of the banking organizations.

Scholars studying the topics related to electronic or internet banking in Malaysia has tended to concentrate on online banking customer satisfaction using students as samples (Kadir, Rahmani, and Masinaei, 2011), financial awareness among youths (Nga, Yong and Sellappan, 2010), Islamic credit card usage intention among bank customers (Amin, 2013), or the evolution of e-banking in Malaysia (Sohail and Shanmugam, 2003).

Others studied the success factors in various electronic delivery channels (Balachander, Santha, Norhazlin and Rajendra, 2000; Ong and Cheng, 2003), customer preferences of e-banking (Suganthi 2001) and barriers to adoption of e-banking services (Poon, 2007). Among the recent research specifically on SME's in Malaysia, the sample population has always focused on the SME's themselves as organizations (BNM Reports, 2017 and 2018).

Boadi and Mertens, (2018) also conducted a review of literature on SME financing that was published from 1997 to 2015. These studies included samples from various countries, comprising 72 articles, with 40 articles published between 2011 and 2015. It was found that these articles used SME's and financial institutions as the sample population.

In addition to the other research into the other aspects of banking in Malaysia, past studies specifically on bank lending to SME's tended to focus on the problems faced by SME's obtaining funding (demand- side of funds) and less research on the determinants of funding to SME's from the perspective of financial institutions, or the supply-side of funds (Ramlee and Berma, 2013; Ghuslan, Muhammad, and Abidin, 2010). The present study fills in the research gap on the financial institution's perspective by using the TPB framework to analyse the variables that may influence bank sales officers' intention to minimise repayment risks from SME's via hypothesis testing.

### **1.3.3 Methodological Gap**

Following Khettab (2020), reasoning problems is a natural consequence of human life, and arises from the competition between logic (ensuring the relations between premises and conclusions, for example), the uncertainties of meaning (due to the limits of interpretation) and how a researcher manipulates them (through their knowledge, competences and limits) will induce them in one way or another into making errors.



These errors can manifest at different stages of the study, and the methodological gap appears as problem of population misrepresentation, wrong/incomplete data collection, wrong/incomplete research tools as well as wrong/incomplete theoretical choices, among others. This will ultimately cause bad interpretations or over/under simplification during data analysis, and result in unjustified conclusions or contradictory results.

Accordingly, the methodological gap in this study is addressed by following the appropriate research paradigm for studies that use the TPB (Yong, Md Husin and Kamarudin, 2021) and correctly identifying and selecting the members of the population which is the focus of this study, bank officers who sell SME financial products to SME's in order to identify the determinants of their intention to minimize repayment risks from SME's to their banks.

Further, the issue of deciding the research tool were determined by the design of the theoretical framework, which in turn identified the appropriate tool for statistical analysis to be used (Hair et al. 2017b). The data collected in this study will be analysed using Smart Partial Least Squares (Smart-PLS) and Statistical Packages for Social Sciences (SPSS). Since the research goal is to identify the key beliefs that influence bank officers to minimise the repayment risks to their banks from SME's, following Ramayah, Cheah, Chuah, Ting and Memon (2018), a variance-based approach (otherwise known as PLS-SEM) is recommended. Further, this study sought to explore and extend an existing structural theory, in this instance TPB, which is again an appropriate use of PLS-SEM (Ramayah et al., 2018).

In addition, the appropriate sampling method was selected from determining if the size of the population was known or not. It was determined that the total population size cannot be ascertained, and therefore non-probability sampling methods were used. In order to determine the sample size required for this study, Lin, Lucas, and Schmueli (2013) suggested using calculations from GPower software yielding a minimum sample size of 77 and a maximum of 400.

In addition, following Kock and Hadaya (2018), calculations using WarpPLS software produced an ideal sample size of between 145 to 160. However, following Memon, Ting, Cheah, Ramayah, Chuah and Cham (2020), recent developments suggests that researchers should determine minimum sample size through power analysis. Power analysis determines the minimum sample size by taking into account the part of a model with the largest number of predictors (Hair, Sarstedt, Hopkins and Kuppelwieser, 2014a).

Taking into account this study's structural framework for power analysis, the minimum sample size required by this study was 77, calculated using the G\*Power software. The appropriate selection of research methods should therefore enable accurate analysis of the data and produce justifiable results and conclusions.

#### **1.3.4 Theoretical Gap**

Past studies have used DTPB to research various aspects of banking, for example Md. Nor and Pearson (2007) studied the effects of Trust on Internet Banking acceptance on Malaysian university students using the Innovation Diffusion Model (Rogers, 2010) and DTPB. They carried out their research with an emphasis on internet banking, focusing on the predictive power of Trust to determine the intention to use internet banking.

Other researchers have used both elements of the Technology Acceptance Model (TAM) as well as the Theory of Planned Behavior (TPB) to study the adoption of internet banking (Al-Smadi, 2012), (Nasri and Charfeddine, 2012). Other researchers have used TPB exclusively to study the area of bank patronage intention (Darmayanti and Cahyono, 2014).

However, not much attention has been given to assess the area of risk management using the Decomposed Theory of Planned Behavior (DTPB) first introduced by Taylor and Todd (1995a) specifically carried out to examine the intention to minimise repayment risks from SME's in Malaysia. In addition, TPB also allows for analysis of the Past Behaviour variable (Ajzen, 2020).

This is important, as the responsibility of assessing the probability that SME's will keep their promises to repay the principal and interests on time is performed by bank officers, and such subjective assessments are assumed to be more accurate with experience. Unfortunately, past surveys aimed at assessing the quality of bank officers dealing with SME financing found they have limited or no experience in credit (Ramlee and Berma, 2013).

Past studies using the DTPB framework concentrated around factors that forms intention. However, the issue of Past Behaviour and its effects on the intention of bank officers to minimise repayment risks from SME's has also been generally ignored by researchers.

The Past Behaviour variable is one of the factors that could affect the willingness of bank officers to minimise repayment risks when considering SME loan applications.

There is support for this line of approach, Read, Brown, Thorsteinsson, Morgan, and Price (2013) found that past behaviour was the best predictor of behavioural intentions in predicting opposition to wind farm developments, while Becerra and Kargaonkar (2009) also found that prior purchase experience with internet shopping leads to intentions to purchase online.

Considering this, the present study examines Past Behaviour as a valuable predictor variable for the behavioural intention to minimise repayment risks from SME's. As such, the present study is an attempt to fill this gap in the literature.

#### **1.4 Aligning the Research Gaps, Research Questions (RQ), Research Objectives (RO) and research Hypothesis**

In order to ensure that the present study's research gaps, research questions, research objectives and hypothesis are all in line, Zikmund's (2003) suggestion of an "Alignment Table" is created to guide this study (See Appendix B).

##### **1.4.1 Research Questions to fulfill the Research Objectives**

To fulfill the research objectives, this study adapted the framework that is based on the Decomposed Theory of Planned Behaviour (Taylor and Todd, 1995a and b). However, this study also extended the Theory of Planned Behaviour (TPB) in an attempt to identify the factors that motivate bank officer's intention to minimise repayment risks from SME's. To meet the objectives of the study, the following research questions were asked:

RQ1: Does attitude influence bank officer intention to minimise repayment risks from SME's?

RQ2: Does subjective norm influence bank officer intention to minimise repayment risks from SME's?

Following Ajzen (2020), while attitudes are assumed to be based on accessible behavioural beliefs and subjective norms on accessible normative beliefs, perceived behavioural control is assumed to be based on accessible control beliefs. In addition, these beliefs are concerned with the presence of factors that can facilitate or impede performance of the behaviour.

These control factors include the required skills and abilities, availability or a lack of time, money or other resources as well as cooperation of other people and so on.

Also, Ajzen (2020) adds that each control beliefs contributes to perceived behavioural control in interactions with the factor's perceived power to facilitate or impede performance of the behaviour. Accordingly, in TPB, perceived behavioural control is assumed to moderate the influence of attitude and subjective norms on intention (Ajzen, 2020). Following Baron and Kenny (1986), a moderator variable can be a qualitative (sex, race, class) or quantitative variable, that affects the direction and/or strength of a relation between an independent or predictor variable and a dependent or criterion variable.

The reason a moderator variable is typically introduced is when an unexpectedly weak or inconsistent relationship between a predictor and dependent variable is expected (Baron and Kenny, 1986). Previous iterations of TPB had treated perceived behaviour control as a direct predictor to intention, with equal status to attitude and subjective norms (Ajzen, 1991, 2002). However, recent research by Earle, Napper, LaBrie, Brooks-Russell, Smith and de Rutte (2019), Yzer and van den Putte (2014) and Hukkelberg, Hagtvet and Kovac (2014) had shown evidence to support perceived behavioural control as a moderator, with some studies reporting no significant moderating effects (Earle et al. 2019, Kothe and Mullan, 2015) while others reporting significant but inconsistent patterns of interaction (Castanier, Deroche and Woodman, 2013). Therefore, per Ajzen (2020), the following research questions are asked:

RQ3: Does perceived behavioural control moderate the relationship between Attitude and bank officer intention to minimise repayment risks from SME's?

RQ4: Does perceived behavioural control moderate the relationship between Subjective Norms and bank officer intention to minimise repayment risks from SME's?

In this study, the effects of Perceived Financial Incentives and Perceived Financial Risks to the bank were believed to be able to influence a bank officer's attitude and intention to minimise repayment risks from SME's. Accordingly, this study aims to examine the influence of individual bank officer's Perceived Financial Incentives and Perceived Financial Risks to the bank and whether it is able to influence a bank officer's attitude and intention to minimise repayment risks from SME's. Therefore, the following questions were asked:

RQ5: Does Perceived Financial Incentives influence bank officer's attitude to minimise repayment risks from SME's?

RQ6: Does Perceived Financial Risks to the bank influence bank officer's attitude to minimise repayment risks from SME's?

This study also investigates what the effect of past lending behavior might have on bank officer's intention to minimise repayment risks from SME's. Therefore, the following research question is asked:

RQ7: Does past lending behaviour influence bank officer's behavioural intention to minimise repayment risks from SME's?

The demographic variables of Age, Tenure, Gender and Religion is believed to be able to influence past lending behaviour. Accordingly, the following research questions is asked:

RQ8: Does the Demographic Variables of Age, Tenure and Religion influence the past lending behaviour of bank officers?

RQ9: Is the relationship between Demographic Variables (Age, Tenure, Religion) and bank officer's Past Behaviour stronger for women compared to men?

## **1.5 Significance of the Study**

There are empirical and theoretical gaps that this study will attempt to answer. The results of the study are expected to benefit Malaysian SME's and Malaysian banking institutions in particular. It is also possible that financial institutions in other developing nations, for example the neighbouring member countries of the Association of Southeast Asian Nations (ASEAN), might share the same issues with Malaysian financial institutions too, and it is expected that the findings from this study will help banking industry executives in these countries to better understand the lending issues with respect to their banking business as well.

### **1.5.1 Theoretical Significance**

The present study builds on the work conducted on technology acceptance theories by examining the robustness of Taylor and Todd's (1995b) Decomposed Theory of Planned Behaviour (DTPB) in its ability to predict intention to minimise repayment risks from SME's in the Malaysian sampling frame. TPB is a well-established model that is applied in the US and other western countries to study behavioural intentions. Since this study is conducted in Malaysia, the study extended the existing body of knowledge related to TPB.

Further, it extends the TPB framework by examining the effects of Past Behaviour on intention to minimise repayment risks from SME's by bank sales officers. In addition, the latest version of TPB is significantly different compared to the TPB prior to 2019. The earlier formulation of the TPB (Ajzen, 1991, 2012) have treated perceived behavioural control as a direct determinant of intention, with equal status to attitude and subjective norms. In 2020, Ajzen expressly stated that the perceived behavioural control variable is a moderating variable, affecting the degree to which attitudes and subjective norms influence intentions.

Therefore, this study will use the latest iteration of TPB to test the moderating effects of perceived behaviour control on the attitudes and subjective norms of the bank sales officers, in addition to testing more predictor variables to better understand the determinants of Intention. The results from this study will better inform academics and practitioners alike to the determinants of bank officers' intentions to minimise repayment risks to the bank from SME lending.

### **1.5.2 Empirical Significance**

In addition to extending the Theory of Planned Behavior (TPB), this study will also test the application of the TPB in the context of the Malaysian society in general and its cultural/social norms in particular. This allows for a replication of previous studies conducted in other countries in order to verify and confirm the results when applied to a Malaysian business context thereof.

However, this study is not a mere copy of other researchers' work. Rather, it will seek to discover new knowledge by ensuring that it can verify or falsify assumptions in the TPB by forming new research statements based on previous works to expand the application of TPB in this specific context, as well as testing new hypothesis based on those research questions. Some of these research questions are unexplored in prior literature, for example the effects of perceived incentives and perceived risks and the influence it has on bank officer's attitude and intention to minimise repayment risks from SME's.

In addition, this study focuses on the determinants of Malaysian bank officers' intention to minimise repayment risks from SME's, and to date, no study had directly attempted to evaluate the effects of moderation of attitude and subjective norms on intention by using perceived behavioural control in this context. Also, to the best knowledge of the author, bank officers in general (and bank officers that handle SME financial products in particular) as a population is not commonly studied in finance literature.



The information gathered by proving and disproving the hypothesis posited in this study will not only verify the theory used, it may also expand the theory and allow for testing and verification by other researchers in the future as well.

### **1.5.3 Significance to Banking Practice**

This study also addresses the practical knowledge gaps in the professional behaviour of the bank officers by decomposing the attitudinal structure of bank officers and their intention to minimise repayment risks from SME's. This should provide a more precise understanding of the antecedents of the intention of bank officers to minimise repayment risks (Taylor and Todd, 1995).

Improved understanding of the factors that influences the bank officer's decision to recommend loans to customers will help banking industry executives to determine which factors are being considered when bank officers are forming intentions to minimise repayment risks from loans in general, and in minimising repayment risks from SME's, specifically.

It will also examine the factors that influences Past Behaviour of the bank officers as a way of predicting their intention to minimise repayment risks to their bank. This hopefully will in turn allow banks to formulate even more effective training methods that could increase the efficiency and accuracy of their sales officers when they recommend bank products to future customers that will result in the dual goal of more profitable lending as well as their quest for reduced non-performing loans (NPL's).

In addition, there could be many bank officers in other developing nations in ASEAN who might share the same issues with these decisions too, and it is expected that the findings from this study will help banking industry executives in these countries to better understand the lending issues with respect to their banking business as well. To the best of the author's knowledge, this is one of the only studies that are publicly available that addresses these issues in the banking industry.

In line with the objective to identify the significant factors in explaining intention to minimise repayment risks from SME's in Malaysia, it is proposed that the Theory of Planned Behaviour (TPB) be used as a basis to do so, with the bank officers who sells financial products to SME's as the samples.

## **1.6 Scope of Study**

The scope of a study explains the extent to which the research area will be explored and the parameters the study will be operating in (Simon and Goes, 2013). Typically, the information that has to be included in a scope of study would cover the general purpose of the study, the population sample, the duration of the study, the geographical location of the study as well as the topics or theories that will be discussed.

### **1.6.1 General Purpose of the Study**

This study aims to understand how Malaysian bank officers can contribute to control the rising amount of NPL's from the SME sector. It is postulated that by understanding the intentions of the bank officers during the initial stages of a loan application, the various factors that might be at play may be ascertained and identified. In turn, this may be able to better inform the banks to formulate better strategies to evaluate future SME applications so that NPL levels can be controlled.

### **1.6.2 Theory**

This study will critically examine the variables that influence Malaysian bank sales officer's intention to minimise repayment risks from SME's. All variables in this study are adapted from existing literature. Then a survey based on the TPB as the guiding framework will be created as the research instrument to gather the required primary data. The study will seek to expand TPB by adding more predictors of Attitude as well as testing Perceived Behavioural Control variable as a moderator.

In addition, the study will also test the effects of Past Behaviour to Intention. To measure the research instrument, a five-point Likert Scale is employed to reliably check the mean score of each question in the questionnaire, with a score of 1 denoting Strong Disagreement and 5 representing Strong Agreement.

### **1.6.3 Population**

The respondent population where samples will be collected are bank officers that deals with SME's and SME loans/products. As the total population of such bank sales officers are unknown, the study adopts a non-probability sampling method, and responses was collected via snowball sampling from SME bank sales officers of various Malaysian banks in Klang Valley (Selangor and Kuala Lumpur). The reason for using non-probability sampling in this study is because the exact number of SME bank sales staff in Malaysia is unknown as such statistics is not published.

### **1.6.4 Geographical Location of the Study**

Klang Valley is where the majority of Malaysian SME's are located, as illustrated in Figure 1.3 below, with 34%. (19.8% in Selangor and 14.7% in Kuala Lumpur) of SME's located here, and it stands to reason that there will be more applications for SME loans (SME Corp, 2016). Therefore, data gathering efforts will be concentrated mainly in these two locations.

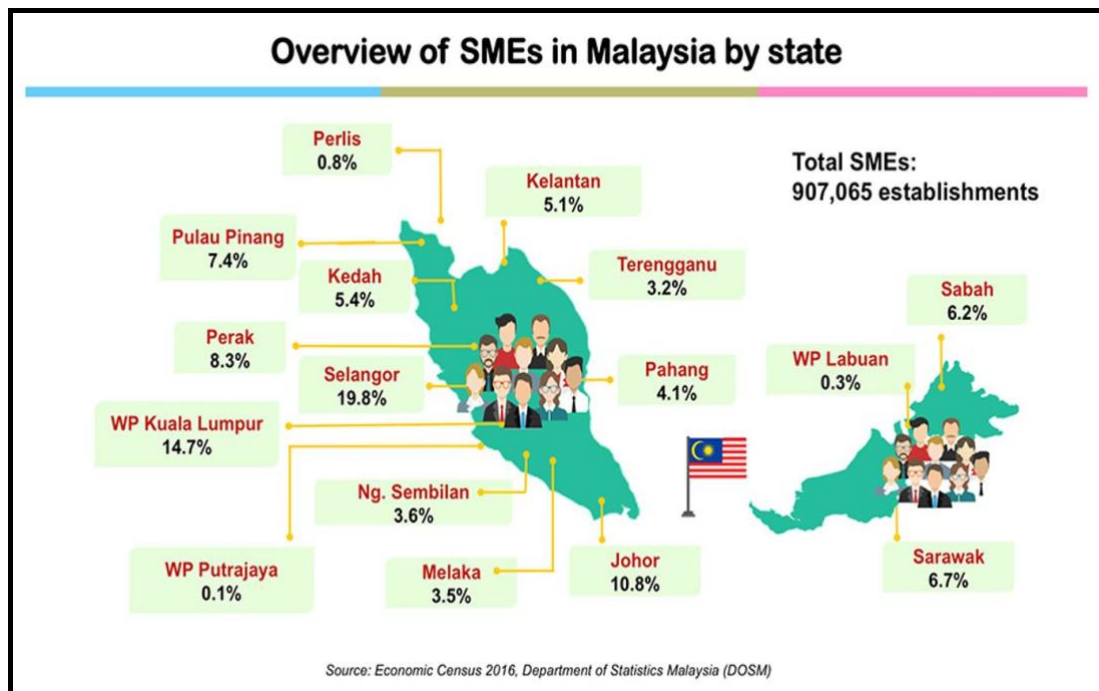


Figure 1.3 Percentage and Location of SME's in Malaysia (Economic Census 2016, Department of Statistics Malaysia)

As this study is limited to several regions in the Klang Valley, Malaysia, cautions regarding the generalization of the results of this study must be noted. However, the limited geographic sampling in the Klang Valley is justified as most of the SME's in Malaysia are located in the state of Selangor with 19.8%, and Kuala Lumpur with 14.7% according to the Economic Census 2016, conducted by the Department of Statistics Malaysia (SME Corp Malaysia).

This means that the majority of SME loan applications would be in the Klang Valley, and that the bank officers in this region should be very familiar with dealing with such loan applications. However, since the questionnaire will be distributed using Google Forms, there is a possibility that there may be respondents from outside the Klang Valley as well. The opacity of the respondent's location is a necessity to protect their anonymity, as this is one of the prerequisites of good data gathering processes (Hair et al, 2017b).

### 1.6.5 Duration of the Study

This study is a snapshot of the economic situation in the second half of 2019 to the second half of the year 2020. These are troubled times, with SME's reporting a general drop in business activities due to various internal and external reasons (Yong and Yong, 2020). This could make bank officers more cautious than usual when assessing new loan applications from SME's, and could affect their responses when answering the survey questionnaire.

### 1.7 Definition of Key Terms

The definition of the key terms in this study is as follows:

<b>Independent Variables</b>	<b>Definition</b>
Attitude	A bank officer's favourable or unfavourable evaluation towards minimising repayment risks from SME's (Ajzen, 2020)
Perceived Financial Incentives	The perceptions of financial rewards given by the bank in exchange for successful recommendation of SME loans (Kianpour, Jusoh, Mardani, Streimikiene, Cavallaro, Md. Nor and Zavadskas, 2017)
Perceived Financial Risk to the Bank	The perceptions of potential monetary loss to the bank due to recommendation errors by the bank sales officer or account misuse by SME's (Lee, 2009; Kianpour et al, 2017)
Subjective Norms	The social pressure that may affect a bank sales officer's intention to minimise repayment risks from SME's (Ajzen, 2020)
Perceived Behavioural Control	The perceptions of internal and external constraints on bank sales officers to minimise repayment risks from SME's (Ajzen, 2020)
Past Behaviour	A bank sales officer who has previously acted to minimise repayment risks from SME's is more likely to later engage in that behaviour without utilising significant psychological resources (Hagger, Polet and Lintunen, 2018; Ajzen, 2020)
<b>Dependent Variable</b>	<b>Definition</b>

Intention to minimise repayment risks from SME's	Intention are assumed to capture motivational factors that influence a bank sales officer to minimise repayment risks from SME's (Ajzen, 2020)
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## 1.8 Method of the Study

This study conducted a literature review to locate and identify the relevant variables in TPB and DTPB literature that is suitable for use to understand and solve the research problem. Next, this study adapted specific variables from DTPB and also adopted the TPB as the underlying research framework for the study. This allowed the study to expand the number of relevant variables in a coherent fashion that is guided by grounded theory. By doing so, this helped in the creation of the research instrument to gather data. By analysing the quantitative survey data using SEM-PLS path modelling technique, it is possible to provide a useful research contribution to existing body of knowledge.

## 1.9 The Thesis Structure

The thesis has five chapters. Chapter 1 introduces this study and describes the present situation of loan approval in the banking industry in Malaysia with regards to risk management and lending practices, and specifies the research questions and objectives as well as the scope of the study. This is followed by this study's expected contribution to knowledge in this field.

In Chapter 2, a review of the existing literature on behavioural intention is undertaken, beginning with past research in the area and the theories used in the previous research, followed by the Theory of Planned Behaviour (TPB) as the underpinning theory for this study.

A review and comparison between the relevant conceptual models are also highlighted. This chapter concludes by narrowing down and identifying the gaps in present research.

Chapter 3 discusses the research methodology and the data analysis techniques used, the conceptual foundation, along with the conceptual model of this study and explain the hypotheses development. The links between the variables of attitude, subjective norm, perceived behavioural control, past behaviour and behavioural intention are then elaborated.

Chapter 4 presents the results obtained from the use of the quantitative methods described in the previous chapter. This chapter concludes by showing the outcomes of hypothesis testing and modelling development as well as the study's findings.

Chapter 5 presents the research conclusion. It will summarize the results of this study and discusses the research implications. The limitations of this study will also be stated, along with possible directions of exploration in the future. Based on these views, a conceptual model of intention to minimise repayment risks from SME's is created.

## REFERENCES

- Abdulsaleh, A.M. and Worthington, A. (2013) 'Small and medium-sized enterprises financing: a review of literature', *International Journal of Business and Management*, 8(14), pp. 36 – 54.
- Agarwal, S., and Ben-David, I. (2014) 'Do Loan Officers' Incentives Lead to Lax Lending Standards?', *National Bureau of Economic Research*, pp. 1 – 58.
- Akerlof, G. (1970) 'The market for lemons: Quality, uncertainty and the market mechanisms', *Quarterly Journal of Economics*, 84(3).
- Alharahsheh, H. and Pius, A. (2020) 'A review of key paradigms: Positivism vs Interpretivism', *Global Academic Journal of Humanities and Social Sciences*, 2(3), pp. 39 – 43.
- Al-Majali, M., and Nik Mat, N.K. (2010) 'Application of decomposed theory of planned behavior on Internet banking adoption in Jordan', *Journal of Internet Banking and Commerce*, 15(2), pp. 1 – 7.
- Alam, S. S. and Sayuti, N. M. (2011) 'Applying the Theory of Planned Behavior in Halal food purchasing', *International Journal of Commerce and Management*, 21(1), pp. 8 – 20.
- Amin, H., Rahim Abdul Rahman, A., Laison Sondoh Jr, S. and Magdalene Chooi Hwa, A. (2011) 'Determinants of customers' intention to use Islamic personal financing: The case of Malaysian Islamic banks', *Journal of Islamic Accounting and Business Research*, 2(1), pp. 22 – 42.
- Amin, H. and Chong, R. K. (2011) 'Is the theory of reasoned action valid for Ar-Rahnu? An empirical investigation', *Australian Journal of Basic and Applied Sciences*, 5(10), pp. 716 – 726.
- Amin, H. (2013) 'Factors influencing Malaysian bank customers to choose Islamic credit cards: empirical evidence from the TRA model', *Journal of Islamic Marketing*, 4(3), pp. 245 – 263.
- Amjad, N. and Wood, A. M. (2009) 'Identifying and changing the normative beliefs about aggression which lead young Muslim adults to join extremist anti-Semitic groups in Pakistan', *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 35(6), pp. 514 – 519.



- Anders, N. and Ohman, P. (2012) 'Better safe than sorry: defensive loan assessment behavior in a changing bank environment', *Qualitative Research in Accounting and Management*, 9(2), pp. 146 – 167.
- Armstrong, M. (2013) *Employee Reward*, CIPD House: London, UK.
- Al-Smadi, M. O. (2012) 'Factors affecting adoption of electronic banking: An analysis of the perspectives of banks' customers', *International Journal of Business and Social Science*, 3(17), pp. 294 – 309.
- Aiken, L. (2002) *Attitudes and related psychosocial constructs: Theories, assessment, and research*. Sage.
- Ajzen, I., and Madden, T. J. (1986) 'Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control', *Journal of Experimental Social Psychology*, 22(5), pp. 453 – 474.
- Ajzen, I. (2002a) 'Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior', *Journal of Applied Social Psychology*, 32(4), pp. 665 – 683.
- Ajzen, I. (2002b, revised 2006) 'Constructing a TPB Questionnaire: Conceptual and methodological considerations', pp. 1 – 14.
- Ajzen, I. (1991) 'The theory of planned behaviour', *Organisational Behaviour and Human Decision Processes*, 50(2), pp. 179 – 211.
- Ajzen, I. (1985) 'From intentions to actions: A theory of planned behaviour', In *Action Control*, Springer, Berlin, Heidelberg, pp. 11 – 39.
- Ajzen, I. (1996) 'The directive influence of attitudes on behaviour', In P. M. Gollwitzer and J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behaviour*, pp. 385 – 403, New York, NY, US: Guilford Press.
- Ajzen, I. (2014) 'The Theory of Planned Behaviour is Alive and Well, and not Ready to Retire: A Commentary on Sniehotta, Pesseau, and Araujo-Soares', *Health Psychology Review*, 9(2), pp. 131 – 137.
- Ajzen, I. (2020) 'The Theory of Planned behaviour: Frequently Asked Questions', *Human Behaviour and Emerging Technology*, 2, pp. 314 – 324.
- Ajzen, I. and Fishbein, M. (1980) *Understanding attitudes and predicting social behaviour*, Engle Cliffs, NJ. Prentice Hall.
- Ashforth, B. E. and Lee, R. T. (1990) 'Defensive behaviour in organizations: A preliminary model', *Human Relations*, 43(7), pp. 621 – 648.

- Aziz, S., Md Husin, M., and Hussin, N. (2017) ‘Conceptual framework of factors determining intentions towards the adoption of family takaful-An extension of decomposed theory of planned behaviour’ *International Journal of Organizational Leadership*, 6(3), pp. 385 – 399.
- Babbie, E. R. (2015) *The practice of social research (14th Ed)*, Nelson Education.
- Baron, R. M. and Kenny, D. A. (1986) ‘The Moderator – Mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations’, *Journal of Personality and Social Psychology*, 51(6), pp. 1173 – 1182.
- Bharath, S., Dahiya, D., Saunders, A. and Srinivasan, A. (2006) ‘So what do I get? The bank’s view of lending relationships’, *Journal of Financial Economics*, 85, pp. 368 – 419.
- Bharath, S., Dahiya, S., Saunders, A., and Srinivasan, A. (2009) ‘Lending Relationships and Loan Contract Terms’, *Review of Financial Studies*, 24(4), pp. 1141 – 1203.
- Balachander, K.G., Santha, V., Norhazlin, I. and Rajendra, P. (2000) ‘Malaysian Regulation versus E-banking’, *Journal of International Banking Regulation*, 4(1), pp. 84 – 95.
- Bandura, A. (1986) ‘The explanatory and predictive scope of self-efficacy theory’, *Journal of Social and Clinical Psychology*, 4(3), pp. 359 – 373.
- Bandura, A. (2009) ‘Social cognitive theory of mass communication’, In *Media Effects*, pp. 110 – 140, Routledge.
- Batchelor, V., Kuppusamy, K. and Allen, D. E. (2005) ‘The Technological Progress of Malaysian Banks: An Empirical Investigation’, *School of Accounting, Finance and Economics & FIMARC Working Paper Series WP*, pp. 502 – 522.
- Bailey, B. (2011) ‘Case studies: A security science research methodology’, *Australian Security and Intelligence Conference 2011*, pp. 9 – 15.
- Beck, T., Behr, P. and Guettler, A. (2013) ‘Gender and banking: Are women better loan officers?’, *Review of Finance*, 17(4), pp. 1279 – 1321.
- Behr, P., Drexler, A., Gropp, R. and Guettler, A. (2020) ‘Financial Incentives and Loan Officer Behavior: Multitasking and allocation of Effort under an Incomplete Contract’, *Journal of Financial and Quantitative Analysis*, 55(4), pp. 1243 – 1267.

- Bellucci, A., Borisov, A. and Zazzaro, A. (2011) ‘Do male and female loan officers differ in small business lending? A review of the literature’, *The Economics of Small Businesses*, pp. 195 – 219.
- Bendickson, J., Muldoon, J., Liguori, E., Davis, P. E. (2016) “Agency Theory: the times, they are a-changin’ ”, *Management Decision*, 54(1), pp. 174 – 193.
- Berger I. (1993) ‘The relationship between environmental attitudes and behaviour’, *Canadian Journal of Marketing Research*, 12, pp. 36 - 43.
- Berger, A. N., Klapper, L. F. and Udell, G. F. (2001) ‘The ability of banks to lend to informationally opaque small business’, *Journal of Banking and Finance*, 25(12), pp. 2127 – 2167.
- Berger, A. N. and Udell, G. F. (2006) ‘A more conceptual framework for SME finance’, *Journal of Banking and Finance*, 30, pp. 2945 – 2966.
- Berry, A. J., Faulkner, S., Hughes, M. and Jarvis, R. (1993) ‘Financial Information, The Banker And The Small Business’, *The British Accounting Review*, 25(2), pp. 131–150.
- Becerra, E. P. and Kargaonkar, P.K. (2009) ‘Hispanics Information search and patronage intentions online’, *Journal of Electronic Commerce Research*, 10(2), pp. 76 – 93.
- Biesta, G. (2010) ‘Pragmatism and the philosophical foundations of mixed methods research’, *Sage Handbook of Mixed Methods in Social and Behavioral Research*, 2, pp. 95 – 118.
- Blinder, A. S. (2010) ‘It’s broke, let’s fix it: Rethinking financial regulation’, *International Journal of Central Banking*, 6(4), pp. 277 – 330.
- Blumberg, B. F., Cooper, D. R. and Schindler, P. S. (2014) *Business Research Methods*, McGraw Hill.
- Boadi, I. and Mertens, G. (2018) ‘SME financing: a review of the literature’, *International Journal of Business and Globalisation*, 21(2), pp. 135 – 179.
- Bouckova, M. (2015) ‘Management Accounting and Agency Theory’, *Procedia Economics and Finance*, 25, pp. 5 – 13.
- Boot, A. W. A. (2000) ‘Relationship banking – What do we know?’, *Journal of Financial Intermediation*, 9, pp. 7 – 25.

- Bogna, F., Raineri, A. and Dell, G. (2020) 'Critical realism and constructivism: merging research paradigms for a deeper qualitative study', *Qualitative Research in Organizations and Management: An International Journal*, 15(4), pp. 461 – 484.
- Bonett, D. G., Woodward, J. A. and Randall, R. L. (2002) 'Estimating p-values for Mardia's coefficients of multivariate skewness and kurtosis', *Computational Statistics*, 17(1), pp. 117 – 122.
- Bosnjak, M., Ajzen, I. and Schmidt, P. (2020) 'The Theory of Planned Behavior: Selected Recent Advances and Applications', *Europe's Journal of Psychology*, 16(3), pp. 352 – 356.
- Bruner, G. C. (2009) *Marketing Scales Handbook: A compilation of multi-item measures for consumer behavior and advertising research*, 5, pp. 240 – 245.
- Brown, D. J., Hagger, M. S., Morrissey, S., and Hamilton, K. (2018) 'Predicting fruit and vegetable consumption in long-haul heavy goods vehicle drivers: Application of a multi-theory, dual-phase model and the contribution of past behaviour', *Appetite*, 121, pp. 326 – 336.
- Brown, T. C., Ajzen, I. and Hrubes, D. (2003) 'Further tests of entreaties to avoid hypothetical bias in referendum contingent valuation', *Journal of Environmental Economics and Management*, 46, pp. 353 – 361.
- Carson, D., Gilmore, A., Perry, C. and Gronhaug, K. (2001) *Qualitative Marketing Research*, Sage.
- Castanier, C., Deroche, T. and Woodman, T. (2013) 'Theory of Planned Behavior and road violations: the moderating influence of perceived behavioural control', *Transportation Research Part F: Traffic Psychology and Behavior*, 18, pp. 148 – 158.
- Celuch, K., Goodwin, S., and Taylor, S. A. (2007) 'Understanding small scale industrial user internet purchase and information management intentions: A test of two attitude models', *Industrial Marketing Management*, 36, pp. 109 – 120.
- Chin, W. W. (1998) 'The partial least squares approach to structural equation modelling', *Modern Methods for Business Research*, 295(2), pp. 295 – 336.
- Chin, W. W., Marcolin, B. L. and Newstead, P. R. (2003) 'A partial least squares latent variable modelling approach for measuring interaction effects: Results from a Monte-Carlo simulation study and an electronic-mail

- emotion/adoption study', *Information Systems Research*, 14(2), pp. 189 – 217.
- Chin, W. W., Thatcher, J., Wright, R. T. and Steel, D. (2013) *Controlling for common method variance in PLS analysis: The measured latent marker variable approach*, Springer: Germany.
- Cialdini, R. B., Reno, R. R. and Kallgren, C. A. (1990) 'A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places', *Journal of Personality and Social Psychology*, 58(6), pp. 1015 – 1026.
- Cohen, J. (1988) *Statistical Power Analysis for the Behavioural Science* (2<sup>nd</sup> Edition), Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohen, J., Cohen, P., West, S. G. and Aiken, L. S. (2013) *Applied Multiple Regression/Correlation Analysis for the Behavioural Sciences*, Routledge.
- Conner, M., and Armitage, C. J. (1998) 'Extending the theory of planned behavior: A review and avenues for further research', *Journal of Applied Social Psychology*, 28(15), pp. 1429 – 1464.
- Cole, S., Kanz, M. and Klapper, L. (2015) 'Incentivizing Calculated Risk-Taking: Evidence from an Experiment with Commercial Bank Loan Officers', *The Journal of Finance*, 70(2), pp. 537 – 575.
- Conchar, M.P., Zinkhan, G.M. and Olavarriette, S. (2004) 'An integrated framework for the conceptualization of consumers' perceived-risk processing', *Journal of Academy of Marketing Science*, 32, pp. 418 – 436.
- Courneya, K. S. (1994) 'Predicting repeated behaviour from intention: The issue of scale correspondence', *Journal of Applied Social Psychology*, 24(7), pp. 580 – 594.
- Darmayanti, D. and Cahyono, H. (2014) 'The influence of perceived service quality, attitudinal loyalty and corporate social responsibility on repeat patronage intention in retail banking in Indonesia', *Journal of Business and Retail Management Research*, 8(2), pp. 16 – 23.
- Davis, F. (1989) 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', *MIS Quarterly*, pp. 319 – 340.
- Dawson, J. F. (2014) 'Moderation in management research: What, Why, When and How', *Journal of Business and Psychology*, 29(1), pp. 1 – 19.
- Deshpande, R. (1983) 'Paradigm Lost: On theory and method in research in Marketing', *Journal of Marketing*, 47, pp. 101 – 110.

- Doraisamy, B., Shanmugam, A. and Raman, R. (2011) 'A study on Consumer's Preferences of Islamic Banking Products and Services in Sungai Petani', *Academic Research International*, 1(3), pp. 290 – 302.
- Diamantopoulos, A., and Siguaw, J. A. (2006) 'Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration', *British Journal of Management*, 17(4), pp. 263 – 282.
- Djankov, S., Qian, Y., Roland, G. and Zhuravskaya, E. (2007) 'What makes a successful entrepreneur? Evidence from Brazil', *Working Paper w0104*, Center for Economic and Financial Research: Moscow, CEFIR.
- Earle, A. M., Napper, L. E., LaBrie, J. W., Brooks-Russell, A., Smith, D. J. and de Rutte, J. (2019) 'Examining interactions within the theory of planned behaviour in the prediction of intentions to engage in cannabis-related driving behaviors', *Journal of American College Health*, 0(0), pp. 1 – 7.
- Echchabi, A. and Olaniyi, O.N. (2012) 'Using theory of reasoned action to model the patronization behaviour of Islamic banks' customers in Malaysia', *Research Journal of Business Management*, 6(3), pp. 1 – 13.
- Echchabi, A., and Aziz, H. A. (2012) 'The relationship between religiosity and customers' adoption of Islamic banking services in Morocco', *Oman Chapter of Arabian Journal of Business and Management Review*, 1(10), pp. 89 – 94.
- Eckstein, Z., Setty, O. and Weiss, D. (2019) 'Financial risk and unemployment', *International Economic Review*, 60(2), pp. 475 – 516.
- Evermann, J. and Tate, M. (2016) 'Assessing the predictive performance of structural equation model estimators', *Journal of Business Research*, 69(10), pp. 4565 – 4582.
- Eisenhardt, K. (1985) 'Control: Organizational and Economic Approaches', *Management Science*, 31(2), pp. 134 – 149.
- Featherman, M. S. and Pavlou, P. A. (2003) 'Predicting e-services adoption: a perceived risk facets perspective', *International Journal of Human-Computer Studies*, 59(4), pp. 451 – 474.
- Feldman, M. S. and March, J. G. (1981) 'Information in organizations as signal and symbol', *Administrative Science Quarterly*, pp. 171 – 186.
- Fitzgerald, B. and Howcroft, D. (1998) 'Towards dissolution of the IS research debate: from polarization to polarity', *Journal of Information Technology*, 13(4), pp. 313 – 326.

- Fisman, R., Paravisini, D. and Vig, V. (2017) 'Cultural proximity and loan outcomes', *American Economic Review*, 107(2), pp. 457 – 492.
- Francis, J., Eccles, M. P., Johnston, M., Walker, A. E., Grimshaw, J. M., Foy, R. and Bonetti, D. (2004) 'Constructing questionnaires based on the theory of planned behaviour: A manual for health services researchers', *Newcastle upon Tyne, UK: Centre for Health Services Research*, University of Newcastle upon Tyne.
- Fishbein, M., and Ajzen, I. (2009) *Predicting and changing behavior: The reasoned action approach*, New York. NY: Psychology Press.
- Fornell, C. and Larcker, D. (1981) 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of Marketing Research*, 18(3), pp. 39 – 50.
- Fornell, C. and Cha, J. (1994) 'Partial Least Squares'. In R. P. Bagozzi (Ed.), *Advanced Methods of Marketing Research* (pp. 52 – 78), Cambridge, MA: Blackwell Publishers.
- Gefen, D., Stroub, D. and Boudreau, M-C. (2000) 'Structural Equation Modelling and regression: Guidelines for research practice', *Communications of the Association for Information Systems*, 4(1) pp.1 – 79.
- Gefen, D., Rigdon, E. E. and Stroub, D. W. (2011) 'An update and extension to SEM guidelines for administrative and social science research – Editorial comment', *MIS Quarterly*, 35(2), pp. 1 – 7.
- Ghuslan, M.I., Muhammad, J., and Abidin, S. Z. (2010) 'Factors affecting commercial bank lending practices in the Malaysian Farm Sector', *The IUP Journal of Public Finance*, 8(4), pp. 39 – 53.
- Gold, A. H., Malhotra, A. and Segars, A. H. (2001) 'Knowledge Management: An Organizational Capabilities Perspective', *Journal of Management*, 18(1), pp. 185 – 214.
- Golnaz, R., Zainalabidin, M., Mad Nasir, S. and Eddie Chew, F.C. (2010) 'Non-Muslims' awareness of halal principles and related food products in Malaysia', *International Food Research Journal*, 1, pp. 667 – 674.
- Gollwitzer, P. M. (1999) 'Implementation intentions: Strong effects of simple plans', *American Psychologist*, 54(7), pp. 493 – 503.
- Graham, J. W., Hofer, S. M., Donaldson, S. I., MacKinnon, D. P. and Schafer, J. L. (1997) *Analysis with missing data in prevention research*, in Bryant, K. J. and

- West, S. G. (Eds.), 'The Science of Prevention: Methodological Advances from Alcohol and Substance Abuse Research', pp. 325 – 366.
- Groysberg, B., Nanda, A., and Nohria, N. (2004) 'The risky business of hiring stars', *Harvard Business Review*, 82(5), pp. 92 – 101.
- Grant, R. W. and Sugarman, J. (2004) 'Ethics in human subjects research: Do incentives matter?', *Journal of Medicine and Philosophy*, 29(6), pp. 717 – 738.
- Gliem, J. A. and Gliem, R. R. (2003) 'Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales', *2003 Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education, Columbus, Ohio, USA*, pp. 82 – 88.
- Gibbons, F. X., Gerrard, M., Ouellette, J. A. and Burzette, R. (1998) 'Cognitive antecedents to adolescent health risk: Discriminating between behavioral intention and behavioral willingness', *Psychology and Health*, 13(2), pp. 319 – 339.
- Gignac, G. E. (2019) *How2statsbook* (Online Edition 1), Perth: Australia.
- Gnanadesikan, R (1997) 'Multidimensional classification and clustering', *Methods for Statistical Data Analysis of Multivariate Observations (2<sup>nd</sup> Edition)*, John Wiley and Sons.
- Guo, Q., Johnson, C. A., Unger, J. B., Lee, L., Xie, B., Chou, C. – P., Palmer, P. H., Sun, P., Gallagher, P. and Pentz, M. A. (2007) 'Utility of the Theory of Reasoned Action and Theory of Planned Behavior for predicting Chinese Adolescent Smoking', *Addictive Behaviors*, 32(5), pp. 1066 – 1081.
- Hagger, M. S., Chatzisarantis, N. and Biddle, S. J. (2001) 'The influence of self-efficacy and past behaviour on the physical activity intentions of young people', *Journal of Sports Sciences*, 19(9), pp. 711 – 725.
- Hagger, M. S. and Chatzisarantis, N. L. D. (2016) 'The trans-contextual model of autonomous motivation in education: Conceptual and empirical issues and meta-analysis', *Review of Educational Research*, 86, pp. 360 – 407.
- Hagger, M. S., Chan, D. K. C., Protogerou, C. and Chatzisarantis, N. L. D. (2016) 'Using meta analytic path analysis to test theoretical predictions in health behaviour: An illustration based on meta-analyses of the theory of planned behaviour', *Preventive Medicine*, 89, pp. 154 – 161.



- Hagger, M. S., Polet, J., and Lintunen, T. (2018) 'The reasoned action approach applied to health behavior: Role of past behavior and tests of some key moderators using meta-analytic structural equation modelling', *Social Science and Medicine*, 213, pp. 85 – 94.
- Hamilton, K., Kirkpatrick, A., Rebar, A. and Hagger, M. S. (2017) 'Child sun safety: Application of an Integrated Behavior Change model', *Health Psychology*, 36(9), pp. 916 – 926.
- Haron, H., Ismail, I., and Razak, S. H. A. (2011) 'Factors influencing unethical behavior of insurance agents', *International Journal of Business and Social Science*, 2(1), pp. 84 – 100.
- Harif, M. A. A. M., Hoe, C. H., and Zali, S. K. M. (2011) 'Business financing for Malaysian SMEs: what are the banks' determining factors?', *World Review of Business Research*, 1(3), pp. 78 – 101.
- Hair, J. F., Ringle, C. M. and Sarstedt, M. (2011) 'PLS-SEM: Indeed a silver bullet', *The Journal of Marketing Theory and Practice*, 19(2), pp. 139 – 152.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., and Tatham, R. L. (2006) 'Multivariate Data Analysis', 6th Ed, New Jersey, USA: Upper Saddle River, Prentice Hall International.
- Hair, J. F., Babin, B. J. and Krey, N. (2017a) 'Covariance-based structural equation modeling in the Journal of Advertising: Review and recommendations', *Journal of Advertising*, 46(1), pp. 163 – 177.
- Hair, J. F., Hult, G. T.M., Ringle, C. and Sarstedt, M. (2017b) 'A primer to partial least squares structural equation modelling (PLS-SEM)', *Sage Publications*, Thousand Oaks.
- Hair, J. F., Sarstedt, M., Hopkins, L., and G. Kuppelwieser, V. (2014a) 'Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research', *European Business Review*, 26(2), pp. 106 – 121.
- Hair, J. F., Gabriel, M. L. D. da S. and Patel, V. K. (2014b) 'AMOS Covariance-Based Structural Equation Modelling (CB-SEM): Guidelines on its Application as a Marketing Research Tool', *Revista Brasileira de Marketing*, 13(2), pp. 44 – 55.
- Hair, J. F., Sarstedt, M., Hopkins, L., Kuppelweiser, V. (2014c) 'Partial Least Squares Sequential Equation Modelling (PLS-SEM)', *European Business Review*, 26(2), pp. 106 – 121.

- Han, H., Meng, B., and Kim, W. (2017) 'Emerging bicycle tourism and the theory of planned behavior', *Journal of Sustainable Tourism*, 25(2), pp. 292 – 309.
- Haenlein, M. and Kaplan, A. M. (2004) 'A beginner's guide to partial least squares analysis', *Understanding Statistics*, 3(4), pp. 283 – 297.
- Hayes, A. (2021) 'How to value a company', *Corporate Finance and Accounting*, in [Investopedia.com/terms/d/descriptive\\_statistics.asp](https://www.investopedia.com/terms/d/descriptive_statistics.asp)
- Heiny, J., Ajzen, I., Leonhauser, I. and Schmidt, P. (2019) 'Intentions to enhance tourism in private households: Explanations and mediated effects of entrepreneurial experience', *Journal of Entrepreneurship and Innovation in Emerging Economies*, 5(2), pp. 128 – 148.
- Hjørland, B. (2005) 'Empiricism, rationalism and positivism in library and information science', *Journal of Documentation*, 61(1), pp. 130 – 155.
- Hoyle, R. H., Harris, M. J., and Judd, C. M. (2009) 'Research Methods in Social Relations', New York: Wadsworth.
- 'How to become a bank branch manager', in [careerexplorer.com/careers/bank-branch-manager/how-to-become/2015](https://www.careerexplorer.com/careers/bank-branch-manager/how-to-become/2015)
- Henseler, J., Ringle, C. M. and Sarstedt, M. (2015) 'A new criterion for assessing discriminant validity in variance-based structural equation modelling', *Journal of the Academy of Marketing Science*, 43(1), pp. 115 – 135.
- Henseler, J., Hubona, G., Ray, P.A. (2016) 'Using PLS path Modeling in New Technology Research: Updated Guidelines', *Industrial Management & Data Systems*, 116(1), pp. 2 – 20.
- Henseler, J. and Chin, W. W. (2010) 'A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modelling', *Structural Equation Modelling*, 17(1), pp. 82 – 109.
- Healy, P. M., and Palepu, K. G. (2001) 'Information Asymmetry, corporate disclosure and the capital markets: A review of the empirical disclosure literature', *Journal of Accounting and Economics*, 31, pp. 405 – 440.
- Healy, M., and Perry, C. (2000) 'Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm', *Qualitative Market Research: An International Journal*, 3(3), pp. 118 – 126.
- Hertzberg, L. (2013) 'The Psychology of Volition: Problem and Method Pass One Another By', *Philosophical Anthropology: Wittgenstein's Perspective*, 1, pp. 139 – 152.

- Hertzberg, A., Liberti, J. M. and Paravisini, D. (2010) 'Information and incentives inside the firm: Evidence from loan officer rotation', *The Journal of Finance*, 65(3), pp. 795 – 828.
- Holdershaw, J., Gendall, P. and Wright, M. (2011) 'Predicting blood donation behaviour: further application of the theory of planned behaviour', *Journal of Social Marketing*, 1(2), pp. 120 – 132.
- Holdershaw, J., and Gendall, P. (2008) 'Understanding and predicting human behaviour' in ANZACA08 Conference, Power and Place, Wellington, New Zealand.
- Hong, I. B. (2019) 'Understanding and Predicting Behavioural Intention to Adopt Mobile Banking: The Korean Experience', *Journal of Global Information Management (JGIM)*, 27(3), pp. 182 – 202.
- Hof, M. (2012) 'Questionnaire evaluation with factor analysis and Cronbach's Alpha: an example'. Retrieved from <http://www.let.rug.nl/nerbonne/teach/rema-stats-meth-seminar/student-papers/MHof-QuestionnaireEvaluation-2012-Cronbach-FactAnalysis.pdf> Retrieved 2019-05-27
- Husin, M. M., and Ab Rahman, A. (2013) 'What drives consumers to participate into family takaful schemes? A literature review', *Journal of Islamic Marketing*, 4(3), pp. 264 – 280.
- Hudson, L. A., and Ozanne, J. L. (1988) 'Alternative ways of seeking knowledge in consumer research', *Journal of Consumer Research*, 14(4), pp. 508 – 521.
- Hukkelberg, S. S., Hagtvet, K. A. and Kovac, V. B. (2014) 'Latent interaction effects in the theory of planned behaviour applied to quitting smoking', *British Journal of Health Psychology*, 19(1), pp. 269 – 280.
- Igwenagu, C. (2016) *Fundamentals of Research Methodology and Data Collection*. LAP Lambert Academic Publishing.
- In, J. (2017) 'Introduction of a pilot study', *Korean Journal of Anesthesiology*, 70(6), pp. 601 – 605.
- Irshaidat, R. (2019) 'Interpretivism vs. Positivism in Political Marketing Research', *Journal of Political Marketing*, pp. 1 – 35.
- Ismail, N., Azlan, N. D. A., Md. Husin, M., Ishak, I. and Md. Hashim, S. L. (2017) 'Bank efficiencies and Non-performing Loan of Commercial Banks in

- Malaysia', *Journal of Humanities, Language, Culture and Business*, 1(5), pp. 34 – 40.
- Jacoby, J. and Kaplan, L. B. (1972) 'The components of perceived risk', *ACR Special Volumes*. <http://acrwebsite.org/volumes/12016/volumes/sv02/SV-02>
- Jakobsen, M. and Jensen, R. (2015) 'Common Method Bias in Public Management Studies', *International Public Management Journal*, 18(1), pp. 3 – 30.
- Jensen, H. L. (1992) 'Using neural networks for credit scoring', *Managerial Finance*, 18, pp. 15 – 26.
- Joynathsing, C. and Ramkisson, H. (2010) 'Understanding the behavioral intention of European tourists', In *International Research Symposium in Service Management*. ISSN 1694 – 0938.
- Joreskog, K. G., and Wold, H. O. A. (1982) 'The ML and PLS techniques for modelling with latent variables: Historical and comparative aspects', in H. O. A. Wold and K. G. Joreskog (Eds.), *Systems under indirect observation, Part I*, pp. 263 – 270.
- Kadir, H. A., Rahmani, N. and Masinaei, R. (2011) 'Impacts of service quality on customer satisfaction: Study of Online banking and ATM services in Malaysia', *International Journal of Trade, Economics and Finance*, 2(1), pp. 1 – 9.
- Kang, H. (2013) 'The prevention and handling of the missing data', *Korean Journal of Anesthesiology*, 64(5), pp. 402 – 407.
- Kaplan, L. B., Szybillo, G. J. and Jacoby, J. (1974) 'Components of perceived risk in product purchase: A cross-validation', *Journal of Applied Psychology*, 59(3), pp. 287 – 291.
- Karim, M. Z. A., Chan, S. G. and Hassan, S. (2010) 'Bank efficiency and non-performing loans: Evidence from Malaysia and Singapore', *Prague Economic Papers*, 2(1), pp. 118 – 132.
- Kenny, D. A. (2016) *Moderation – Effect Size and Power*. Retrieved from <http://davidakenny.net/cm/moderation.htm>
- Khettab, S. A. (2020) *The Empirical Gap: The Reason to Replicate Research*. Retrieved from <https://discourse.clevious.com/2020/01/reasoning-gaps-reason-to-replicate-research.html>
- Kianpour, K., Jusoh, A., Mardani, A., Streimikiene, D., Cavallaro, F., Nor, K. M., and Zavadskas, E. (2017) 'Factors influencing consumers' intention to return

- the end of life electronic products through reverse supply chain management for reuse, repair and recycling’, *Sustainability*, 9, pp. 1657 – 1679.
- Kline, R. B. (2011) *Principles and Practice of Structural Equation Modelling*, New York: Guilford Press.
- Kline, P. (2014) *An Easy Guide to Factor Analysis*, Routledge.
- Kock, N. and Hadaya, P. (2018) ‘Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods’, *Information Systems Journal*, 28(1), pp. 227 – 261.
- Kock, N. (2015) ‘Common Method Bias in PLS – SEM: A full collinearity assessment approach’, *International Journal of e-Collaboration*, 11(4), pp. 1 – 10.
- Kotler, P. and Armstrong, G. (2020) *Principles of Marketing (18<sup>th</sup> Edition)*, Pearson Education.
- Kothe, E. J. and Mullan, B. A. (2015) ‘Interaction effects in the Theory of Planned Behavior: Predicting fruit and vegetable consumption in three prospective cohorts’, *British Journal of Health Psychology*, 20, pp. 549 – 562.
- Krosnick, J. A., Judd, C. M. and Wittenbrink, B. (2018) ‘The measurement of attitudes’, in *The Handbook of Attitudes*, pp. 45 – 105.
- Kraus, S. J. (1995) ‘Attitudes and the Prediction of Behavior: A Meta-Analysis of the Empirical Literature’, *Personality and Social Psychology Bulletin*, 21(1), pp. 58 – 75.
- Kuisma, T., Laukkanen, T. and Hiltunen, M. (2007) ‘Mapping the reasons for resistance to Internet banking: A means-end approach’, *International Journal of Information Management*, 27(2), pp. 75 – 85.
- Kumar, R. (2018) *Research Methodology: A step-by-step guide for beginners*. Sage.
- La Barbera, F. and Ajzen, I. (2020a) ‘Control interactions in the Theory of Planned Behaviour: Rethinking the role of Subjective Norms’, *Europe’s Journal of Psychology*, 16(3), pp. 401 – 417.
- La Barbera, F. and Ajzen, I. (2020b) ‘Understanding support for European Integration across generations: A study guided by the Theory of Planned Behaviour’, *Europe’s Journal of Psychology*, 16(3), pp. 437 – 457.
- La Barbera, F. and Ajzen, I. (2020c) ‘Moderating role of Perceived Behavioral Control in the Theory of Planned Behavior: A preregistered study’, *Journal of Theoretical Social Psychology*, 5, pp. 35 – 45.

- Lada, S., Harvey Tanakinjal, G. and Amin, H. (2009) 'Predicting intention to choose halal products using theory of reasoned action', *International Journal of Islamic and Middle Eastern Finance and Management*, 2(1), pp. 66 – 76.
- Landier, A. and Thesmar, D. (2008) 'Financial contracting with optimistic entrepreneurs', *The Review of Financial Studies*, 22(1), pp. 117 – 150.
- Le, N. T. and Nguyen, T. V. (2009) 'The Impact of Networking on Bank Financing: The Case of Small and Medium-Sized Enterprises in Vietnam', *Entrepreneurship Theory and Practice*, 33(4), pp. 867 – 887.
- Lee, M. C. (2009) 'Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit', *Electronic Commerce Research and Applications*, 8(3), pp. 130 – 141.
- Lin, M., Lucas Jr, H. C. and Shmueli, G. (2013) 'Research commentary—too big to fail: large samples and the p-value problem', *Information Systems Research*, 24(4), pp. 906 – 917.
- Lin, T-C., Huang, S-L. and Hsu, C-J. (2015) 'A dual-factor model of loyalty to IT product – The case of smartphones', *International Journal of Information Management*, 35, pp. 215 – 228.
- Lindell, M. K. and Whitney, D. J. (2001) 'Accounting for common method variance in cross-sectional research designs', *Journal of Applied Psychology*, 86(1), pp. 114 – 121.
- Littlejohn, S. W. and Foss, K. A. (2009) *Encyclopedia of Communication Theory* (Vol. 1). Sage: Thousand Oaks.
- Lo, A. S., Cheung, C. and Law, R. (2011) 'Hong Kong residents' adoption of risk reduction strategies in leisure travel', *Journal of Travel and Tourism Marketing*, 28(3), pp. 240 – 260.
- Lobb, A.E., Mazzocchi, M. and Traill, W.B. (2007) 'Modelling risk perception and trust in food safety information within the theory of planned behavior', *Food Quality and Preference*, 18(2), pp. 384 – 395.
- Lynch, J. J. (1996) *Psychology of relationship banking: Profit from the psyche*, Cambridge: Woodhead Publishing Limited.
- Mahidin, M. U. (2021) 'Malaysian SMEs' GDP shrank 7.3% in 2020, more than overall economy's contraction of 5.6%', in The Edge Markets,

- <https://www.theedgemarkets.com/article/malaysian-smes-gdp-shrank-73-2020-more-overall-economys-contraction-56>
- Madden, T. J., Ellen, P.S. and Ajzen, I. (1992) 'A Comparison of the Theory of Planned Behavior and the Theory of Reasoned Action', *Personality and Social Psychology Bulletin*, 18(3), pp. 3 – 9.
- Martins, J., Costa, C., Oliveira, T., Gonçalves, R., and Branco, F. (2019) 'How smartphone advertising influences consumers' purchase intention', *Journal of Business Research*, 94, pp. 378 – 387.
- McNeish, D. (2018) 'Thanks Coefficient Alpha, we'll take it from here', *Psychological Methods*, 23(3), pp. 412 – 433.
- Md Husin, M. and Ab Rahman, A. (2013) 'What drives consumers to participate into family takaful schemes? A literature review', *Journal of Islamic Marketing*, 4(3), pp. 264 – 280.
- Memon, M. A., Ting, H., Cheah, J. H., Ramayah, T., Chuah, F. and Cham, T. H., (2020) 'Sample Size for survey research: Review and recommendations', *Journal of Applied Structural Equation Modelling*, 4(2), pp. 1 – 10.
- Mertens, D. M. (2012) 'What comes first? The Paradigm or the Approach?', *Journal of Mixed Method Research*, 6(4), pp. 255 – 257.
- Miles, D. (2017) *A taxonomy of Research Gaps: Identifying and Defining the Seven Research Gaps*. Retrieved from [https://www.academia.edu/35505149/ARTICLE\\_RESEARCH\\_A\\_Taxonomy\\_of\\_Research\\_Gaps\\_Identifying\\_and\\_Defining\\_the\\_Seven\\_Research\\_Gaps?auto=citations&from=cover\\_page](https://www.academia.edu/35505149/ARTICLE_RESEARCH_A_Taxonomy_of_Research_Gaps_Identifying_and_Defining_the_Seven_Research_Gaps?auto=citations&from=cover_page)
- Moore, G. and Benbasat, I. (1991) 'Development of an instrument to measure the perceptions of adopting an information technology innovation', *Information Systems Research*, 2(3), pp. 192 – 222.
- Mohamad, A. A. S., Mohamad, M. T. and Samsudin, M. L. (2013) 'How Islamic banks of Malaysia managing liquidity? an emphasis on confronting economic cycles', *International Journal of Business and Social Science*, 4(7), pp. 253 – 263.
- Mooi, R., Sarstedt, M. and Mooi-Reci, I. (2018) 'Principal Component and Factor Analysis. In: Market Research', Springer: Singapore

- Nasri, W. (2011) 'Factors influencing the adoption of internet banking in Tunisia', *International Journal of Business and Management*, 6(8), pp. 143 – 160.
- Nasri, W. and Charfeddine, L. (2012) 'Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behavior', *The Journal of High Technology Management Research*, 23(1), pp. 1 – 14.
- Nam, N. K., Nga, N. T. H. and Huan, N. Q. (2019) 'The Consumer's Intention to Purchase Food: The Role of Perceived Risk', *Academy of Strategic Management Journal*, 18(1), pp. 1 – 12.
- Newman, I. and Benz, C. R. (1998) *Qualitative-quantitative research methodology: Exploring the interactive continuum*, SIU Press.
- Nor, K. M. and Pearson, J. M. (2007) 'The influence of trust on internet banking acceptance'. *Journal of Internet Banking and Commerce*, 12(2), pp. 1 – 10.
- Norman, P., Connor, M. and Bell, R. (2000) 'The theory of planned behavior and exercise: Evidence for the moderating role of past behaviour', *British Journal of Health Psychology*, 5(3), pp. 249 – 261.
- Norman, P. and Conner, M. (2006) 'The theory of planned behaviour and binge drinking: Assessing the moderating role of past behaviour within the theory of planned behaviour', *British Journal of Health Psychology*, 11(1), pp. 55 – 70.
- Norman, P. (2011) 'The theory of planned behavior and binge drinking among undergraduate students: Assessing the impact of habit strength', *Addictive Behaviors*, 36(5), pp. 502 – 507.
- Norman, P., Webb, T. L. and Millings, A. (2019) 'Using the theory of planned behaviour and implementation intentions to reduce binge drinking in new university students', *Psychology and Health*, 34(4), pp. 478 – 496.
- Ong, H. B. and Cheng, M. Y. (2003) 'Success factors in e-channels: the Malaysian banking scenario', *International Journal of Bank Marketing*, 21(6/7), pp. 369 – 377.
- Owusu, V., Adjei-Addo, E. and Sundberg, C. (2013) 'Do economic incentives affect attitudes to solid waste source separation? Evidence from Ghana', *Resources, Conservation and Recycling*, 78, pp. 115 – 123.



- Pawlikowski, P., Rico, N. and Van Sell, S. (2018) 'Positivism: a concept analysis', *International Journal of Nursing and Clinical Practices*, 5, pp. 284 – 288.
- Park, Y. S., Konge, L. and Artino Jr, A. R. (2020) 'The positivism paradigm of research', *Academic Medicine*, 95(5), pp. 690 – 694.
- Phau, I. and Woo, C. (2008) 'Understanding compulsive buying tendencies among young Australians: The roles of money attitude and credit card usage'. *Marketing Intelligence and Planning*, 26(5), pp. 441 – 458.
- Poon, W. C. (2007) 'Users' adoption of e-banking services: the Malaysian perspective', *Journal of Business and Industrial Marketing*, 23(1), pp. 59 – 69.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J-Y. and Podsakoff, N. P. (2003) 'Common method bias in behavioural research: a critical review of the literature and recommended remedies', *Journal of Applied Psychology*, 88(5), pp. 879 – 903.
- Protogerou, C., Johnson, B. T. and Hagger, M. S. (2018) 'An integrated model of condom use in Sub-Saharan African youth: A meta-analysis', *Health Psychology*, 37(6), pp. 586 – 602.
- Ramayah, T., Lee, J. W. C. and Mohamad, O. (2010) 'Green product purchase intention: Some insights from a developing country', *Resources, Conservation and Recycling*, 54(12), pp. 1419 – 1427.
- Ramayah, T., Cheah, J., Chuah, F., Ting, H. and Memon, M. A. (2018) *Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS 3.0 An Updated and Practical Guide to Statistical Analysis: Second Edition*, Kuala Lumpur: Pearson, Malaysia.
- Rampini, A. A., Viswanathan, S. and Vuillemeys, G. (2019) 'Risk Management in Financial Institutions', *The Journal of Finance*, 72(2), pp. 591 – 637.
- Ramlee, S. and Berma, B. (2013) 'Financing gap in Malaysian small-medium enterprises: A supply-side perspective', *South African Journal of Economic and Management Sciences*, 16(5), pp. 115 – 126.
- Read, D. L., Brown, R. F., Thorsteinsson, E. B., Morgan, M. and Price, I. (2013) 'The theory of planned behavior as a model for predicting public opposition to wind farm developments', *Journal of Environmental Psychology*, 36, pp. 70 – 76.

- Richard, R., Vries, N. K. and Pligt, J. (1998) 'Anticipated Regret and Precautionary Sexual Behavior', *Journal of Applied Social Psychology*, 28(15), pp. 1411 – 1428.
- Richardson, H. A., Simmering, M. J. and Sturman, M. C. (2009) 'A Tale of Three Perspectives: Examining Post Hoc Statistical Techniques for Detection and Correction of Common Method Variance', *Organizational Research Methods*, 12(4), pp. 762 – 800.
- Ringle, C. M., Sarstedt, M., Mitchell, R. and Gudergan, S. P. (2020) 'Partial Least Squares Structural Equation Modelling in HRM Research', *The International Journal of Human Resource Management*, 31(12), pp. 1617 – 1643.
- Robinson, M. A. (2018) 'Using multi-item psychometric scales for research and practice in human resource management', *Human Resource Management*, 57(3), pp. 739 – 750.
- Rogers, E. M. (2010). *Diffusion of innovations*. London, UK: Simon and Schuster.
- Rosenberg, E. and Gleit, A. (1994) 'Quantitative methods in credit management: A survey', *Operations Research*, 42, pp. 589 – 613.
- Scotland, J. (2012) 'Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms', *English Language Teaching*, 5(9), pp. 9 – 16.
- Saunders, M., Lewis, P. and Thornhill, A. (2012) *Research Methods for Business Students*. 6<sup>th</sup> Edition, Pearson Education Ltd.
- Sekaran, U. (2003) *Research method for business: A skill building approach*, (4th Ed). Hoboken, NJ : John Wiley and Sons Ltd.
- Sekaran, U. and Bougie, R. (2016) *Research method for business: A skill building approach* (7th Ed). Hoboken, NJ: John Wiley and Sons Ltd.
- Senese, J. D. (1997) *Applied research methods in criminal justice*, Nelson-Hall Publishers.
- Seber, G. A. F. (1984) *Multivariate Observations*, John Wiley and Sons: New York
- Shechtman, Z. and Basheer, O. (2005) 'Normative beliefs supporting aggression of Arab children in an intergroup conflict', *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 31(4), pp. 324 – 335.

- Sherrick, B. J., Barry, P. J., Ellinger, P. N. and Schnitkey, G. D. (2004) 'Factors influencing farmers' crop insurance decisions', *American Journal of Agricultural Economics*, 86(1), pp. 103 – 114.
- Sheeran, P. (2002) 'Intention – behaviour relations: A conceptual and empirical review', In W. Stroebe and M. Hewstone (Eds.), *European Review of Social Psychology*, 12, pp. 1 – 36. Chichester, England: Wiley.
- Shih, Y. Y. and Fang, K. (2004) 'The use of a decomposed theory of planned behavior to study Internet banking in Taiwan', *Internet Research*, 14(3), pp. 213 – 223.
- Siang, L. C. and Weng, L. K. (2011) 'Factors affecting non-Muslim consumers towards intention to use Islamic banking products and services', In *Las Vegas International Academic Conference, Las Vegas, NV*.
- Simon, M. K. and Goes, J. (2013) *Scope, limitations, and delimitations*. Retrieved from [www.dissertationrecipes.com](http://www.dissertationrecipes.com)
- Sarstedt, G., Hair, J. F., Cheah, J-H., Ting, H., Vaithilingam, S. and Ringle, C. M. (2019) 'Predictive model assessment in PLS-SEM: guidelines for using PLSpredict', *European Journal of Marketing*, 11, pp. 2322 – 2347.
- Sarstedt, M., Hair, J. F., Ringle, C. M., Thiele, K. O. and Gudergan, S. P. (2016) 'Estimation issues with PLS and CBSEM: Where the bias lies!', *Journal of Business Research*, 69, pp. 3998 – 4010.
- Sniehotta, F. F., Presseau, J. and Araujo-Soares, V. (2014) 'Time to retire the theory of planned behaviour', *Health Psychology Review*, 8(1), pp. 1 – 7.
- Sohail, M. S. and Shanmugham, B. (2003) 'E-banking and customer preferences in Malaysia: An empirical investigation', *Information Sciences*, 150(4), pp. 207 – 217.
- Suganthi, B. (2001) 'Internet Banking Patronage: An Empirical Investigation of Malaysia', *Journal of Internet Banking and Commerce*, 6(1), pp. 20 – 32.
- Stein, J. C. (2002) 'Information production and capital allocation: Decentralised vs hierarchical firms' *Journal of Finance*, 57(5), pp. 1891 – 1921.
- Steenbeek, R., Schellart, A. J., Mulders, H., Anema, J. R., Kroneman, H. and Besseling, J. (2011) 'The development of instruments to measure the work disability assessment behaviour of insurance physicians', *BMC Public Health*, 11(1), pp. 1 – 18.

- Tan, M., and Teo, T. S. (2000) 'Factors influencing the adoption of Internet banking', *Journal of the Association for Information Systems*, 1(1), pp. 1 – 42.
- Taylor, S. and Todd, P. A. (1995a) 'Understanding Information Technology Usage: A Test of Competing models', *Information System Research*, pp. 144 – 176.
- Taylor, S. and Todd, P. A. (1995b) 'Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions', *International Journal of Research in Marketing*, pp. 137 – 155.
- Taylor, S. and Todd, P. A. (1995c) 'Assessing IT Usage: The Role of Prior Experience', *MIS Quarterly*, 19(4), pp. 561 – 570.
- Taylor, S. and Todd, P. A. (1995d) 'Understanding Household Garbage Reduction Behavior: A Test of an Integrated Model', *Journal of Public Policy and Marketing*, 14(2), pp. 192 – 204.
- Tashakkori, A. and Teddlie, C. (2003) 'Issues and dilemmas in teaching research methods courses in social and behavioural sciences: US perspective', *International Journal of Social Research Methodology*, 6(1), pp. 61 – 77.
- Terry, D. J. and O'Leary, J. E. (1995) 'The theory of planned behaviour: The effects of perceived behavioural control and self-efficacy', *British Journal of Social Psychology*, 34(2), pp. 199 – 220.
- Tehseen, S., Ramayah, T. and Sajilan, S. (2017) 'Testing and controlling for Common Method variance: A Review of Available Methods', *Journal of Management Sciences*, 4(2), pp. 146 – 175.
- Tenenhaus, M., Esposito Vinci, V., Chatelin, Y.,-M. and Lauro, C. (2005) 'PLS path modelling', *Computational Statistics and Data Analysis*, 48(1), pp. 159 – 205.
- Udell, G. F. (2008) 'Whats in a relationship? The case of commercial lending', *Business Horizons*, 51, pp. 93 – 103.
- Urbach, N. and Ahlemann, F. (2010) 'Structural Equation Modelling in Information Systems Research using Partial Least Squares', *Journal of Information Technology Theory and Application*, 11(2), pp. 5 – 40.
- Varnali, K., Yilmaz, C. and Toker, A. (2012) 'Predictors of attitudinal and behavioral outcomes in mobile advertising: A field experiment', *Electronic Commerce Research and Applications*, 11(6), pp. 570 – 581.

- Varpio, L., Paradis, E., Uijtdehaage, S. and Young, M. (2020) 'The distinctions between theory, theoretical framework, and conceptual framework', *Academic Medicine*, 95(7), pp. 989 – 994.
- Vaithilingam, S., Guru, B. K. and Shanmugam, B. (2003) 'Bank lending and economic growth in Malaysia', *Journal of Asia-Pacific Business*, 5(1), pp. 51 – 69.
- Venkatesh, V., Morris, M. G., Davis, G. B. and Davis, F. D. (2003) 'User acceptance of information technology: Toward a unified view'. *MIS Quarterly*, pp. 425 – 478.
- Wasiuzzaman, S., Nurdin, N., Abdullah, A. H. and Vinayan, G. (2020) 'Creditworthiness and access to finance: a study of SMEs in the Malaysian manufacturing industry', *Management Research Review*, 43(3), pp. 293 – 310.
- Wan, C., Shen, G. Q. and Choi, S. (2017) 'Experiential and instrumental attitudes: Interaction effect of attitude and subjective norm on recycling intention', *Journal of Environmental Psychology*, 50, pp. 69 – 79.
- Weber, R. (2004) 'Editor's comments: the rhetoric of positivism versus interpretivism: a personal view', *MIS Quarterly*, pp. 3 – 12.
- Wiersma, L. D. (2001) 'Conceptualization and Development of the Sources of Enjoyment in Youth Sport Questionnaire', *Measurement in Physical Education and Exercise Science*, 5(3), pp. 153 – 177.
- Wong, K. K. (2013) 'Partial Least Squares Sequential Equation Modelling (PLS-SEM) Techniques Using SmartPLS', *Marketing Bulletin*, 24(1), pp. 1 – 32.
- Wynn Jr, D. and Williams, C. K. (2012) 'Principles for conducting critical realist case study research in information systems', *MIS Quarterly*, 36(3), pp. 787 – 810.
- Wei-Shong L. P. and Kuo-Chung M. A. (2002) 'The Internal Performance Measures of Bank Lending: A Value-Added Approach', *International Journal*, 13(3), pp. 273 – 289.
- Wei-Shong, L. P. and Kuo-Chung, M. A. (2006) 'The internal performance measures of bank lending: a value-added approach', *Benchmarking: An International Journal*, 13(3), pp. 272 – 289.

- Weijters, B., Cabooter, E. and Schillewaert, N. (2010) 'The effect of rating scale format on response styles: The number of response categories and response category labels', *International Journal of Research in Marketing*, 27(3), pp. 236 – 247.
- Wynn Jr, D. and Williams, C. K. (2012) 'Principles for conducting critical realist case study research in information systems', *MIS Quarterly*, 36(3), pp. 787 – 810.
- Yeung, R.M. and Morris, J. (2001) 'Consumer perception of food risk in chicken meat', *Nutrition and Food Science*, 31(6), pp. 270 – 279.
- Yong, W. K. and Md Husin, M. (2019) 'Should Past Experience be Ignored? An Insight from the Decomposed Theory of Planned Behaviour', *Global Business and Management Research: An International Journal*, 11(3), pp. 14 – 18.
- Yong, W. K. (2019) 'Factors influencing bank officers into recommending financial products to SME's: A Literature Review', *International Journal of Innovation and Business Strategy*, 12(2), pp. 1 – 26.
- Yong, W. K. and Yong, W. M. (2020) 'New Malaysia, Brexit and US-China Trade War – Credit Risk to Malaysian Banks', *Banking and Finance*, Intech Open.
- Yong, W. K., Md Husin, M. and Kamarudin, S. (2021) 'Understanding Research Paradigms – A Scientific Guide', *Journal of Contemporary Issues in Business and Government*, 27(3), pp. 5857 – 5865.
- Yong, W. K., Md Husin, M., Liew, K. J., Mohd Said, O., Syed Ahmad, F., Sockanathan, S., Ismail, N., and Rosly, M. R. (2021) 'Identifying the key beliefs of Private University Students towards joining the Malaysian Armed Forces', *International Journal of Business Continuity and Risk Management*, 11(2/3), pp. 142 – 155.
- Yusoff, M. S. B. (2019) 'ABC of Content Validation and content validity index calculation', *Education in Medicine Journal*, 11(2), pp. 49 – 54.
- Yzer, M. and van den Putte, B. (2014) 'Control perceptions moderate attitudinal and normative effects on intention to quit smoking', *Psychology of Addictive Behaviors*, 28(4), pp. 1153 – 1161.
- Zairani, Z. and Zaimah, Z. A. (2013) 'Difficulties in securing funding from banks: Success factors for small and medium enterprises (SMEs)', *Journal of Advanced Management Science*, 1(4), pp. 354 – 357.

Zikmund, W. G. (2003) *Exploring Marketing Research*, 8<sup>th</sup> Edition. Cincinnati, OH: Thomson/ South –Western.

Zeelenberg, M., van Dijk, W. W. and Manstead, A. S. R. (1998) 'The experience of regret and disappointment', *Cognition and Emotion*, 12, pp. 221 – 230.

## Websites

<https://www.theedgemarkets.com/article/malaysian-smes-gdp-shrank-73-2020-more-overall-economys-contraction-56>

<https://www.comparehero.my/banking-finance/articles/difference-between-ccris-ctos>

<http://www.smecorp.gov.my/index.php/en/policies/2015-12-21-09-09-49/sme-statistics>

<http://www.smecorp.gov.my/index.php/en/policies/2015-12-21-09-09-49/sme-definition>

[http://www.bnm.gov.my/index.php?ch=en\\_publication&pg=en\\_staffinsight&ac=44&bb=file](http://www.bnm.gov.my/index.php?ch=en_publication&pg=en_staffinsight&ac=44&bb=file)

<https://www.theedgemarkets.com/article/bridging-sme-financing-gap>

<http://www.smecorp.gov.my/images/SMEAR/SMEAR2017/ENG/FULL.pdf>

<https://www.thesundaily.my/archive/rm33b-funding-still-available-smes-bnm-NUARCH528885>

[http://www.bnm.gov.my/index.php?ch=en\\_publication&pub=papers](http://www.bnm.gov.my/index.php?ch=en_publication&pub=papers)

<https://www.thestar.com.my/business/smebiz/2019/04/01/understanding-sme-financing-in-malaysia/>

<https://www.comparehero.my/banking-finance/articles/difference-between-ccris-ctos>

[https://www.aicb.org.my/aicb/wp-content/uploads/2019/BankingInsight\\_June19\\_FINAL.pdf](https://www.aicb.org.my/aicb/wp-content/uploads/2019/BankingInsight_June19_FINAL.pdf)

[https://www.cimb.com/content/dam/cimbgroup/pdf-files/annual-reports/CIMB2018\\_Annual\\_Report.pdf](https://www.cimb.com/content/dam/cimbgroup/pdf-files/annual-reports/CIMB2018_Annual_Report.pdf)

[https://www.cimb.com/content/dam/cimbgroup/pdf-files/annual-reports/CIMB\\_AR\\_2017\\_180413.pdf](https://www.cimb.com/content/dam/cimbgroup/pdf-files/annual-reports/CIMB_AR_2017_180413.pdf)

<https://www.maybank.com/en/investor-relations/reporting-events/reports/annual-reports.page>

<https://www.straitstimes.com/business/banking/top-malaysian-lenders-maybank-cimb-post-mixed-quarterly-results>

<https://www.thestar.com.my/business/business-news/2018/12/24/56-loan-growth-seen-for-2019/>

[http://www.bnm.gov.my/index.php?ch=en\\_publication\\_catalogue&pg=en\\_msb&ac=258&lang=en](http://www.bnm.gov.my/index.php?ch=en_publication_catalogue&pg=en_msb&ac=258&lang=en)

<https://www.bnm.gov.my/-/msb-01-2020>



<https://www.intechopen.com/books/banking-and-finance/new-malaysia-brexit-and-us-china-trade-war-credit-risk-to-malaysian-banks>

<https://www.spss-tutorials.com/spss-missing-values/>

<https://www.how2statsbook.com/p/chapters.html> (HowtoStatsbook)

<https://www.itl.nist.gov/div898/handbook/eda/section3/eda35b.htm> (Engineering  
Statistics Handbook)

## APPENDICES

### Appendix A Banking System Impaired Loans by Sector

1.21	Sistem Perbankan: Pinjaman Tak Berbayar/Pinjaman Terjejas dan Peruntukan Jejas Nilai														
	<i>Banking System: Non-Performing Loans/Impaired Loans and Impairment Provisions</i>														
															RM juta / RM million
		3 bulan / 3 months						6 bulan / 6 months							
Akhir tempoh	Pinjaman tak berbayar/ Pinjaman terjejas	Faedah tergantung	Peruntukan khas/ Peruntukan jejas nilai individu	Peruntukan am/ Peruntukan jejas nilai kolektif	Nisbah pinjaman tak berbayar bersih/ Pinjaman jejas nilai kepada Jumlah pinjaman bersih(%)	Nisbah jumlah peruntukan / Peruntukan jejas nilai kepada Pinjaman tak berbayar bersih/ Pinjaman terjejas (%)	Nisbah peruntukan am/ Peruntukan jejas nilai kolektif kepada Jumlah pinjaman bersih (%)	Pinjaman tak berbayar/ Pinjaman terjejas	Faedah tergantung	Peruntukan khas/ Peruntukan jejas nilai individu	Peruntukan am/ Peruntukan jejas nilai kolektif	Nisbah pinjaman tak berbayar bersih/ Pinjaman terjejas kepada Jumlah pinjaman bersih(%)	Nisbah jumlah peruntukan/ Peruntukan jejas nilai kepada Pinjaman tak berbayar bersih/ Pinjaman terjejas (%)	Peruntukan am/ Peruntukan jejas nilai kolektif kepada Jumlah pinjaman bersih (%)	

End of period		Non-performing loan/ Impaired loans	Interest-in-suspense	Specific provision/ Individual impairment provisions	General provision/ Collective Impairment provisions	Ratio of net Non-performing loans/ impaired loans to Net total loans(%)	Ratio of Total provisions/ impairment provisions to Net Non-performing loans/ impaired loans(%)	Ratio of General provisions/ collective impairment provisions to Net total loans(%)	Non-performing loan/ Impaired loans	Interest-in-suspense	Specific provision/ Individual impairment provisions	General provision/ Collective Impairment provisions	Ratio of net Non-performing loans/ impaired loans to Net total loans(%)	Ratio of Total provisions/ impairment provisions to Net Non-performing loans/ impaired loans(%)	Ratio of General provisions/ collective impairment provisions to Net total loans(%)
1988		23551	6130	4710	374	30.1	47.6	0.6							
1989		23256	7701	5872	456	24.8	60.3	0.6							
1990		23212	8748	5502	876	20.0	65.2	0.9							
1991		21638	8406	5068	1380	15.4	68.6	1.1							
1992		22684	8211	4976	1750	14.5	65.8	1.2							
1993		21493	8026	5193	2315	12.3	72.3	1.4							
1994		15880	4659	4631	3288	7.8	79.2	1.7							
1995		14320	3939	4043	4209	5.5	85.1	1.7							
1996		12480	3144	3054	5854	3.7	96.6	1.8							
1997		25053	2886	5402	8447	4.1	151.4	2.0							
1998	1	29397	3121	5302	8639	5.0	128.6	2.1							
	2	34552	3239	6339	8890	6.1	123.2	2.2							
	3	38381	3502	6366	9142	7.0	118.7	2.2							
	4	44259	3852	8671	8633	7.8	105.4	2.1							
	5	48413	4302	10162	8651	8.4	105.0	2.1							
	6	52871	4689	12297	8726	8.9	162.6	2.2							
	7	59902	5294	13439	8797	10.3	151.5	2.2							
	8	67399	6044	15507	8775	11.4	146.1	2.2							
	9	74477	6543	17291	8033	12.8	150.6	2.0	51753	5438	14099	7024	8.1	160.1	1.8

	1 0	80944	7161	18919	8526	13.9	143.3	2.2	55347	5901	15791	7227	8.5	154.8	1.8
	1 1	85682	8045	19254	7979	14.9	144.5	2.0	59353	6742	17047	6867	9.0	159.9	1.7
	1 2	76953	7377	16647	8576	13.6	131.4	2.2	52307	6268	14464	7717	8.0	149.2	2.0
1999	1	79779	8007	17749	8435	13.9	148.0	2.2	55934	6729	15707	7597	8.6	160.8	1.9
	2	79793	7864	16792	8317	14.3	132.8	2.2	55680	6731	15102	7117	8.7	157.2	1.8
	3	79239	7682	18152	8302	14.2	146.6	2.2	51724	6185	15903	6913	7.8	176.1	1.8
	4	73413	7110	17434	8233	13.0	149.9	2.2	51924	6181	16017	6764	7.9	191.4	1.8
	5	73979	7445	18487	8345	12.7	161.9	2.2	53944	6613	16952	7361	8.0	190.3	1.9
	6	72569	7328	18521	8304	12.4	162.8	2.2	53303	6504	16910	7003	7.9	192.0	1.8
	7	71904	7362	18288	8318	12.3	150.3	2.2	53217	6574	17023	6975	7.9	183.3	1.9
	8	72211	7582	18228	8124	12.4	146.8	2.2	53320	6756	16881	6956	7.9	184.1	1.9
	9	71011	7681	18386	8031	12.0	151.4	2.1	52864	6915	16945	6679	7.7	183.6	1.8
	1 0	69688	7579	17863	8058	11.8	156.2	2.2	52244	6863	16624	6741	7.7	180.1	1.8
	1 1	69543	7741	18207	8086	11.7	159.6	2.2	51909	7105	16920	6751	7.4	189.0	1.8
	1 2	65540	7357	17552	8016	11.0	151.9	2.2	46828	6608	16371	6957	6.4	206.1	1.9
2000	1	66745	7598	17631	8178	11.3	148.8	2.2	47393	6945	16461	7124	6.5	206.3	1.9
	2	66065	7729	17739	8202	10.8	149.9	2.2	47595	7067	16716	7132	6.4	202.1	1.9
	3	64917	7790	17656	8142	10.7	152.4	2.2	47136	7170	16413	7115	6.3	203.7	1.9
	4	64815	8065	17452	8149	10.6	154.0	2.2	47734	7350	16169	7100	6.5	195.4	1.9
	5	65195	8491	17582	8252	10.5	158.7	2.2	48624	7797	16339	7197	6.5	193.9	1.9
	6	65041	8244	17452	8297	10.4	163.5	2.2	48357	7564	16219	7283	6.5	188.3	1.9
	7	65913	8430	17398	8273	10.6	158.2	2.2	49894	7765	16062	7241	6.9	187.6	1.9
	8	66298	8645	17799	8268	10.5	161.2	2.2	50711	8001	16345	7271	6.9	186.7	1.9
	9	65535	8871	18020	8382	10.1	163.7	2.2	50470	8153	16459	7345	6.7	187.4	1.9
	1 0	65340	9200	18326	8466	9.9	173.3	2.2	50672	8379	16752	7408	6.6	191.3	1.9
	1 1	65134	9105	18545	8450	9.8	171.5	2.2	50577	8346	16984	7364	6.5	192.2	1.9

	1 2	64256	8677	17901	8449	9.7	170.8	2.2	49003	7999	16304	7341	6.3	199.2	1.9
2001	1	64116	8450	17252	8379	9.8	164.9	2.1	49733	7874	15638	7484	6.7	191.5	1.9
	2	65152	8574	17038	8032	10.1	167.6	2.1	50685	7991	15675	7489	6.9	193.4	1.9
	3	67605	8700	17486	8172	10.6	163.3	2.1	52094	8027	16078	7517	7.1	184.9	1.9
	4	68169	9021	17797	8497	10.5	167.5	2.2	53835	8211	16458	7343	7.4	179.1	1.9
	5	70909	9059	18807	8550	10.9	173.6	2.2	56887	8556	17567	7336	7.7	180.2	1.8
	6	73366	9063	18633	8738	11.4	168.7	2.2	58315	8586	17438	7562	8.0	180.8	1.9
	7	74817	9317	18970	8820	11.6	166.8	2.2	59559	8783	17808	7618	8.2	182.4	1.9
	8	75184	9650	19240	8724	11.5	164.4	2.2	60513	9056	18085	7618	8.3	178.6	1.9
	9	77325	9700	20448	8111	11.7	164.5	2.0	61577	9251	19331	7618	8.2	186.2	1.9
	1 0	78390	9920	20743	8286	11.8	165.5	2.1	62392	9513	19758	7635	8.2	187.7	1.9
	1 1	76416	9952	20860	8019	11.4	172.3	2.0	60992	9490	19568	7597	7.9	192.4	1.9
	1 2	76976	10039	20682	8262	11.5	172.3	2.1	61903	9527	19543	7578	8.1	188.7	1.9
2002	1	78471	10315	21241	8411	11.7	172.0	2.1	63420	9841	20083	7718	8.3	188.2	1.9
	2	78917	10356	21551	8346	11.6	171.2	2.1	63746	9885	20571	7635	8.2	188.7	1.9
	3	79225	10443	21989	8296	11.5	175.0	2.0	64325	9960	20830	7556	8.2	192.8	1.9
	4	78965	10600	22275	8253	11.4	174.5	2.0	64941	10157	21208	7553	8.2	189.9	1.9
	5	77843	10069	21755	8218	11.2	175.4	2.0	64490	9637	20859	7604	8.2	186.3	1.8
	6	76474	9690	21232	8430	11.0	173.4	2.0	63371	9239	20208	7705	8.2	183.5	1.9
	7	76628	10104	20798	8444	11.0	180.7	2.0	63361	9661	19807	7701	8.1	195.2	1.9
	8	74913	10227	20586	9267	10.6	186.2	2.2	62230	9811	19575	7736	7.9	199.3	1.9
	9	74544	10375	20089	8665	10.5	186.3	2.1	61938	9930	19536	7769	7.7	213.4	1.8
	1 0	74162	10522	20884	8702	10.2	187.9	2.1	61769	10076	19390	7813	7.7	208.5	1.9
	1 1	74728	10603	20514	8727	10.3	182.3	2.1	61440	10231	19406	7798	7.5	212.4	1.8
	1 2	71693	9998	18586	8729	10.2	187.0	2.1	58885	9636	17546	7809	7.5	214.3	1.8

2003	1	71667	10140	19116	8702	10.0	183.1	2.0	59150	9743	18065	7794	7.3	207.6	1.8
	2	73740	10469	19073	8724	10.4	175.0	2.1	59695	9971	18014	7866	7.4	202.2	1.8
	3	70573	9975	18479	8689	9.9	177.9	2.0	56955	9534	17446	7809	7.0	207.3	1.8
	4	70193	10139	18217	8716	9.8	179.9	2.0	56749	9488	17216	7800	7.0	206.5	1.8
	5	70358	9954	18471	8739	9.8	186.0	2.0	57081	9564	17411	7797	7.0	211.3	1.8
	6	68842	9672	17722	8794	9.5	189.4	2.0	55665	9294	16855	7821	6.7	209.3	1.8
	7	68218	9663	17756	8844	9.3	192.4	2.0	55813	9522	16681	7987	6.7	216.0	1.8
	8	67718	9887	17532	9027	9.1	188.7	2.0	55312	9502	16587	7940	6.6	208.5	1.8
	9	67098	9553	17286	9100	9.0	188.4	2.0	54526	9176	16213	8092	6.5	211.1	1.8
	10	68028	9711	17331	9153	9.2	186.1	2.0	55116	9263	16351	8143	6.6	212.6	1.8
	11	67435	9747	17180	9199	9.0	186.7	2.1	56282	9371	16201	8395	6.8	206.7	1.9
	12	65774	9345	16417	9165	8.9	191.9	2.0	54798	8962	15070	8166	6.8	213.1	1.8
2004	1	66056	9529	16506	9165	8.9	188.5	2.0	55185	9171	15161	8210	6.8	204.1	1.8
	2	67359	9818	16638	9190	9.1	200.5	2.0	55649	9363	15344	8228	6.8	227.9	1.8
	3	66121	9337	16011	9213	9.0	199.3	2.0	54217	8972	14795	8218	6.7	228.3	1.8
	4	65848	9528	16250	9002	8.8	212.1	2.0	54232	9128	15025	8257	6.6	233.0	1.8
	5	65636	9501	16224	9134	8.7	209.2	2.0	54001	9135	14880	8270	6.5	233.9	1.8
	6	64264	9296	15844	9263	8.4	209.8	2.0	52816	8951	14729	8289	6.2	237.1	1.8
	7	63697	9368	15786	9256	8.3	208.0	2.0	52670	8992	14525	8392	6.2	232.7	1.8
	8	64061	9370	15624	9387	8.3	201.5	2.0	52858	8970	14408	8408	6.2	222.8	1.8
	9	63733	9335	15633	8922	8.1	202.4	1.9	52338	8918	14363	7894	6.1	223.5	1.6
	10	63541	9321	15521	9516	8.1	202.3	2.0	52143	8937	14245	7975	6.0	222.5	1.7
	11	63673	9207	15541	9561	8.1	202.0	2.0	52426	8814	14230	8275	6.1	222.9	1.7
	12	60380	8469	15242	9489	7.5	210.7	1.9	50712	8106	14016	8368	5.8	234.2	1.7
2005	1	60118	8256	14636	9306	7.6	210.3	1.9	48922	7858	13297	8122	5.6	236.1	1.6
	2	59756	8070	14328	9361	7.6	211.0	1.9	48487	7821	12843	8460	5.6	240.7	1.7
	3	58447	7898	13790	9434	7.3	213.2	1.9	47106	7651	12231	8516	5.4	239.8	1.7

	4	58630	8073	13946	10087	7.3	211.0	2.0	47415	7766	12512	8575	5.4	235.1	1.7
	5	58404	8171	14185	10370	7.1	212.0	2.1	47793	7871	12704	8639	5.4	235.5	1.7
	6	56044	7645	14049	9997	6.7	219.5	2.0	46054	7412	12662	8733	5.1	248.2	1.7
	7	56199	7698	14425	9978	6.7	218.7	1.9	46150	7452	13032	8830	5.0	245.3	1.7
	8	55690	7816	14581	9273	6.4	220.1	1.8	46219	7550	13190	8842	4.9	245.8	1.7
	9	54240	7522	14764	9378	6.1	223.2	1.8	45426	7319	13552	8966	4.7	255.3	1.7
	10	54176	7620	14914	9416	6.0	222.4	1.8	45884	7418	13631	9026	4.7	245.0	1.7
	11	54301	7409	14887	9428	6.0	220.3	1.8	45882	7170	13575	9067	4.7	245.6	1.7
	12	53570	7331	14907	9427	5.8	224.0	1.8	45205	7107	13620	8982	4.6	252.4	1.7
2006	1	54640	7501	15641	9435	5.9	228.5	1.8	46299	7282	14378	9049	4.6	257.4	1.7
	2	54977	7550	15490	8754	5.9	224.4	1.6	46537	7305	14410	9026	4.6	255.9	1.7
	3	52925	7360	14629	10366	5.7	233.8	1.9	44995	7115	13546	9099	4.5	259.3	1.7
	4	53816	7398	15011	9582	5.7	227.6	1.8	45304	7133	13926	9103	4.4	258.2	1.7
	5	53740	7406	15243	9713	5.6	230.5	1.8	45211	7154	14145	9200	4.3	262.5	1.7
	6	52889	7166	15937	9795	5.4	249.8	1.8	44856	6934	14902	8544	4.1	283.0	1.5
	7	53487	7271	15965	9846	5.4	235.5	1.8	45610	7081	14972	9343	4.2	267.4	1.7
	8	53338	7405	16316	9372	5.3	234.3	1.7	45818	7224	15011	9408	4.2	263.9	1.7
	9	52219	7276	16386	9439	5.1	246.0	1.7	44634	7042	15050	9469	4.0	279.0	1.7
	10	52010	7200	16272	9437	5.0	244.8	1.7	44390	6929	15357	9481	3.9	283.4	1.7
	11	51743	7187	16446	9506	4.9	247.8	1.7	44510	6955	15542	9540	3.9	283.3	1.7
	12	50391	6997	16034	9535	4.8	251.9	1.7	43251	6760	15127	9565	3.7	288.5	1.7
2007	1	50276	7064	16736	9728	4.6	256.9	1.7	43627	6857	15859	9607	3.6	294.4	1.7
	2	50111	7040	16247	9692	4.7	258.7	1.7	43103	6791	15308	9659	3.6	298.2	1.7
	3	49631	6986	17000	9761	4.4	260.2	1.7	42739	6808	16333	9793	3.4	306.9	1.7
	4	49303	6978	17151	9814	4.3	264.6	1.7	42421	6735	16273	9844	3.3	308.2	1.7
	5	49086	6897	17318	9905	4.3	288.7	1.7	42170	6666	16336	9936	3.3	323.3	1.7
	6	46641	6441	16231	9944	4.1	268.4	1.7	40143	6215	15120	10013	3.2	305.9	1.7

	7	46505	6483	16610	10256	3.8	272.8	1.7	40191	6254	15571	10309	3.0	312.3	1.7
	8	45583	6467	16727	10429	3.6	283.1	1.7	39649	6254	15809	10402	2.9	325.2	1.7
	9	44074	6094	16304	10538	3.5	290.6	1.7	38373	5883	15388	10523	2.7	333.1	1.7
	10	43912	6140	16423	10591	3.4	296.6	1.7	38152	5942	15576	10615	2.7	344.1	1.7
	11	43288	6161	16461	10653	3.3	296.0	1.7	37710	5961	15605	10692	2.6	344.2	1.7
	12	41763	6031	15721	10538	3.2	294.7	1.7	35968	5827	14870	10554	2.4	348.4	1.7
2008	1	41524	6079	15797	10670	3.1	298.5	1.7	35850	5873	14899	10712	2.4	352.9	1.7
	2	41751	6123	15439	10864	3.2	291.4	1.7	36158	5904	14568	10855	2.5	340.2	1.7
	3	40440	5718	15694	10860	3.0	305.9	1.7	34946	5511	14756	10846	2.3	359.5	1.7
	4	39530	5707	15341	10957	2.9	307.7	1.7	34113	5378	14487	10988	2.2	361.7	1.7
	5	37871	5374	14083	11176	2.8	306.3	1.7	32501	5106	13016	10864	2.2	354.2	1.7
	6	36977	5252	14175	11267	2.6	314.5	1.7	31678	5004	12977	11267	2.1	362.8	1.7
	7	36712	5282	14339	11402	2.5	311.8	1.7	31639	5014	13258	11585	2.0	359.3	1.7
	8	36815	5379	14249	11718	2.5	309.9	1.7	31577	5099	13267	11687	1.9	360.5	1.7
	9	36059	5376	14036	11940	2.4	323.1	1.7	31109	5115	12977	11867	1.9	371.9	1.7
	10	36330	5357	14095	12029	2.4	295.6	1.7	31161	5093	13016	11953	1.9	339.3	1.7
	11	35886	5275	13831	12048	2.4	315.1	1.7	30811	5057	12942	12017	1.8	363.1	1.7
	12	34983	5180	13914	12057	2.2	332.7	1.7	29914	4960	12990	12016	1.7	385.4	1.7
2009	1	34856	5155	13890	11987	2.2	331.1	1.7	29828	4950	13029	11989	1.7	394.1	1.7
	2	34882	5165	13853	12084	2.2	328.3	1.7	29617	4954	12999	12034	1.6	398.7	1.7
	3	33592	4719	12840	12090	2.2	323.8	1.7	28310	4514	11977	12029	1.6	390.8	1.7
	4	33706	4731	12899	12229	2.2	323.3	1.7	28457	4519	11961	12101	1.7	385.4	1.7
	5	33991	4829	13228	12074	2.2	325.6	1.7	28570	4638	12192	12041	1.6	391.2	1.7
	6	33312	4659	12862	12195	2.2	325.1	1.7	28147	4481	11874	12114	1.6	387.5	1.7
	7	33180	4670	13453	12422	2.1	342.1	1.7	28026	4499	12370	12304	1.5	411.1	1.7
	8	33579	4755	13283	12704	2.1	332.7	1.7	28413	4572	12261	12416	1.6	395.6	1.7
	9	33890	4760	13181	12455	2.1	323.6	1.7	28353	4588	12072	12348	1.6	391.0	1.7



	1 0	33488	4702	13180	12698	2.1	327.7	1.7	28000	4526	12284	12484	1.5	407.0	1.7
	1 1	29736	3895	11303	12543	1.9	335.0	1.7	24345	3718	10296	12284	1.4	417.6	1.6
	1 2	28693	3759	11146	12495	1.8	347.5	1.6	23790	3597	10237	12275	1.3	429.1	1.6
1 Mulai bulan Januari 2010, pinjaman dilaporkan berdasarkan Financial Reporting Standards (FRS) 139. Penggunaan FRS139 adalah berdasarkan tahun kewangan bank.									1 Beginning January 2010, loans are reported based on Financial Reporting Standards (FRS) 139. The adoption of FRS139 requirement is based on the financial year of the banks.						

1.21a		Sistem Perbankan: Pinjaman Terjejas dan Peruntukan Jejas Nilai					
		<i>Banking System: Impaired Loans and Impairment Provisions</i>					
						RM juta / RM million	
Akhir tempoh		Pinjaman terjejas	Peruntukan jejas nilai individu	Peruntukan jejas nilai kolektif	Nisbah pinjaman jejas nilai kepada jumlah pinjaman bersih(%)	Nisbah peruntukan jejas nilai individu dan kolektif kepada jumlah pinjaman terjejas(%)	
<i>End of period</i>		<i>Impaired loans</i>	<i>Individual impairment provisions</i>	<i>Collective Impairment provisions</i>	<i>Ratio of net impaired loans to net total loans(%)</i>	<i>Ratio of individual and collective impairment provisions to total impaired loans(%)</i>	
2010	1	29,790.9	11,921.4	13,504.0	2.3	85.3	
	2	30,136.8	11,839.7	13,671.8	2.3	84.7	
	3	29,142.0	11,616.8	13,575.4	2.2	86.4	
	4	29,218.8	10,161.2	15,610.3	2.4	88.2	
	5	30,040.6	10,008.8	15,704.2	2.5	85.6	
	6	29,030.7	9,710.2	15,638.8	2.3	87.3	
	7	31,897.2	10,415.2	15,680.0	2.6	81.8	

	8	31,645.8	10,539.5	15,769.4	2.5	83.1
	9	31,341.4	10,170.8	15,668.0	2.5	82.4
	10	30,612.0	9,649.9	15,831.9	2.5	83.2
	11	30,782.2	9,511.9	16,003.6	2.5	82.9
	12	29,692.0	8,477.5	16,371.9	2.4	83.7
2011	1	29,670.5	8,223.1	16,712.9	2.4	84.0
	2	29,723.1	8,436.8	17,061.0	2.4	85.8
	3	28,893.4	8,305.4	17,180.1	2.3	88.2
	4	28,455.9	8,146.4	17,416.1	2.2	89.8
	5	28,457.1	7,974.0	17,793.0	2.2	90.5
	6	27,532.6	7,909.6	17,925.4	2.1	93.8
	7	27,493.5	8,136.0	18,108.4	2.1	95.5
	8	27,343.9	7,829.2	17,499.8	2.0	92.6
	9	27,275.4	7,711.9	18,395.5	2.0	95.7
	10	27,115.5	7,533.6	18,659.5	2.0	96.6
	11	27,130.7	7,583.1	18,989.3	2.0	97.9
	12	26,996.5	7,885.2	19,047.9	1.9	99.8
2012	1	27,256.8	8,063.0	19,047.5	1.9	99.5
	2	27,069.0	8,008.8	19,098.2	1.9	100.1
	3	26,093.0	7,746.5	17,272.4	1.8	95.9
	4	26,052.4	7,598.5	17,250.9	1.8	95.4
	5	25,651.6	7,848.5	17,062.5	1.7	97.1
	6	23,810.1	7,169.4	17,243.8	1.6	102.5
	7	23,439.5	7,019.0	17,325.6	1.5	103.9
	8	23,399.0	7,133.3	17,458.7	1.5	105.1
	9	23,189.3	7,104.2	17,326.9	1.5	105.4

	10	22,763.6	6,952.9	16,989.7	1.5	105.2
	11	22,871.6	7,178.7	17,105.2	1.4	106.2
	12	22,520.4	7,127.9	16,424.6	1.4	104.6
2013	1	22,470.5	6,940.8	16,629.3	1.4	104.9
	2	22,655.8	6,849.7	16,038.8	1.4	101.0
	3	22,554.4	6,194.8	16,859.7	1.5	102.2
	4	22,590.8	6,001.8	17,249.6	1.5	102.9
	5	23,014.3	6,475.0	17,092.2	1.4	102.4
	6	23,169.1	6,371.0	17,238.4	1.5	101.9
	7	23,531.8	6,586.6	17,441.9	1.5	102.1
	8	23,640.8	6,629.9	17,853.4	1.4	103.6
	9	23,727.7	6,974.5	17,775.3	1.4	104.3
	10	23,553.3	7,129.6	16,409.9	1.4	99.9
	11	23,863.0	7,303.2	16,586.0	1.4	100.1
	12	22,699.5	6,743.8	16,227.1	1.3	101.2
2014	1	22,778.1	6,792.2	16,901.0	1.3	104.0
	2	22,875.7	6,795.2	17,104.1	1.3	104.5
	3	22,774.5	6,734.9	17,066.9	1.3	104.5
	4	22,477.4	6,744.2	16,860.3	1.3	105.0
	5	22,738.1	6,782.8	17,074.0	1.3	104.9
	6	22,539.1	6,636.2	17,023.1	1.3	105.0
	7	22,461.1	6,344.8	17,025.9	1.3	104.0
	8	22,382.5	6,259.8	17,189.5	1.3	104.8
	9	23,110.9	6,237.2	17,265.8	1.3	101.7
	10	22,888.3	6,217.7	17,546.0	1.3	103.8
	11	22,551.3	5,986.8	17,303.3	1.3	103.3

	12	22,161.3	6,025.0	16,218.1	1.2	100.4
2015	1	22,309.4	6,079.1	16,215.7	1.2	99.9
	2	22,557.9	5,678.7	16,397.3	1.3	97.9
	3	22,220.3	5,639.0	16,318.3	1.2	98.8
	4	21,300.3	5,366.3	16,319.7	1.2	101.8
	5	21,887.4	5,422.5	16,605.3	1.2	100.6
	6	22,475.3	5,392.8	16,522.1	1.2	97.5
	7	22,561.7	5,480.6	16,475.0	1.2	97.3
	8	22,597.0	5,331.4	16,712.6	1.2	97.6
	9	23,020.4	5,627.2	16,946.9	1.2	98.1
	10	22,787.2	5,608.2	16,756.8	1.2	98.1
	11	23,017.0	5,685.1	16,696.1	1.2	97.2
	12	23,102.5	5,862.7	16,351.8	1.2	96.2
2016	1	23,279.2	5,894.7	16,354.2	1.2	95.6
Mulai tahun kewangan 2010, institusi-institusi perbankan dikehendaki melaporkan pinjaman terjejas berdasarkan Garis Panduan mengenai Pengelasan dan Peruntukan Jejas Nilai untuk Pinjaman/Pembiayaan. Oleh demikian, pelaporan nisbah pinjaman tak berbayar telah dihentikan. *Awalan				Beginning financial year 2010, banking institutions are required to report impaired loans in accordance with the Guideline on the Classification and Impairment Provisions for Loans/Financing. The reporting of non-performing loans has since been discontinued. * Preliminary		

1 22	Sistem Perbankan: Pinjaman Tak Berbayar/Pinjaman Terjejas Mengikut Sektor <sup>1</sup>			
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<i>Banking System: Non-Performing/Impaired Loans by Sector<sup>1</sup></i>													
													RM juta / RM million
Akhir tempoh		Pertanian primer	Per lombongan dan kuari	Perkilangan (termasuk asas tani)	Elektrik, gas dan bekalan air	Perdagangan borong & runcit, restoran dan hotel	Pembinaan	Pengangkutan, penyimpanan dan komunikasi	Aktiviti kewangan, insurans dan perniagaan	Pendidikan, kesihatan dan lain-lain	Sektor isirumah <sup>2</sup>	Sektor t.d.d.l.	Jumlah pinjaman tak berbayar/ pinjaman terjejas
End of period		Primary agriculture	Mining and quarrying	Manufacturing (including agro-based)	Electricity, gas and water supply	Wholesale & retail trade, and restaurants & hotels	Construction	Transport, storage and communication	Finance, insurance and business activities	Education, health & others	Household sector <sup>2</sup>	Other sector n.e.c	Total non-performing/ impaired loans
2004	12	759.9	78.4	8,676.0	1,230.7	5,082.1	6,365.8	638.4	5,247.2	1,142.2	19,699.4	4,051.1	55,064.7
2005	12	628.4	64.6	6,950.3	1,219.6	3,785.4	6,186.1	637.4	5,103.7	864.5	22,360.1	2,675.6	52,162.3
2006	1	638.9	68.3	7,177.2	1,154.8	3,993.5	6,104.8	661.3	5,662.5	1,015.8	23,388.4	3,457.1	53,556.4
	2	630.0	56.1	7,201.2	1,229.7	4,001.7	5,585.4	564.1	6,001.4	997.3	23,791.0	3,696.9	53,988.4
	3	705.7	52.0	7,167.3	1,157.0	3,732.6	6,315.2	531.7	4,753.1	951.9	23,233.0	3,202.1	51,992.6
	4	646.2	62.8	7,380.0	1,203.5	3,995.6	6,439.3	570.1	4,346.3	1,179.9	23,928.7	2,997.4	52,939.4
	5	608.1	57.6	7,345.3	952.4	4,454.9	6,101.1	532.9	4,930.4	1,143.4	24,138.0	2,462.2	52,819.9
	6	661.2	55.6	7,421.3	1,226.8	4,101.8	6,368.3	526.8	4,541.9	1,124.9	23,497.8	2,443.2	52,061.6
	7	657.1	55.3	7,597.5	1,228.5	4,521.2	6,315.8	511.3	4,428.1	1,133.7	23,630.7	2,506.3	52,674.9
	8	660.2	55.6	7,567.7	1,230.8	4,391.7	6,342.8	545.2	4,530.5	1,136.4	23,626.2	2,376.6	52,552.1
	9	685.1	56.8	7,105.9	1,246.4	4,050.2	6,541.3	534.2	4,614.8	1,108.4	23,145.9	2,275.2	51,364.2
	10	604.4	57.1	7,030.2	1,204.2	4,420.4	6,430.4	542.1	4,324.0	1,130.7	23,622.0	2,079.7	51,445.2
	11		55.6	6,963.2		4,099.4	6,614.5	558.4	4,425.1	1,126.8	23,213.4		51,287.3

		599.6			1,214.1						2,417.4		
	12	577.0	56.1	6,512.7	1,165.4	4,066.2	5,817.8	539.8	4,371.6	1,056.3	23,713.1	2,066.4	49,942.5
2007	1	568.7	53.7	6,645.5	1,161.6	4,068.0	5,848.1	533.2	4,188.0	1,072.6	23,915.1	1,965.7	50,020.4
	2	599.4	40.6	6,658.7	1,164.3	4,129.5	5,826.7	534.7	4,070.4	1,007.9	23,931.3	1,842.5	49,806.1
	3	559.6	41.8	6,598.4	1,163.1	4,139.5	5,863.6	516.8	3,912.4	1,071.2	23,555.2	1,920.5	49,342.3
	4	564.5	45.7	6,638.8	1,172.2	3,992.1	5,868.3	528.4	3,681.6	1,128.0	23,564.3	1,853.4	49,037.5
	5	529.1	44.3	6,925.8	1,170.2	3,988.1	5,741.1	529.2	3,711.9	1,076.9	23,224.0	1,896.9	48,837.5
	6	552.3	43.0	6,592.9	1,171.8	3,856.3	5,393.1	517.7	3,437.5	1,146.8	21,988.5	1,715.0	46,415.0
	7	533.9	43.6	6,623.3	1,172.8	3,843.3	5,461.9	523.3	3,424.3	1,109.2	21,840.5	1,708.1	46,284.3
	8	469.4	43.0	6,428.4	1,174.4	3,775.2	5,246.7	492.5	3,362.4	1,123.7	21,584.7	1,644.3	45,344.7
	9	471.7	41.0	6,417.2	1,178.7	3,770.0	5,180.7	471.1	3,327.5	1,040.0	20,339.2	1,620.8	43,858.1
	10	471.2	40.6	6,491.7	1,194.2	3,758.8	5,162.6	483.7	3,332.2	1,026.4	20,074.8	1,660.5	43,696.8
	11	476.9	41.8	6,447.2	1,129.1	3,721.6	5,154.2	466.8	3,257.4	1,003.4	19,781.4	1,610.0	43,089.9
	12	474.9	41.8	6,257.6	1,135.4	3,559.8	4,869.1	428.4	3,150.6	993.5	19,138.6	1,527.5	41,577.3
2008	1	456.7	39.8	6,259.4	1,152.3	3,558.2	4,813.9	433.5	3,122.7	985.2	18,990.1	1,477.6	41,289.3
	2	464.3	37.4	6,388.6	1,158.3	3,540.7	4,879.0	432.4	3,122.1	959.5	18,765.8	1,778.3	41,526.6
	3	453.0	35.1	6,269.3	1,161.9	3,431.1	4,765.2	438.7	2,955.1	903.9	18,045.2	1,799.3	40,257.6
	4	419.8	36.7	6,343.9	1,171.6	3,355.5	4,790.0	421.9	2,991.5	905.8	17,165.9	1,759.2	39,361.8
	5	399.8	33.8	6,127.5	1,154.8	3,050.1	4,397.2	361.6	2,817.5	717.7	16,764.7	1,865.9	37,690.5
	6	400.1	36.9	5,822.4	1,155.3	2,936.0	4,286.3	345.9	2,894.9	700.9	16,471.0	1,750.4	36,800.0
	7	391.9	40.3	5,761.7	1,158.1	2,998.1	4,328.7	346.7	2,873.2	692.1	16,214.5	1,741.4	36,546.6
	8	370.5	39.8	5,700.7	1,159.4	3,032.0	4,420.2	344.8	2,845.7	724.1	16,231.4	1,758.9	36,627.4

	9	368.5	41.1	5,738.8	1,161.0	3,017.6	4,163.7	335.6	2,795.1	665.6	15,888.9	1,690.4	35,866.2
	10	359.4	39.6	5,869.0	1,165.6	3,037.6	4,100.3	343.7	2,752.8	618.7	16,147.3	1,692.5	36,126.7
	11	354.1	44.3	5,897.9	1,167.5	2,992.1	3,799.7	336.6	2,633.9	511.0	16,307.2	1,640.0	35,684.2
	12	358.2	45.1	5,843.8	609.2	2,945.1	3,654.7	344.8	2,548.5	505.4	16,331.9	1,598.3	34,785.0
2009	1	376.9	51.4	5,817.1	200.2	2,946.6	3,706.4	354.1	2,602.2	488.5	16,721.4	1,403.0	34,667.9
	2	375.1	50.2	5,813.2	200.7	2,994.8	3,667.6	365.5	2,641.8	450.1	16,581.7	1,568.5	34,709.2
	3	371.1	45.9	5,698.6	199.3	2,942.1	3,327.0	337.3	2,285.6	313.5	16,250.6	1,701.8	33,472.8
	4	353.3	44.5	5,971.1	199.7	3,018.7	3,356.3	339.2	2,247.3	321.7	16,145.4	1,556.3	33,553.3
	5	345.2	44.3	6,066.2	211.4	3,046.8	3,332.0	325.6	2,218.1	334.2	16,256.3	1,654.3	33,834.4
	6	327.8	40.6	5,800.6	183.2	2,977.5	3,271.5	279.3	2,464.1	319.5	15,863.1	1,564.7	33,091.9
	7	317.1	39.7	5,836.1	182.7	3,097.1	3,329.9	276.6	2,555.9	403.9	15,501.6	1,506.5	33,047.2
	8	338.3	182.6	5,914.5	194.3	3,261.8	3,320.0	277.9	2,425.7	379.2	15,515.6	1,629.4	33,439.1
	9	422.4	185.7	6,123.4	191.5	3,195.8	3,366.0	288.5	2,390.7	385.4	15,354.3	1,580.3	33,483.9
	10	396.1	191.3	5,872.4	191.0	3,104.4	3,236.2	289.8	2,354.5	378.6	15,240.3	1,601.5	32,856.1
	11	333.8	179.1	5,119.0	192.0	2,624.3	2,990.4	257.6	2,127.4	327.7	13,640.6	1,444.2	29,236.0
	12	359.8	181.4	5,254.8	178.5	2,586.9	2,992.9	270.9	2,174.5	196.2	13,339.8	1,133.4	28,669.1
2010 <sup>3</sup>	1	365.0	186.8	5,472.2	618.3	2,681.9	3,052.4	1,165.0	2,007.1	191.8	13,000.2	1,050.3	29,790.9
	2	411.2	166.9	5,169.0	617.3	2,700.3	2,831.5	1,153.2	2,138.1	207.6	13,595.9	1,145.7	30,136.8
	3	367.4	166.2	5,324.8	629.6	2,658.5	2,981.7	1,160.9	2,200.6	185.3	12,389.2	1,077.8	29,142.0
	4	445.7	165.8	5,424.3	730.3	2,653.5	3,272.1	1,133.7	2,299.8	194.9	11,995.9	902.8	29,218.8
	5	481.2	163.7	5,582.1	730.4	2,706.8	3,404.4	1,519.6	2,679.5	222.9	11,938.7	611.1	30,040.6
	6	453.6	202.4	5,024.8	1,007.9	2,703.7	3,248.1	1,465.6	2,756.8	263.1	11,315.0	589.7	29,030.7

	7	615.9	199.9	6,245.5	1,319.7	2,998.1	3,273.4	1,883.9	3,235.7	265.2	11,320.2	539.7	31,897.2
	8	564.6	198.8	6,210.0	1,319.1	2,994.9	3,257.7	1,883.2	3,131.0	261.0	11,321.9	503.6	31,645.8
	9	571.6	202.4	6,169.2	1,064.7	2,848.7	3,160.9	1,833.4	2,892.2	360.1	11,453.7	784.3	31,341.4
	10	574.9	201.9	6,045.1	1,067.3	2,801.2	3,130.9	1,808.5	2,539.1	352.7	11,297.9	792.7	30,612.0
	11	576.8	206.2	6,173.7	1,070.7	2,727.1	3,107.9	1,820.2	2,599.1	350.3	11,383.1	767.0	30,782.2
	12	549.8	198.5	5,800.1	944.0	2,819.8	3,085.5	1,941.7	1,999.0	333.1	11,273.6	746.9	29,692.0
2011 <sup>3</sup>	1	554.7	198.7	5,711.8	944.3	2,802.3	3,130.6	1,937.7	2,052.3	336.1	11,353.7	648.2	29,670.5
	2	556.6	191.6	5,574.0	944.1	2,808.9	3,086.8	1,932.7	1,939.7	333.1	11,620.3	735.2	29,723.1
	3	530.9	191.4	5,547.4	944.8	2,757.9	3,109.1	1,871.5	1,898.9	339.0	10,923.2	779.3	28,893.4
	4	532.4	185.5	5,481.6	945.1	2,684.2	3,032.6	1,855.7	1,836.6	330.9	10,835.5	735.7	28,455.9
	5	523.8	182.1	5,601.7	1,019.7	2,649.1	3,073.3	1,887.7	1,822.4	335.2	10,709.5	652.5	28,457.1
	6	496.5	178.2	5,486.8	1,013.2	2,487.3	2,842.3	1,960.7	1,765.8	336.5	10,315.3	650.3	27,532.6
	7	517.5	64.8	5,466.9	1,014.1	2,555.0	2,778.0	1,941.7	1,769.5	328.8	10,362.0	695.3	27,493.5
	8	477.0	70.1	5,439.4	853.7	2,937.3	2,706.1	1,849.7	1,711.5	347.3	10,298.4	653.6	27,343.9
	9	497.2	70.2	5,579.8	847.2	2,763.0	2,765.2	1,889.1	1,679.3	332.0	10,255.3	597.1	27,275.4
	10	501.6	324.9	5,495.0	847.2	2,490.5	2,706.8	1,898.9	1,725.7	340.2	10,212.8	571.9	27,115.5
	11	501.0	320.9	5,391.5	846.5	2,466.9	2,849.8	1,896.5	1,687.7	354.8	10,266.3	548.6	27,130.7
	12	481.7	314.2	5,411.5	837.0	2,358.7	2,793.6	1,733.0	1,569.9	322.6	9,848.1	1,326.3	26,996.5
2012 <sup>3</sup>	1	456.4	314.4	5,486.3	853.4	2,607.5	2,733.6	1,751.9	1,591.1	279.4	10,089.6	1,093.3	27,256.8
	2	455.0	309.9	5,600.0	852.2	2,535.0	2,623.9	1,709.9	1,509.0	274.4	10,120.1	1,079.5	27,069.0
	3	440.2	212.3	5,347.2	903.3	2,463.9	2,558.2	1,455.5	1,660.5	272.2	9,750.1	1,029.5	26,093.0
	4	439.9	200.6	5,366.1	905.1	2,391.6	2,516.1	1,450.5	1,609.0	271.4	9,832.2	1,070.0	26,052.4



	5	437.1	205.0	5,319.3	905.1	2,433.4	2,333.2	1,389.6	1,515.0	268.7	9,729.0	1,116.2	25,651.6
	6	414.6	206.1	5,009.1	195.7	2,175.1	2,445.2	1,328.3	1,480.1	261.9	9,475.5	818.5	23,810.1
	7	438.6	328.3	4,970.6	86.4	2,143.2	2,399.7	1,418.7	1,571.6	264.5	9,331.8	486.1	23,439.5
	8	449.8	327.6	4,910.1	85.6	2,098.8	2,368.4	1,417.0	1,583.6	253.8	9,440.2	464.1	23,399.0
	9	413.7	335.3	4,963.0	85.5	2,055.5	2,253.0	1,421.6	1,594.4	260.9	9,357.5	448.9	23,189.3
	10	402.4	341.3	5,063.2	76.2	2,002.8	2,049.4	1,429.9	1,569.5	163.9	9,182.7	463.9	22,745.2
	11	417.2	328.1	5,199.6	75.2	1,951.9	2,046.9	1,434.9	1,581.4	165.3	9,182.8	466.2	22,849.4
	12	332.2	196.5	5,561.1	74.5	1,786.2	1,745.9	1,551.1	1,567.9	156.2	8,985.3	581.1	22,538.0
2013 <sup>3</sup>	1	325.0	187.8	5,434.9	74.3	1,863.6	1,766.8	1,510.5	1,566.0	157.2	9,005.6	578.7	22,470.5
	2	304.9	194.4	5,409.6	74.5	1,876.2	1,762.2	1,511.1	1,713.6	161.1	8,884.2	568.4	22,460.2
	3	314.2	170.3	5,806.3	73.7	1,876.0	1,748.4	1,530.6	1,525.9	153.1	8,806.4	549.6	22,554.4
	4	307.2	169.8	5,927.8	74.7	1,950.0	1,723.9	1,525.7	1,509.9	161.7	8,762.4	448.2	22,561.2
	5	295.1	172.6	6,183.9	77.4	1,970.9	1,714.8	1,528.6	1,517.0	164.8	8,933.8	455.4	23,014.3
	6	302.0	158.8	6,401.0	55.4	1,972.9	1,702.6	1,558.6	1,589.1	148.5	8,730.2	361.5	22,980.6
	7	282.4	156.5	6,785.5	54.2	1,989.1	1,708.7	1,561.1	1,644.8	200.7	8,615.4	371.0	23,369.3
	8	277.5	152.2	6,595.4	54.4	2,028.7	1,636.9	1,629.0	1,633.6	198.1	8,768.4	497.1	23,471.3
	9	361.1	152.8	6,871.2	56.3	2,006.5	1,621.6	1,670.1	1,653.1	198.8	8,682.1	280.1	23,553.7
	10	342.6	156.4	6,867.6	56.8	1,966.5	1,662.7	1,711.1	1,653.3	196.6	8,734.9	206.5	23,555.0
	11	349.5	152.5	6,949.7	56.1	1,970.0	1,671.9	1,726.5	1,629.3	181.3	8,917.4	259.0	23,863.2
	12	323.3	152.7	6,228.3	55.6	1,838.5	1,596.6	1,664.1	1,317.2	144.1	8,932.8	537.5	22,790.7
	1	301.9	152.6	6,191.6	55.9	1,794.2	1,564.0	1,731.3	1,269.6	132.6	8,913.2	668.0	22,774.8
	2	304.0	153.8	6,174.2	56.5	1,773.2	1,536.9	1,736.9	1,248.3	137.0	9,127.5	620.4	22,868.6

	3	365.5	146.2	6,222.3	56.8	1,710.9	1,663.6	1,735.1	1,229.2	220.7	8,790.8	613.6	22,754.8
	4	339.9	151.0	6,349.7	58.1	1,717.8	1,672.8	1,758.3	1,219.7	211.6	8,634.4	354.6	22,467.9
2014 <sup>3</sup>	5	333.3	155.4	6,276.0	84.9	1,778.0	1,681.4	1,829.2	1,286.7	218.0	8,822.7	365.5	22,831.0
	6	344.9	36.5	6,109.2	92.0	1,743.6	1,722.9	1,809.2	1,266.5	215.4	8,858.9	337.1	22,536.3
	7	336.9	35.4	5,990.0	85.1	1,805.0	1,567.5	1,813.0	1,357.3	208.4	8,865.9	393.9	22,458.3
	8	335.3	35.3	5,970.3	89.3	1,800.4	1,578.8	1,825.5	1,314.6	207.2	8,841.6	381.1	22,379.5
	9	298.7	42.4	5,884.9	48.1	1,721.1	1,591.4	1,841.8	2,300.1	237.2	8,798.9	343.6	23,108.3
	10	230.6	40.2	5,782.9	44.0	1,792.7	1,943.4	1,842.8	1,858.0	225.3	8,800.5	325.1	22,885.6
	11	238.7	30.5	5,476.8	42.0	1,720.5	1,941.5	1,814.3	1,896.2	221.0	8,822.1	345.0	22,548.7
	12	214.2	29.0	5,262.4	41.9	1,749.7	1,805.5	1,845.2	1,885.6	214.1	8,826.3	305.3	22,179.1
2015 <sup>3</sup>	1	212.8	28.3	5,222.6	40.0	1,776.7	1,813.2	1,852.0	2,201.3	205.0	8,647.7	305.3	22,304.8
	2	210.7	28.5	4,904.7	37.7	1,824.7	1,712.1	1,935.2	2,174.4	232.2	9,189.5	303.9	22,553.6
	3	228.0	30.2	4,887.7	25.8	1,778.5	1,611.4	1,922.1	2,311.4	208.6	8,910.2	302.2	22,216.1
	4	218.1	215.8	4,262.7	22.4	1,801.1	1,560.3	1,818.3	2,364.7	207.0	8,551.6	293.9	21,316.0
	5	234.7	225.2	4,237.0	77.5	1,858.2	1,589.3	1,896.5	2,422.5	311.9	8,735.4	330.3	21,918.3
	6	383.7	232.3	4,276.5	75.9	1,985.2	1,606.3	1,911.1	2,649.5	315.2	8,624.4	460.7	22,520.6
	7	387.1	230.5	4,239.4	76.8	2,007.9	1,781.9	1,909.1	2,510.8	331.3	8,735.2	409.4	22,619.4
	8	381.6	232.1	3,941.2	164.7	2,055.9	1,786.8	1,939.5	2,555.4	324.3	8,841.4	442.1	22,665.1
	9	396.4	237.3	4,199.1	164.1	2,015.5	1,652.5	2,121.5	2,692.9	354.5	8,825.3	442.1	23,101.1
	10	383.4	229.5	4,209.4	164.7	1,873.2	1,578.8	2,132.4	2,817.2	331.6	8,746.3	395.5	22,862.0
	11	379.8	221.2	4,303.8	164.5	1,974.3	1,632.5	2,070.7	2,699.1	339.8	8,831.3	395.6	23,012.8
	12	379.7	220.7	4,261.3	161.1	1,961.5	1,706.2	2,065.3	2,973.6	302.6	8,675.7	472.7	23,180.4

2016 <sup>3</sup>	1	364.9	228.4	4,316.1	26.7	1,991.3	1,737.6	1,937.2	3,105.5	336.8	8,757.6	472.7	23,274.8
	2	417.0	207.9	4,281.3	25.8	2,004.1	1,761.3	2,050.8	3,181.2	310.8	9,080.9	446.4	23,767.3
	3	415.7	190.0	4,318.3	25.9	1,984.3	1,785.0	1,970.8	3,162.3	322.9	8,590.7	425.5	23,191.4
	4	413.7	189.9	4,173.5	25.5	1,970.4	1,705.0	1,952.8	3,257.6	293.3	8,740.2	431.6	23,153.5
	5	400.1	352.2	4,362.3	19.7	2,023.4	2,081.3	1,949.3	3,171.1	299.2	8,835.5	421.7	23,915.9
	6	425.0	347.3	4,413.7	112.9	1,991.2	2,284.4	2,028.3	3,163.5	315.4	8,646.8	438.2	24,166.8
	7	415.3	374.0	4,685.9	123.1	1,979.5	2,078.1	2,057.1	3,266.0	300.3	9,000.5	431.3	24,711.0
	8	401.8	373.4	4,579.6	116.7	1,965.2	2,142.9	2,014.6	3,175.7	217.5	9,004.3	412.6	24,404.5
	9	286.0	388.5	4,675.8	120.6	1,958.1	2,132.5	1,979.6	3,209.9	218.7	9,065.7	399.4	24,434.9
	10	298.2	395.0	4,767.7	117.4	1,888.8	2,159.7	1,948.9	3,161.3	219.8	9,236.6	396.8	24,590.3
	11	296.6	741.0	4,750.1	117.5	1,896.4	1,722.0	1,961.6	3,149.2	112.9	9,273.6	491.7	24,512.5
	12	294.2	654.4	4,199.8	108.1	2,037.6	1,565.7	2,257.8	3,124.8	101.8	9,252.0	919.4	24,515.7
2017 <sup>3</sup>	1	258.8	641.1	4,233.2	134.5	2,037.9	1,536.1	2,254.0	3,187.1	103.3	9,353.6	833.9	24,573.5
	2	252.1	615.0	4,273.1	136.3	2,150.4	1,520.2	2,255.7	3,256.0	120.6	9,503.4	832.9	24,915.8
	3	250.1	610.1	4,292.6	135.2	2,181.5	1,528.6	2,229.5	3,618.0	126.0	9,076.4	898.0	24,946.0
	4	245.6	609.3	4,290.2	135.5	2,288.2	1,575.7	2,242.6	3,625.2	204.1	9,315.8	947.4	25,479.8
	5	244.5	624.6	4,348.0	136.6	2,402.2	1,549.0	2,141.3	3,678.3	228.0	9,378.2	967.2	25,697.7
	6	243.8	632.9	4,132.0	139.4	2,411.2	1,481.9	2,297.3	3,630.2	249.9	9,399.9	922.2	25,540.9
	7	268.3	653.6	4,403.4	137.7	2,414.7	1,479.4	2,337.4	3,730.8	236.9	9,509.4	927.4	26,098.9
	8	266.6	663.0	4,419.1	138.6	2,366.5	1,428.2	2,285.9	3,725.6	248.6	9,500.8	933.3	25,976.2
	9	263.8	569.2	4,282.8	138.7	2,398.5	1,425.6	2,251.0	3,701.0	219.4	9,528.6	1,240.6	26,019.2
	10	259.5	559.9	4,305.1	139.2	2,402.2	1,441.0	2,233.4	3,517.5	219.6	9,465.9	1,219.7	25,763.1

	11	229.0	571.3	4,185.9	138.3	2,370.3	1,556.0	2,240.0	3,205.0	209.6	9,443.0	1,066.5	25,214.9
	12	228.7	558.2	3,685.1	141.5	2,311.5	1,620.9	2,495.0	3,370.4	213.9	9,188.7	685.2	24,499.2
2018	1	181.6	545.3	3,623.7	161.8	2,410.8	1,678.4	2,490.1	3,551.6	213.4	9,062.1	654.5	24,573.3
	2	176.4	547.8	3,427.4	161.5	2,453.9	1,817.0	2,456.1	3,597.2	322.8	9,318.2	614.2	24,892.5
	3	162.9	835.9	3,247.1	161.6	2,506.9	2,010.9	2,422.7	3,651.1	320.2	9,201.8	755.1	25,276.3
	4	158.2	825.5	3,199.1	161.2	2,507.5	2,094.8	2,451.3	3,708.4	324.6	9,272.9	764.3	25,467.9
	5	160.9	804.9	3,132.3	161.5	2,582.0	2,087.0	2,455.9	3,856.0	320.8	9,569.7	764.2	25,895.3
	6	222.5	740.4	3,133.9	190.1	2,590.5	2,034.3	2,452.4	3,807.8	314.8	9,652.5	773.1	25,912.3
	7	160.2	666.6	3,179.5	190.5	2,554.4	2,141.2	2,448.7	3,821.7	309.0	9,596.4	773.6	25,841.7
	8	163.0	606.8	3,234.2	230.4	2,576.6	2,193.3	2,475.9	3,745.3	303.0	9,685.5	797.6	26,011.6
	9	163.8	598.9	2,902.8	191.6	2,525.5	2,166.1	2,473.4	3,646.7	306.6	9,524.9	716.3	25,216.6
	10	165.8	680.1	2,870.9	192.2	2,531.3	2,174.8	2,431.1	3,601.6	311.9	9,435.2	725.5	25,120.4
	11	164.4	637.3	2,602.0	193.2	2,474.3	2,154.5	2,371.1	3,564.7	316.6	9,544.4	727.8	24,750.3
	12	167.9	536.6	2,500.4	106.5	2,285.1	2,225.9	2,297.3	3,545.8	394.3	9,515.0	725.8	24,300.7
2019	1	242.4	537.9	2,520.5	106.3	2,333.0	2,241.1	2,174.9	3,476.9	387.9	9,569.4	731.2	24,321.5

## 1.21b Sistem Perbankan: Pinjaman/Pembiayaan Terjejas dan Peruntukan Banking System: Impaired Loan/Financing and Provisions



RM juta / RM million

Pada Akhir Tempoh <i>End of Period</i>	Pinjaman/Pembiayaan Terjejas <i>Impaired Loan/Financing</i>	Jumlah Peruntukan <i>Total Provisions</i>	Nisbah Pinjaman/Pembiayaan Terjejas Bersih kepada Jumlah Pinjaman/Pembiayaan Bersih (%) <i>Ratio of Net Impaired Loan/Financing to Net Total Loan/Financing (%)</i>	Nisbah Jumlah Peruntukan kepada Jumlah Pinjaman/Pembiayaan (%) <i>Ratio of Total Provisions to Total Loan/Financing (%)</i>
2019 1	25,051.4	23,516.8	0.87	1.4
2	25,882.0	23,786.7	0.91	1.4
3	25,003.7	23,336.2	0.87	1.4
4	25,916.7	22,918.5	0.93	1.3
5	26,100.4	22,920.7	0.93	1.3
6	26,924.1	22,727.4	0.97	1.3
7	27,283.0	23,071.9	0.97	1.3
8	27,618.4	23,119.3	0.99	1.3
9	27,855.8	23,038.2	0.99	1.3
10	27,975.4	23,224.2	0.98	1.3
11	27,757.1	23,079.3	0.97	1.3
12	26,793.6	21,962.8	0.96	1.2
2020 1	27,211.5	22,087.2	0.98	1.2
2	27,524.1	22,295.7	0.98	1.3
3	27,937.9	23,206.1	1.00	1.3
4	27,776.4	24,366.7	0.98	1.4
5	27,401.1	24,850.0	0.97	1.4
6	25,975.1	24,774.9	0.92	1.4
7	25,436.0	24,889.2	0.89	1.4
8	25,117.5	25,194.1	0.88	1.4
9	24,900.6	27,140.3	0.84	1.5
10	25,711.0	28,567.9	0.87	1.6
11	27,844.8	29,907.3	0.95	1.6
12	28,622.3	30,872.6	0.98	1.7
2021 1	29,434.1	31,213.7	1.01	1.7

Nota:

Mulai Januari 2018, Jumlah Peruntukan terdiri daripada Jangkaan Kerugian Kredit untuk 12 Bulan, Jangkaan Kerugian Kredit Seumur Hidup yang Tidak Terjejas Kredit dan Jangkaan Kerugian Kredit Seumur Hidup yang Terjejas Kredit seperti dilaporkan oleh institusi perbankan yang telah menerima pakai Malaysia Financial Reporting Standard 9 (MFRS 9) serta Peruntukan Jejas Nilai Secara Kolektif dan Peruntukan Jejas Nilai Individu seperti dilaporkan oleh institusi perbankan yang belum menerima pakai MFRS 9.

Pada Jun 2019, data telah disemak untuk mengambil kira 'pengambilalihan' Asian Finance Bank Berhad oleh Malaysia Building Society Berhad bagi menubuhkan MBSB Bank Berhad. Data yang disemak merujuk kepada data dari bulan April 2018 dan seterusnya.

Note:

**Appendix B The Alignment Table (Zikmund, 2003)**

<b>Research Gaps</b>	<b>RQ</b>	<b>RO</b>	<b>Hypothesis</b>
<b>Previous studies did not investigate bank officer intention to minimize repayment risks from SME lending in the Malaysian context</b>	RQ1: Does attitude influence bank officer intention to minimise repayment risks from SME's?	RO1: To analyse whether the bank officer's attitude to minimise repayment risks from SME's is able to influence the bank officer's behavioural intention to minimise repayment risks from SME's	H1: Attitude positively influences bank officers' behavioural intention to minimise repayment risks from SME's
	RQ2: Does subjective norm influence bank officer intention to minimise repayment risks from SME's?	RO2: To investigate whether the bank officer's subjective norm is able to influence the bank officer's behavioural intention to minimise repayment risks from SME's	H2: Subjective Norms positively influences bank officers' behavioural intention to minimise repayment risks from SME's
	RQ3: Does perceived behavioural control moderate the relationship between Attitude and bank officer intention to minimise repayment risks from SME's?	RO3: To discriminate whether the bank officer's perceived behavioural control is able to influence the relationship between their Attitude and behavioural intention to minimise repayment risks from SME's	H3: The positive relationship between Attitude and Intention will be stronger when Perceived Behavioural Control is high

	RQ4: Does perceived behavioural control moderate the relationship between Subjective Norms and bank officer intention to minimise repayment risks from SME's?	RO4: To determine whether the bank officer's perceived behavioural control is able to influence the relationship between their Subjective Norms and behavioural intention to minimise repayment risks from SME's	H4: The positive relationship between Subjective Norms and Intention will be weaker when Perceived Behavioural Control is high
	RQ5: Does Perceived Financial Incentives influence bank officer's attitude to minimise repayment risks from SME's?	RO5: To examine the influence of Perceived Financial Incentives towards individual bank officer's attitude to minimise repayment risks from SME's	H5: Perceived Financial Incentives positively influences bank officer's attitude to minimise repayment risks from SME's
	RQ6: Does Perceived Financial Risk to the bank influence bank officer's attitude to minimise repayment risks from SME's?	RO6: To examine the influence of Perceived Financial Risk to the bank towards individual bank officer's attitude to minimise repayment risks from SME's	H6: Perceived Financial Risk to the bank significantly influences bank officer's attitude to minimise repayment risks from SME's

<p><b>Previous studies did not investigate the effect of Past behavior on behavioral intention in the Malaysian banking context, as it could have a significant effect on bank officer's intention to minimize repayment risks from SME's</b></p>	<p>RQ7: Does past behaviour influence bank officer's behavioural intention to minimise repayment risks from SME's?</p>	<p>RO7: To identify if past behaviour is able to influence bank officer's behavioural intention to minimise repayment risks from SME's</p>	<p>H7: Past Behaviour positively influences bank officers' behavioural intention to minimise repayment risks from SME's</p>
	<p>RQ8: Does the Demographic Variables of Age, Tenure and Religion influence the past lending behaviour of bank officers?</p>	<p>RO8: To infer if the Demographic Variables of Age, Tenure and Religion is able to influence bank officer's past behaviour</p>	<p>H8: Demographic Variables of Age, Tenure and Religion positively influences Past Behaviour</p>
	<p>RQ9: Is the relationship between Demographic Variables (Age, Tenure and Religion) and bank officer Past Behaviour stronger for women compared to men?</p>	<p>RO9: To distinguish if the relationship between Demographic variables (Age, Tenure and Religion) and bank officer's Past Behaviour will be stronger for women compared to men</p>	<p>H9: The positive relationship between Demographic Variables (Age, Tenure, Religion) and Past Behaviour will be stronger for women compared to men</p>



## Appendix C SME Characteristics

### SME Definition

Given that there have been many developments in the economy since 2005 such as price inflation, structural changes and change in business trends, a review of the definition was undertaken in 2013 and a new SME definition was endorsed at the 14th NSDC Meeting in July 2013. The definition was simplified as follows:

- Manufacturing: Sales turnover not exceeding RM50 million OR full-time employees not exceeding 200 workers
- Services and Other Sectors: Sales turnover not exceeding RM20 million OR full-time employees not exceeding 75 workers

A business will be deemed as an SME if it meets either one of the two specified qualifying criteria, namely sales turnover or full-time employees, whichever is lower. Details of the new definition are as follows:

#### Definition by Size of Operation

- Microenterprises across all sectors: Sales turnover of less than RM300,000 OR less than 5 full-time employees.
- Table 1 on page 2 summarises the definition for the small and medium categories for the respective sectors.

**Table 1: Definition by Size of Operation**

Category	Small	Medium
Manufacturing	Sales turnover from RM300,000 to less than RM15 million OR full-time employees from 5 to less than 75	Sales turnover from RM15 million to not exceeding RM50 million OR full-time employees from 75 to not exceeding 200
Services & Other Sectors	Sales turnover from RM300,000 to less than RM3 million OR full-time employees from 5 to less than 30	Sales turnover from RM3 million to not exceeding RM20 million OR full-time employees from 30 to not exceeding 75

- If a business fulfills either one criteria across the different sizes of operation, then the smaller size will be applicable. For example if a firm's sales turnover falls under microenterprise but employment falls under small, the business will be deemed as a microenterprise.

## Appendix D Profile of Experts

<b>Industry Expert</b>	<b>Academician</b>
<p style="text-align: center;"><b>Muruga Raja AL Ramalingam</b>                      Head, Credit                      Knowledge and Learning Centre                      Public Bank                      IT &amp; Training Centre, 1 Jalan Air                      Hitam                      Kawasan Institusi Bandar Baru Bangi                      43000 Kajang, Selangor Darul Ehsan.</p>	<p style="text-align: center;"><b>Professor T. Ramayah</b>                      Room 118, Level 1                      School of Management                      Universiti Sains Malaysia                        11800 Minden                        Penang, Malaysia</p>
<b>Industry Expert</b>	<b>Industry Expert</b>
<p style="text-align: center;"><b>Yong Wooi Meng</b>                      First Vice President                        Corporate Banking                        United Overseas Bank                        Level 11, Menara UOB,                        Jalan Raja Laut,                      50738 Kuala Lumpur, Malaysia</p>	<p style="text-align: center;"><b>Siva Kumar Kandiah</b>                      Head, RHB Insurance Audit                        Level 12B, West Wing                        The Icon, 1/68F, Jalan Tun Razak,                        50400 Kuala Lumpur</p>

**VALIDATION OF SURVEY QUESTIONNAIRE**  
**'INTENTION TO MINIMISE REPAYMENT RISKS AMONG BANK SALES**  
**OFFICERS'**  
**A CONTENT VALIDITY STUDY**

**Dear expert,**

This questionnaire contains 41 questions in 7 domains related to variables that is theorized to affect the intention to minimize repayment risks among Malaysian bank sales officers. Your expert judgement is needed to assess the degree of relevancy of each question to the measured domains. Your review should be based on the definition and relevant terminologies that are provided to you. Please be as objective and constructive as possible in your review and use the following rating scale:

**Degree of Relevance:**

- 1 = The question is not relevant to the measured domain
- 2 = The question is somewhat relevant to the measured domain
- 3 = The question is quite relevant to the measured domain
- 4 = The question is highly relevant to the measured domain

You may sign below once you have completed your review. Thank you for your contribution to this study.



(Signature of Expert)

**VALIDATION OF SURVEY QUESTIONNAIRE**  
**'INTENTION TO MINIMISE REPAYMENT RISKS AMONG BANK SALES**  
**OFFICERS'**  
**A CONTENT VALIDITY STUDY**

**Dear expert,**

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(Signature of Expert)

**VALIDATION OF SURVEY QUESTIONNAIRE**  
**'INTENTION TO MINIMISE REPAYMENT RISKS AMONG BANK SALES**  
**OFFICERS'**  
**A CONTENT VALIDITY STUDY**

**Dear expert,**

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(Signature of Expert)

**VALIDATION OF SURVEY QUESTIONNAIRE**  
**'INTENTION TO MINIMISE REPAYMENT RISKS AMONG BANK SALES**  
**OFFICERS'**  
**A CONTENT VALIDITY STUDY**

**Dear expert,**

This questionnaire contains 41 questions in 7 domains related to variables that is theorized to affect the intention to minimize repayment risks among Malaysian bank sales officers. Your expert judgement is needed to assess the degree of relevancy of each question to the measured domains. Your review should be based on the definition and relevant terminologies that are provided to you. Please be as objective and constructive as possible in your review and use the following rating scale:

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- 1 = The question is not relevant to the measured domain
- 2 = The question is somewhat relevant to the measured domain
- 3 = The question is quite relevant to the measured domain
- 4 = The question is highly relevant to the measured domain

You may sign below once you have completed your review. Thank you for your contribution to this study.



(Signature of Expert)

Rhys Yong Wooi Meng  
First Vice President,  
Team Leader - Credit Analyst,  
Corporate Banking,  
UOB Bank Malaysia Bhd

## Appendix E Questionnaire



Universiti Teknologi Malaysia  
Jalan Sultan Yahya Petra  
54100 Kuala Lumpur, Malaysia

Tel: 03-2615 4100  
Our References : UTM.K.55.01.03/13.11/1/4 Jld. 7(17)  
Date : February 7, 2020

### TO WHOM MAY IT CONCERN

Dear Sir/Madam,

### REQUEST TO CONDUCT AN ACADEMIC RESEARCH / PERMISSION TO COLLECT DATA

Name : YONG WOUI KEONG  
I/C No. @ Passport No. : 721220-05-5151  
Matric No. : PBS173013  
Admission Status : Full Time  
Registration Date : 09 September 2017  
Medium of Instruction : English  
Programme : Doctor of Philosophy

With regard to the above matter, this is to certify that **Yong Woui Keong (PBS173013)** is pursuing Doctor of Philosophy (PhD) at Azman Hashim International Business School, Universiti Teknologi Malaysia (UTM).

The student is currently conducting a research on a title "INTENTION TO MINIMISE SME REPAYMENT RISKS AMONG BANK SALES OFFICERS" under supervision Dr. Maizaitulaidawati Md Husin. In order to fulfill her research requirement, it would be greatly appreciated if you could allow him to conduct interview, distribute questionnaires and collect data on related topic.

Data collection will be used for academic purpose only and shall remain confidential and will not be identify in publication or media.

Please contact us at 03-21805032 or email to [norharyani.kl@utm.my](mailto:norharyani.kl@utm.my) for further clarification to the above student.

Thank you in advance.

### "BERKHIDMAT UNTUK NEGARA"

I, who uphold trust,

**NORHARYANI HAMID**  
Assistant Registrar  
Azman Hashim International Business School  
Level 10, Menara Razak  
UTM Kuala Lumpur  
☎ : 03-21805032  
✉ : [norharyani.kl@utm.my](mailto:norharyani.kl@utm.my)



Greetings,

This questionnaire aims to investigate your intentions to minimise repayment risks to the bank from loans made to small and medium sized enterprises (SME's).

It will take 15-20 minutes to complete this questionnaire. You will be asked to respond to statements related to opinions associated with minimising repayment risks to the bank, as well as providing some information about yourself. Your answers to the questionnaire are confidential and will only be used for the purposes this study.

Your cooperation is very much appreciated. Thank you.

For enquiries, please contact:

Yong Wooi Keong  
Lecturer  
American Degree Transfer Programme  
Sunway University  
[wooikeongy@sunway.edu.my](mailto:wooikeongy@sunway.edu.my)

A brief description of **minimising repayment risks**, and **specification of the Research Population**.

“Any due diligence task for the purpose of minimising financial risk to the bank, performed as part of your job in the bank, dealing with SME's and SME products, for the next 12 months”

This questionnaire is specially designed for bank officers who currently deal with SME's and SME related products.

**Please continue only if you are a bank officer that deals with SME and SME related products.**



## Section A

No.	Question:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	The following statements measure your awareness, intense concern and exposure to repayment risk. Please indicate your response to each statement.					
1	I do not know much about repayment risk	1	2	3	4	5
2	I am not concerned about repayment risk	1	2	3	4	5
3	I am completely occupied with other things	1	2	3	4	5
4	Although I do not know about minimising repayment risks, I am concerned about things in this area	1	2	3	4	5
5	At this time, I am not interested to know about repayment risks	1	2	3	4	5
6	I have very limited knowledge about repayment risks	1	2	3	4	5
7	I have been exposed to the concept of repayment risks	1	2	3	4	5
8	I am fully trained to assess repayment risks	1	2	3	4	5

## Professional Norms

No.	Question:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Other factors from your professional circle may influence your intention to minimise repayment risks to your bank. Please indicate your response to each statement.					
1	In my profession, it is advisable to be aware of repayment risks	1	2	3	4	5
2	My employer thinks that I should be aware of repayment risks	1	2	3	4	5

3	My employers think that I should take steps to protect the bank from unforeseen risks	1	2	3	4	5
4	My supervisor/manager/team leader thinks that I should minimise repayment risks to the bank	1	2	3	4	5
5	My team/colleagues/friends think that I should minimise repayment risks to the bank	1	2	3	4	5
6	I will have to minimise repayment risks to the bank because my bosses/colleagues at work requires it	1	2	3	4	5

### Resources and Confidence Factors

No.	Question:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Other factors from your perceptions may influence your intention to minimise repayment risks to your bank. Please indicate your response to each statement.					
1	I have time to perform checks to minimise repayment risks to the bank	1	2	3	4	5
2	I can easily perform the repayment risk assessment checks on my own	1	2	3	4	5
3	I am confident of performing the repayment risk checks if someone (superior/colleague) helps me to get started	1	2	3	4	5
4	I have sufficient resources (computers/access to information) to minimise repayment risks to the bank	1	2	3	4	5
5	I think the resources (computers/access to information) needed to perform repayment risks checks is easily available to me	1	2	3	4	5

6	I think waiting for the results of the necessary repayment risk checks will a long time	1	2	3	4	5
7	I believe checking loan documents to minimise repayment risks is monetarily costly	1	2	3	4	5

### Personal Attitudes

No.	Question:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Other factors from your attitude may influence your intention to minimise repayment risks to your bank. Please indicate your response to each statement.					
1	I think minimising repayment risks to the bank is a wise thing to do	1	2	3	4	5
2	I think minimising repayment risks to the bank is beneficial to me and the bank	1	2	3	4	5
3	I think minimising repayment risks to the bank will improve my job performance appraisal	1	2	3	4	5
4	I would be happy to minimise repayment risks to the bank	1	2	3	4	5
5	Its mostly up to me to minimise repayment risks to the bank	1	2	3	4	5

### Personal Intentions

No.	Question: Please indicate the response that best reflects your intention to minimise repayment risks to the bank.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	I intend to minimise repayment risks to the bank in the next 12 months	1	2	3	4	5
2	I will try my best to minimise repayment risks to the bank in the next 12 months	1	2	3	4	5
3	I am likely to take steps to minimise repayment risks to the bank in the next 12 months	1	2	3	4	5

### Past Experience

No.	Question: Please indicate the response that best reflects your past experience in relation to minimising repayment risks to the bank.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	I have begun to take steps to minimise repayment risks to the bank in the last 3 months	1	2	3	4	5
2	I have taken steps to minimise repayment risks to the bank in all the transactions I have done in the past 3 months	1	2	3	4	5
3	I have incorporated repayment risks minimisation methods into my work routine	1	2	3	4	5
4	I have found that it takes a lot of effort to minimise repayment risks to the bank in the last 12 months	1	2	3	4	5
5	I have found that I am not appreciated when I try to minimise repayment risks to the bank in the last 12 months	1	2	3	4	5

## Section B

No.	Question:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Other factors from your cultural background may influence your intention to minimise repayment risks to your bank. Please indicate your response to each statement.					
1	I find it easier to support loan applications from customers that speak the same mother tongue as me	1	2	3	4	5
2	I am more comfortable speaking with loan applicants who speak the same mother tongue as me	1	2	3	4	5
3	I will be stricter with loan applicants who speak the same mother tongue as me	1	2	3	4	5

## Section C: General Information

### 1. What is your Gender?

<b>Man</b>	
<b>Woman</b>	

### 2. What is your Age?

<b>25 to 29 years old</b>	
<b>30 to 34 years old</b>	
<b>35 to 39 years old</b>	
<b>40 to 44 years old</b>	
<b>45 to 50 years old</b>	

**3. Years working in the banking industry?**

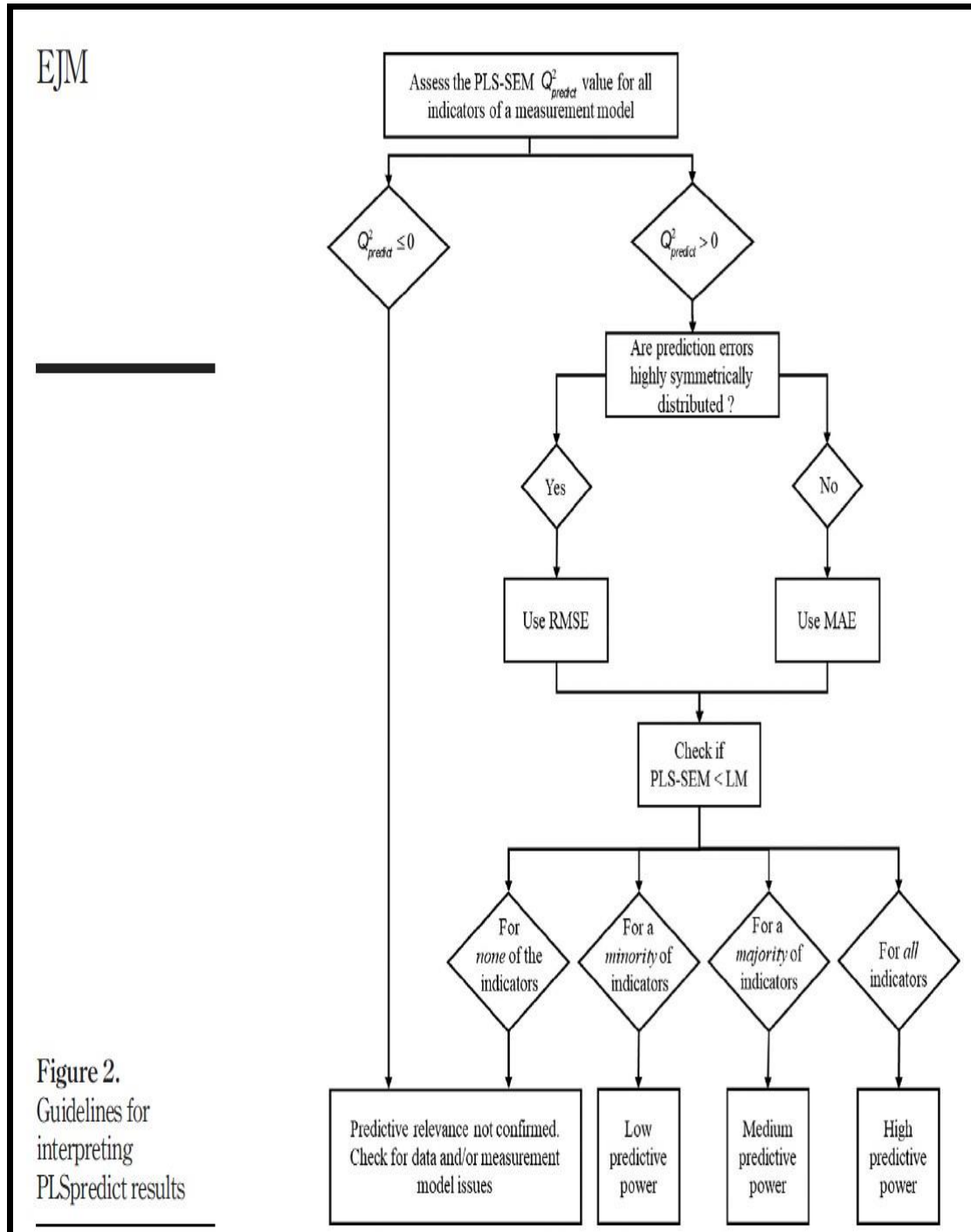
<b>Below 5 years</b>	
<b>5 to 9 years</b>	
<b>10 to 14 years</b>	
<b>15 to 19 years</b>	
<b>20 years or more</b>	

**4. What is your Religion?**

<b>Islam</b>	
<b>Christian</b>	
<b>Hindu</b>	
<b>Buddhist</b>	
<b>Sikh</b>	
<b>Others</b>	

**Thank you for your help in answering this questionnaire. It is most appreciated!**

## Appendix F PLSpredict Guidelines



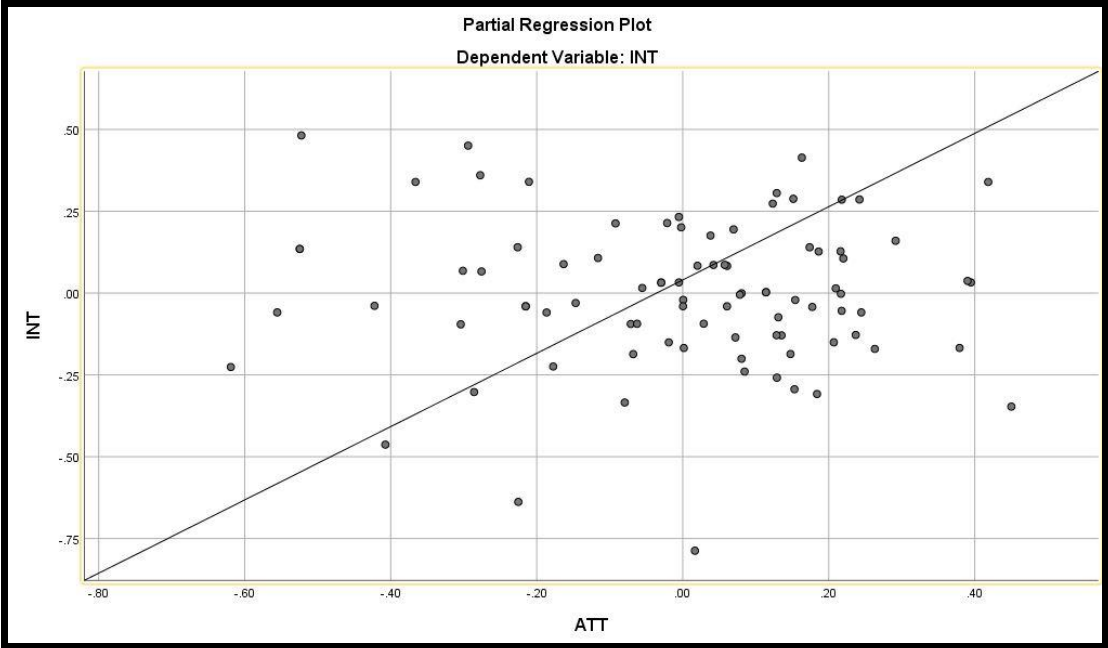
## Appendix G Mahalanobis Distance Output

Descriptives				
			Statistic	Std. Error
Mahalanobis Distance	Mean		11.8709677	.93826687
	95% Confidence Interval for Mean	Lower Bound	10.0074887	
		Upper Bound	13.7344467	
	5% Trimmed Mean		10.8659688	
	Median		9.4263118	
	Variance		81.872	
	Std. Deviation		9.04831802	
	Minimum		1.04896	
	Maximum		47.80423	
	Range		46.75526	
	Interquartile Range		9.12982	
	Skewness		1.778	.250
	Kurtosis		3.609	.495

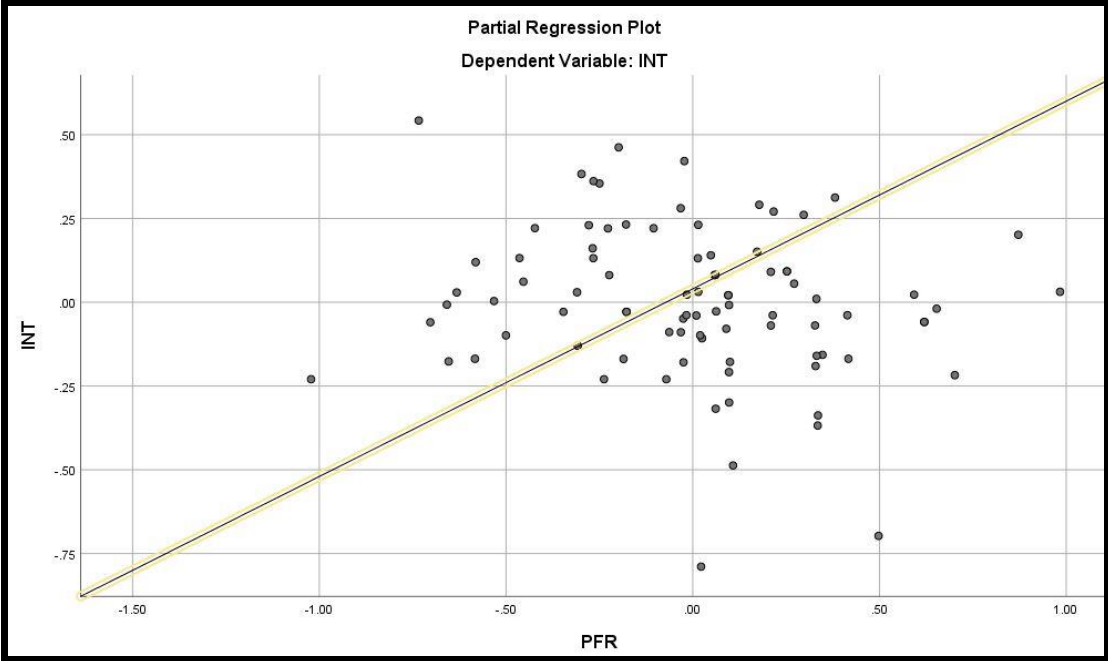
<u>Mahalanobis</u> Distance Stem-and-Leaf Plot		
Frequency	Stem & Leaf	
16.00	<u>0 .</u>	1122222233333444
32.00	<u>0 .</u>	55555555666666666777778888999999
23.00	<u>1 .</u>	0000011122222222334444
9.00	<u>1 .</u>	556667779
4.00	<u>2 .</u>	0023
4.00	<u>2 .</u>	5557
5.00	Extremes (>=35)	
Stem width: 10.00000		
Each leaf: 1 case(s)		



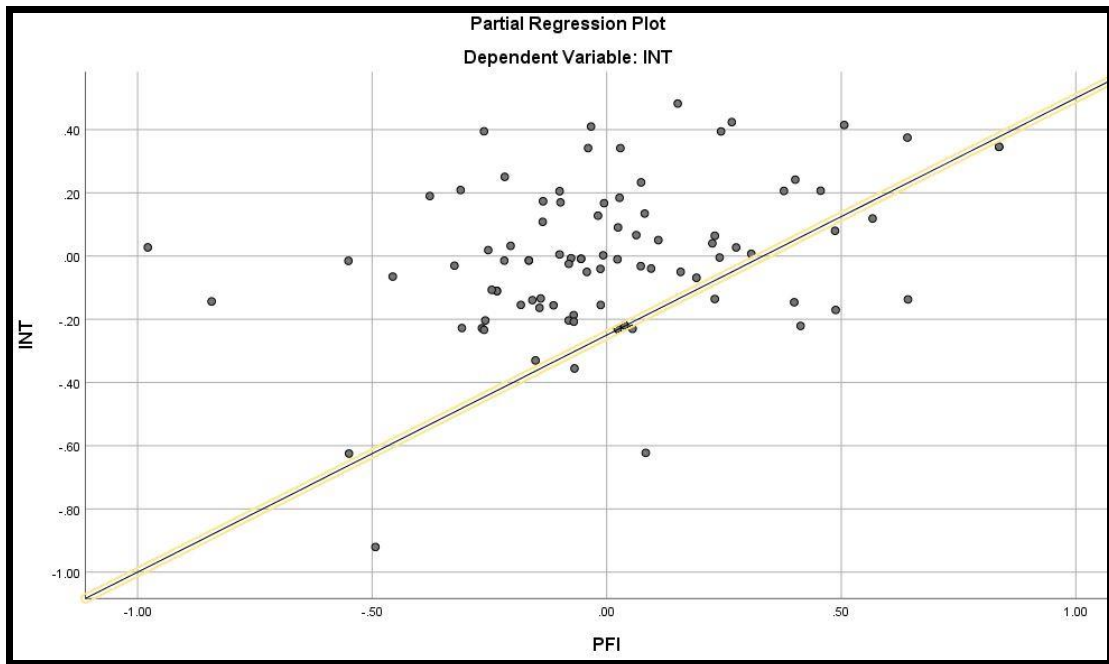
Appendix H Linearity of each Variable



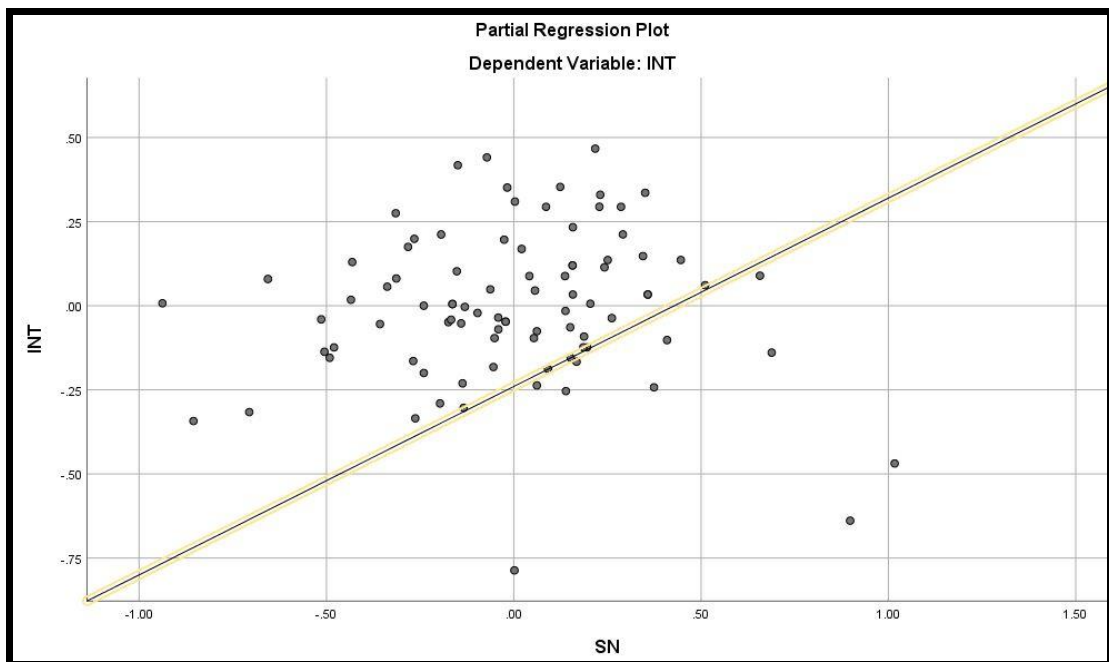
Attitude



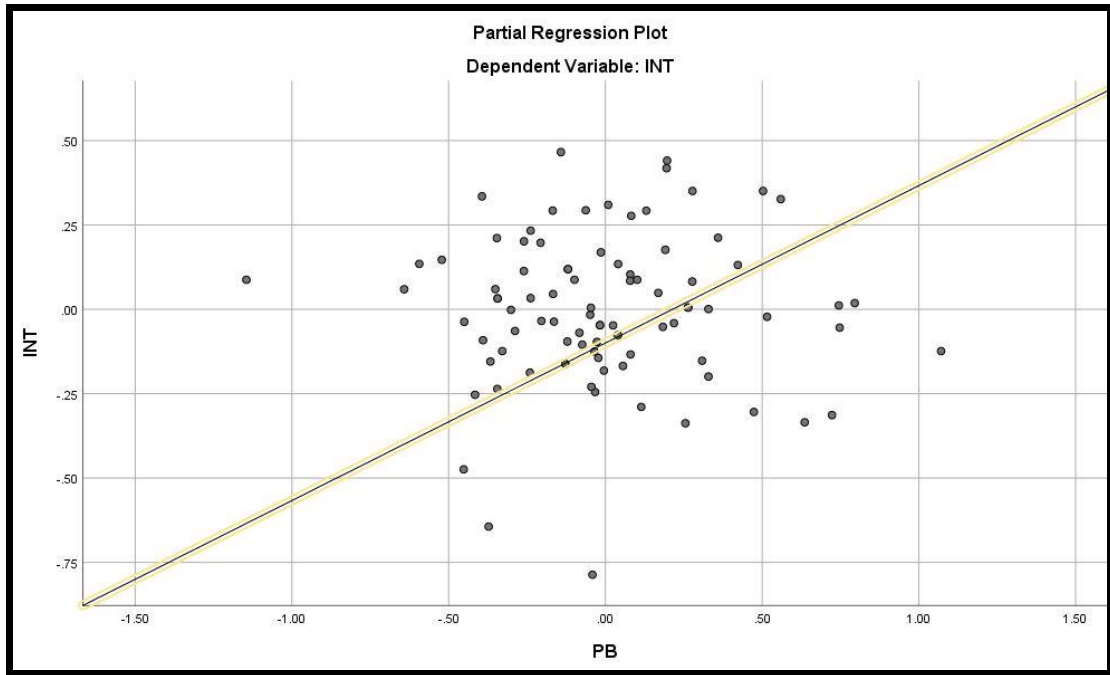
Perceived Financial Risks (PFR)



Perceived Financial Incentives



Subjective Norms



Past Behaviour

## Appendix I Auto-Correlation

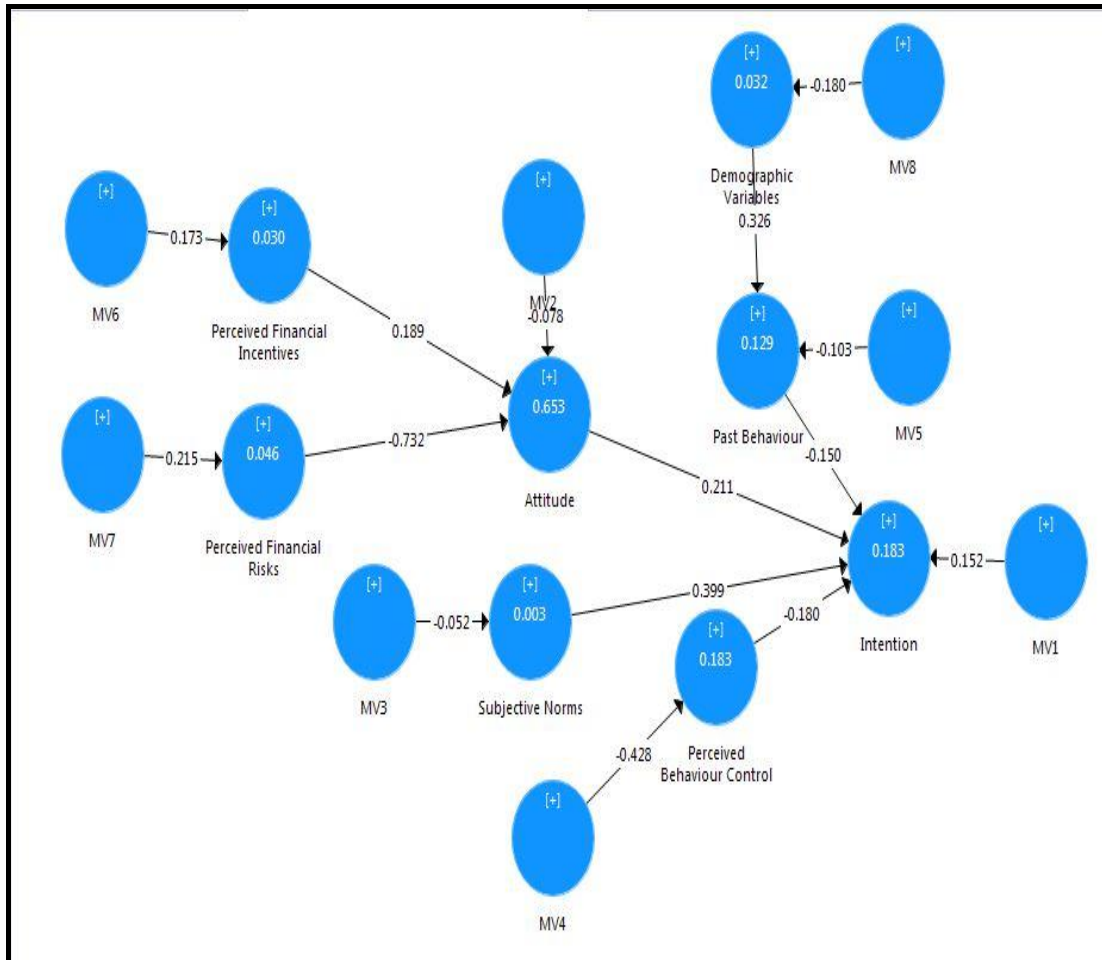
Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.464 <sup>a</sup>	.216	.168	.22902	1.874
a. Predictors: (Constant), PB, PFI, PFR, ATT, SN					
b. Dependent Variable: INT					

## Appendix J Harman Single-Factor Test

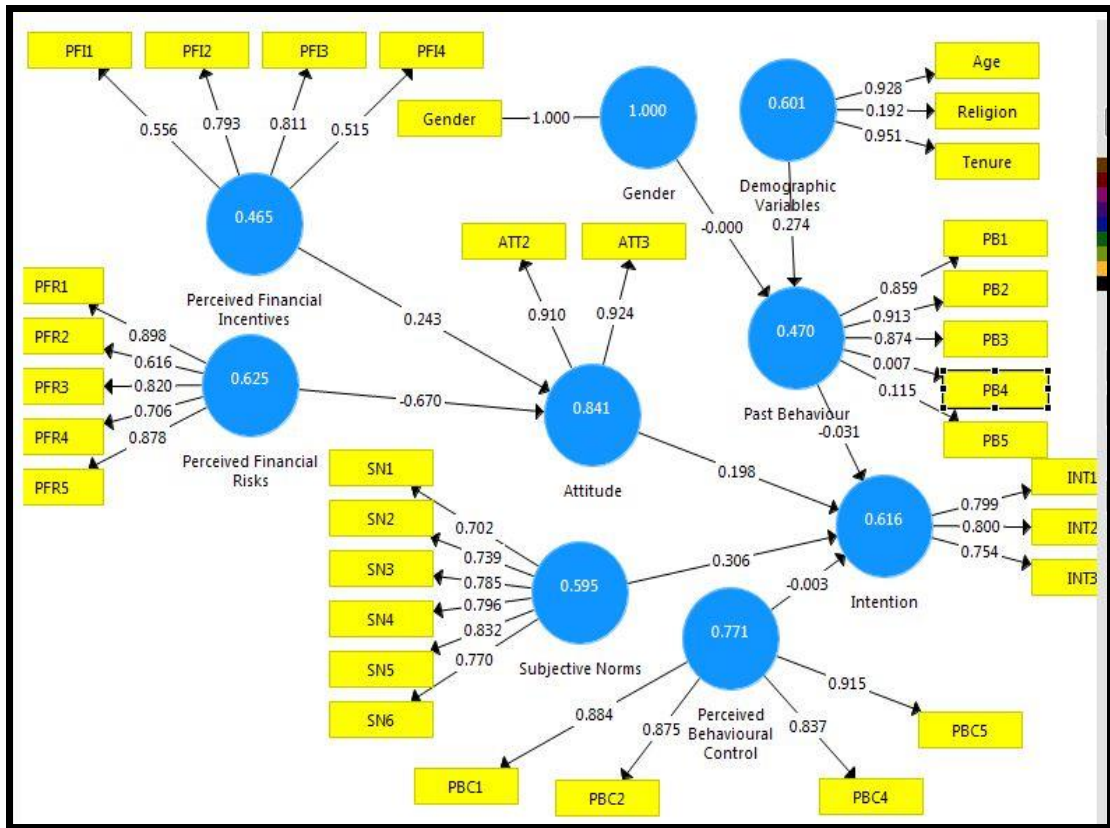
<b>Total Variance Explained</b>						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.407	29.734	29.734	10.407	29.734	29.734
2	3.224	9.210	38.944			
3	2.603	7.438	46.382			
4	1.940	5.544	51.926			
5	1.593	4.550	56.476			
6	1.404	4.011	60.487			
7	1.315	3.758	64.245			
8	1.273	3.637	67.882			
9	1.224	3.497	71.379			
10	1.030	2.944	74.323			
11	.829	2.369	76.691			
12	.725	2.073	78.764			
13	.687	1.964	80.728			
14	.670	1.915	82.643			
15	.593	1.695	84.338			
16	.589	1.683	86.021			
17	.534	1.524	87.545			
18	.516	1.473	89.018			
19	.430	1.228	90.247			
20	.423	1.210	91.456			
21	.391	1.118	92.574			
22	.376	1.074	93.648			
23	.334	.956	94.604			
24	.307	.877	95.481			
25	.273	.779	96.260			
26	.251	.718	96.978			
27	.196	.559	97.537			
28	.179	.513	98.050			
29	.154	.439	98.488			
30	.132	.377	98.865			
31	.110	.313	99.178			
32	.093	.265	99.443			
33	.078	.223	99.666			
34	.064	.184	99.850			
35	.053	.150	100.000			

Extraction Method: Principal Component Analysis.

## Appendix K MLMV Approach



Model Path Coefficients ( $\beta$ ) and  $R^2$  after MLMV Correction using CLC Procedure



Model Path Coefficients ( $\beta$ ) and  $R^2$  before MLMV Correction

## Appendix L Full Collinearity Test

<b>Coefficients<sup>a</sup></b>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.196	.514		4.269	.000		
	ATT	-.028	.101	-.036	-.280	.780	.531	1.884
	SN	.011	.070	.022	.156	.877	.438	2.284
	PBC	-.188	.072	-.280	-2.622	.010	.784	1.276
	PB	.063	.071	.109	.893	.375	.598	1.672
	PFR	-.115	.064	-.245	-1.813	.073	.488	2.048
	PFI	.291	.075	.422	3.899	.000	.762	1.312

a. Dependent Variable: INT

Full Collinearity Test Result using SPSS (VIF < 3.3)

<b>Collinearity Statistics (VIF)</b>					
Outer VIF Values		Inner VIF Values			
	Attitude	Demographic Vari...	Gender	Intention	Past Behaviour
Attitude				2.790	
Demographic Vari...					1.095
Gender					1.095
Intention					
Past Behaviour				3.294	
Perceived Behavio...				3.368	
Perceived Financial...	1.059				
Perceived Financial...	1.059				
Subjective Norms				2.619	

Full Collinearity Test Result (Inner VIF Values) using Smart PLS (VIF < 5)



## Appendix M Demographics Frequency Tables

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	34	38.6	38.6	38.6
	2	54	61.4	61.4	100.0
	Total	88	100.0	100.0	

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	6.8	6.8	6.8
	2	46	52.3	52.3	59.1
	3	20	22.7	22.7	81.8
	4	12	13.6	13.6	95.5
	5	4	4.5	4.5	100.0
	Total	88	100.0	100.0	

Tenure					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	28	31.8	31.8	31.8
	2	31	35.2	35.2	67.0
	3	13	14.8	14.8	81.8
	4	4	4.5	4.5	86.4
	5	12	13.6	13.6	100.0
	Total	88	100.0	100.0	

Religion					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	19	21.6	21.6	21.6
	2	21	23.9	23.9	45.5
	3	3	3.4	3.4	48.9
	4	41	46.6	46.6	95.5
	5	1	1.1	1.1	96.6
	6	3	3.4	3.4	100.0
	Total	88	100.0	100.0	

## Appendix N Descriptive Analysis of Questionnaire

Respondents	Standard Deviation	Mean	Coefficient of Variation
1	1.19	2.71	0.44
2	1.10	3.59	0.31
3	1.16	3.53	0.33
4	1.16	3.53	0.33
5	0.87	3.29	0.26
6	1.56	3.62	0.43
7	0.79	3.47	0.23
8	0.82	3.44	0.24
9	0.97	3.18	0.30
10	1.35	3.62	0.37
11	1.52	3.59	0.42
12	1.33	3.47	0.38
13	0.91	3.68	0.25
14	1.38	3.47	0.40
15	1.02	3.53	0.29
16	1.27	3.71	0.34
27	1.35	3.62	0.37
28	1.48	3.62	0.41
19	1.09	3.79	0.29
20	1.14	3.82	0.30
21	1.46	3.53	0.41
22	1.38	3.47	0.40
23	1.74	3.79	0.46
24	1.59	3.79	0.42
25	1.19	3.56	0.33
26	1.23	3.65	0.34
27	1.33	3.38	0.39
28	0.79	3.09	0.26
29	1.56	4.00	0.39
30	0.61	3.47	0.18
31	0.61	3.47	0.18
32	1.23	3.62	0.34
33	1.12	3.79	0.30
34	1.46	3.94	0.37
35	1.33	3.50	0.38
36	1.19	3.44	0.34
37	1.35	3.53	0.38
38	1.23	3.62	0.34
39	1.61	3.65	0.44
40	1.17	3.71	0.32

41	1.46	3.59	0.41
42	1.13	3.53	0.32
43	1.33	3.59	0.37
44	1.46	3.59	0.41
45	1.26	3.59	0.35
46	1.15	3.21	0.36
47	1.21	3.62	0.33
48	1.01	3.68	0.27
49	1.21	3.62	0.33
50	1.30	3.65	0.36
51	1.42	3.53	0.40
52	1.19	3.50	0.34
53	1.40	3.59	0.39
54	1.30	3.65	0.36
55	1.21	3.53	0.34
56	1.37	3.56	0.39
57	0.99	3.62	0.27
58	1.16	3.56	0.33
59	1.23	3.38	0.36
60	1.21	3.59	0.34
61	1.17	3.68	0.32
62	1.26	3.50	0.36
63	1.33	3.59	0.37
64	1.13	3.44	0.33
65	1.08	3.44	0.31
66	0.99	3.26	0.30
67	1.10	3.65	0.30
68	1.33	3.59	0.37
69	1.24	3.47	0.36
70	0.99	3.59	0.28
71	0.93	3.50	0.27
72	1.35	3.35	0.40
73	1.16	3.59	0.32
74	0.89	3.41	0.26
75	0.89	3.41	0.26
76	0.93	3.47	0.27
77	1.02	3.59	0.28
78	0.86	3.47	0.25
79	0.89	3.44	0.26
80	1.30	3.38	0.39
81	1.02	3.56	0.29
82	1.11	3.50	0.32
83	1.26	3.50	0.36
84	1.21	3.41	0.35
85	1.08	3.50	0.31

86	1.19	3.29	0.36
87	1.13	3.53	0.32
88	0.99	3.56	0.28

Descriptive Statistics							
Gender	Item	N	Minimum	Maximum	Mean	Std. Deviation	COV
Women	PFR1	34	1	5	1.56	0.894	0.573592
	PFR2	34	1	3	1.56	0.561	0.359827
	PFR3	34	1	4	2.21	0.729	0.330680
	PFR4	34	1	5	1.85	0.925	0.499463
	PFR5	34	1	4	2.00	0.816	0.408248
	PFI1	34	4	5	4.56	0.504	0.110554
	PFI2	34	2	5	4.24	0.741	0.174949
	PFI3	34	2	5	3.97	0.521	0.131310
	PFI4	34	4	5	4.29	0.462	0.107705
	PFI5	34	2	5	3.76	0.741	0.196817
	ATT1	34	1	5	3.88	0.946	0.243655
	ATT2	34	2	5	4.09	0.621	0.151954
	ATT3	34	2	5	3.88	0.729	0.187729
	SN1	34	2	5	4.35	0.691	0.158783
	SN2	34	2	5	4.26	0.618	0.144992
	SN3	34	2	5	4.24	0.606	0.143077
	SN4	34	2	5	4.26	0.618	0.144992
	SN5	34	2	5	4.21	0.729	0.173434
	SN6	34	2	5	4.03	0.904	0.224361
	PBC1	34	2	5	3.97	0.521	0.131310
	PBC2	34	2	5	3.82	0.716	0.187392
	PBC3	34	1	5	2.85	1.019	0.357169
	PBC4	34	2	5	3.82	0.576	0.150560
	PBC5	34	2	5	3.82	0.673	0.175983
	PBC6	34	1	4	2.06	0.547	0.265799
	PBC7	34	1	4	1.94	0.736	0.379219
	INT1	34	2	5	4.24	0.654	0.154433
	INT2	34	3	5	4.06	0.343	0.084507
	INT3	34	4	5	4.38	0.493	0.112558
	PB1	34	1	5	4.06	0.776	0.191239
	PB2	34	1	5	4.03	0.674	0.167156
	PB3	34	1	5	4.18	0.716	0.171556
	PB4	34	1	4	2.68	1.065	0.397975
	PB5	34	1	5	1.94	0.851	0.438245
	Valid N (listwise)	34					

COV analysis of Questionnaire answers by Women

Descriptive Statistics							
Gender	Item	N	Minimum	Maximum	Mean	Std. Deviation	COV
Men	PFR1	54	1	4	1.57	0.742	0.471581
	PFR2	54	1	4	1.61	0.596	0.369999
	PFR3	54	1	4	2.26	0.804	0.356006
	PFR4	54	1	4	1.87	0.616	0.329194
	PFR5	54	1	4	1.91	0.734	0.384701
	PFI1	54	4	5	4.67	0.476	0.101964
	PFI2	54	4	5	4.35	0.482	0.110765
	PFI3	54	3	5	4.19	0.552	0.131889
	PFI4	54	4	5	4.39	0.492	0.112118
	PFI5	54	2	5	3.74	0.851	0.227459
	ATT1	54	1	5	3.81	1.134	0.297246
	ATT2	54	2	5	4.13	0.616	0.149097
	ATT3	54	1	5	3.93	0.797	0.203123
	SN1	54	3	5	4.50	0.541	0.120175
	SN2	54	3	5	4.26	0.589	0.138225
	SN3	54	3	5	4.37	0.525	0.120063
	SN4	54	3	5	4.17	0.423	0.101610
	SN5	54	3	5	4.26	0.521	0.122254
	SN6	54	2	5	4.24	0.725	0.170998
	PBC1	54	3	5	4.00	0.434	0.108593
	PBC2	54	2	5	3.89	0.604	0.155307
	PBC3	54	1	4	2.50	0.885	0.353953
	PBC4	54	2	5	3.98	0.629	0.158029
	PBC5	54	2	5	3.94	0.596	0.151126
	PBC6	54	1	5	2.26	0.805	0.356441
	PBC7	54	1	5	2.11	0.816	0.386762
	INT1	54	2	5	4.44	0.691	0.155557
	INT2	54	2	5	4.15	0.529	0.127455
	INT3	54	4	5	4.37	0.487	0.111532
	PB1	54	2	5	4.17	0.694	0.166473
	PB2	54	3	5	4.06	0.452	0.111479
	PB3	54	2	5	4.11	0.691	0.168170
	PB4	54	1	5	2.57	1.092	0.424241
	PB5	54	1	5	2.13	1.082	0.508251
	Valid N (listwise)	54					

COV analysis of Questionnaire answers by Men

### Appendix O Discriminant Validity

	Attitude	Demographic Variables	Gender	Intention	Past Behaviour	Perceived Behavioural Control	Perceived Financial Incentives	Perceived Financial Risks	Subjective Norms
ATT2	<b>0.910</b>	0.025	0.107	0.383	0.582	0.661	0.403	-0.572	0.564
ATT3	<b>0.924</b>	0.146	0.063	0.275	0.644	0.777	0.301	-0.743	0.517
Age	-0.027	<b>0.928</b>	0.229	-0.14	0.224	0.014	-0.107	-0.011	-0.011
Religion	-0.052	<b>0.192</b>	0.187	0.037	0.063	0.005	-0.028	-0.017	0.098
Tenure	0.199	<b>0.951</b>	0.282	-0.029	0.282	0.174	-0.025	-0.351	0.133
Gender	0.092	0.292	<b>1</b>	0.109	0.08	0.119	0.195	-0.011	0.121
INT1	0.322	-0.163	0.122	<b>0.799</b>	0.183	0.255	0.392	-0.205	0.253
INT2	0.266	0.002	0.112	<b>0.800</b>	0.276	0.208	0.288	-0.157	0.241
INT3	0.251	-0.019	0.034	<b>0.754</b>	0.32	0.307	0.525	-0.227	0.408
PB1	0.61	0.227	0.127	0.255	<b>0.859</b>	0.648	0.444	-0.507	0.687
PB2	0.64	0.255	0.067	0.344	<b>0.913</b>	0.651	0.33	-0.461	0.678
PB3	0.573	0.228	0.014	0.288	<b>0.874</b>	0.663	0.254	-0.519	0.689
PB4	-0.247	0.08	0	-0.001	<b>0.007</b>	-0.199	-0.179	0.216	-0.017
PB5	-0.158	0.064	0.095	-0.012	<b>0.115</b>	-0.077	-0.006	0.284	0.066
PBC1	0.648	0.127	0.064	0.351	0.664	<b>0.884</b>	0.35	-0.63	0.627
PBC2	0.731	0.009	0.093	0.271	0.667	<b>0.875</b>	0.401	-0.555	0.612
PBC4	0.69	0.138	0.175	0.138	0.59	<b>0.837</b>	0.285	-0.629	0.594
PBC5	0.721	0.115	0.131	0.327	0.619	<b>0.915</b>	0.372	-0.579	0.533
PFI1	0.196	-0.094	0.112	0.25	0.209	0.178	<b>0.556</b>	-0.116	0.266

PFI2	0.256	-0.118	0.128	0.358	0.235	0.37	<b>0.793</b>	-0.154	0.376
PFI3	0.369	-0.03	0.183	0.46	0.372	0.388	<b>0.811</b>	-0.229	0.492
PFI4	0.146	0.092	0.082	0.37	0.123	0.048	<b>0.515</b>	0.041	0.182
PFR1	-0.677	-0.163	-0.009	-0.31	-0.566	-0.684	-0.315	<b>0.898</b>	-0.621
PFR2	-0.362	-0.095	0.02	-0.228	-0.297	-0.295	-0.314	<b>0.616</b>	-0.422
PFR3	-0.554	-0.254	-0.004	-0.163	-0.338	-0.526	0.001	<b>0.820</b>	-0.307
PFR4	-0.395	-0.12	0.025	-0.121	-0.283	-0.344	0.136	<b>0.706</b>	-0.246
PFR5	-0.733	-0.179	-0.046	-0.184	-0.539	-0.667	-0.247	<b>0.878</b>	-0.53
SN1	0.465	0.061	0.106	0.183	0.532	0.479	0.369	-0.54	<b>0.702</b>
SN2	0.451	0.141	0.011	0.159	0.594	0.488	0.332	-0.544	<b>0.739</b>
SN3	0.425	0.183	0.164	0.256	0.661	0.493	0.349	-0.419	<b>0.785</b>
SN4	0.498	0.166	-0.007	0.273	0.687	0.508	0.379	-0.397	<b>0.796</b>
SN5	0.504	-0.012	0.095	0.392	0.649	0.529	0.459	-0.39	<b>0.832</b>
SN6	0.412	-0.027	0.145	0.407	0.499	0.571	0.452	-0.422	<b>0.770</b>

### Cross Loadings

	Attitude	Demographic Variables	Gender	Intention	Past Behaviour	Perceived Behavioural Control	Perceived Financial Incentives	Perceived Financial Risks	Subjective Norms
Attitude	<b>0.917</b>								
Demographic Variables	0.096	<b>0.775</b>							
Gender	0.092	0.295	<b>1</b>						
Intention	0.356	-0.075	0.109	<b>0.785</b>					
Past Behaviour	0.681	0.271	0.079	0.337	<b>0.767</b>				
Perceived Behavioural Control	0.786	0.109	0.119	0.336	0.734	<b>0.878</b>			
Perceived Financial Incentives	0.381	-0.067	0.195	0.531	0.382	0.408	<b>0.682</b>		
Perceived Financial Risks	-0.72	-0.212	-0.011	-0.256	-0.548	-0.673	-0.205	<b>0.791</b>	
Subjective Norms	0.588	0.087	0.121	0.398	<b>0.772</b>	0.668	0.52	-0.557	<b>0.771</b>

**Fornell and Larcker Criterion**



	Attitude	Demographic Variables	Gender	Intention	Past Behaviour	Perceived Behavioural Control	Perceived Financial Incentives	Perceived Financial Risks	Subjective Norms
Attitude									
Demographic Variables	0.193								
Gender	0.103	0.420							
Intention	0.477	0.225	0.137						
Past Behaviour	<b>0.896</b>	0.432	0.124	0.468					
Perceived Behavioural Control	<b>0.920</b>	0.165	0.138	0.378	<b>0.881</b>				
Perceived Financial Incentives	0.500	0.223	0.233	0.768	0.511	0.483			
Perceived Financial Risks	0.829	0.286	0.029	0.339	0.76	0.737	0.339		
Subjective Norms	0.702	0.234	0.121	0.439	<b>0.952</b>	0.743	0.629	0.659	

**HTMT**

	Original Sample (O)	Sample Mean (M)	Bias	5.00%	95.00%
Demographic Variables -> Attitude	0.193	0.278	0.085	0.097	0.263
Gender -> Attitude	0.103	0.133	0.029	0.014	0.24
Gender -> Demographic Variables	0.42	0.401	-0.02	0.251	0.598
Intention -> Attitude	0.477	0.467	-0.01	0.236	0.692
Intention -> Demographic Variables	0.225	0.342	0.117	0.142	0.243
Intention -> Gender	0.137	0.186	0.049	0.032	0.286
<b>Past Behaviour -&gt; Attitude</b>	0.896	0.898	0.002	0.748	<b>1.052</b>
Past Behaviour -> Demographic Variables	0.432	0.459	0.027	0.235	0.569
Past Behaviour -> Gender	0.124	0.175	0.051	0.031	0.179
Past Behaviour -> Intention	0.468	0.480	0.011	0.273	0.682
<b>Perceived Behavioural Control -&gt; Attitude</b>	0.92	0.921	0.001	0.815	<b>1.014</b>
Perceived Behavioural Control -> Demographic Variables	0.165	0.236	0.071	0.097	0.183
Perceived Behavioural Control -> Gender	0.138	0.157	0.019	0.047	0.286
Perceived Behavioural Control -> Intention	0.378	0.382	0.003	0.173	0.62
Perceived Behavioural Control -> Past Behaviour	0.881	0.876	-0.005	0.737	0.986
Perceived Financial Incentives -> Attitude	0.5	0.507	0.007	0.293	0.702
Perceived Financial Incentives -> Demographic Variables	0.223	0.339	0.116	0.117	0.239
Perceived Financial Incentives -> Gender	0.233	0.251	0.018	0.094	0.404
Perceived Financial Incentives -> Intention	0.768	0.778	0.011	0.573	0.918
Perceived Financial Incentives -> Past Behaviour	0.511	0.587	0.076	0.264	0.653
Perceived Financial Incentives -> Perceived Behavioural Control	0.483	0.508	0.026	0.226	0.717
Perceived Financial Risks -> Attitude	0.829	0.843	0.014	0.664	0.975
Perceived Financial Risks -> Demographic Variables	0.286	0.38	0.094	0.199	0.304
Perceived Financial Risks -> Gender	0.029	0.123	0.094	0.025	0.025

Perceived Financial Risks -> Intention	0.339	0.39	0.051	0.155	0.616
<b>Perceived Financial Risks -&gt; Past Behaviour</b>	0.76	0.762	0.002	0.524	<b>1.004</b>
Perceived Financial Risks -> Perceived Behavioural Control	0.737	0.746	0.009	0.551	0.899
Perceived Financial Risks -> Perceived Financial Incentives	0.339	0.433	0.095	0.179	0.444
Subjective Norms -> Attitude	0.702	0.706	0.003	0.416	0.889
Subjective Norms -> Demographic Variables	0.234	0.318	0.084	0.13	0.29
Subjective Norms -> Gender	0.121	0.171	0.05	0.036	0.169
Subjective Norms -> Intention	0.439	0.476	0.038	0.289	0.594
<b>Subjective Norms -&gt; Past Behaviour</b>	0.952	0.952	-0.001	0.783	<b>1.020</b>
Subjective Norms -> Perceived Behavioural Control	0.743	0.721	-0.022	0.496	0.879
Subjective Norms -> Perceived Financial Incentives	0.629	0.661	0.032	0.468	0.737
Subjective Norms -> Perceived Financial Risks	0.659	0.671	0.012	0.441	0.855

### HTMT Inferential Bootstrapping Technique

## Appendix P Inner VIF Values

Collinearity Statistics (VIF)					
Outer VIF Values		Inner VIF Values			
	Attitude	Demographic Vari...	Gender	Intention	Past Behaviour
Attitude				2.790	
Demographic Varia...					1.095
Gender					1.095
Intention					
Past Behaviour				3.294	
Perceived Behavio...				3.368	
Perceived Financial...	1.059				
Perceived Financial...	1.059				
Subjective Norms				2.619	

Assessment of Collinearity: Inner VIF Values of Structural Model

## Appendix Q Significant Results of Path Coefficients

Path Coefficients					
Mean, STDEV, T-Values, P-Valu...	Confidence Intervals	Confidence Intervals Bias Corr...	Samples	Copy to Clipboard	
	Original Sample (O)	Sample Mean (M)	Standard Deviatio...	T Statistics (O/STD...	P Values
Attitude -> Intention	0.201	0.155	0.219	0.916	<b>0.180</b>
Demographic Variables -> Past Behaviour	0.271	0.306	0.082	3.283	<b>0.001</b>
Gender -> Past Behaviour	-0.000	-0.019	0.120	0.004	<b>0.498</b>
Past Behaviour -> Intention	-0.040	-0.048	0.206	0.193	<b>0.424</b>
Perceived Behavioural Control -> Intention	-0.000	0.026	0.212	0.001	<b>0.499</b>
Perceived Financial Incentives -> Attitude	0.228	0.235	0.075	3.042	<b>0.001</b>
Perceived Financial Risks -> Attitude	-0.667	-0.674	0.067	9.940	<b>0.000</b>
Subjective Norms -> Intention	0.310	0.367	0.242	1.281	<b>0.100</b>

## Appendix R R<sup>2</sup> Results

R Square		
Matrix	R Square	R Square Adjusted
	R Square	R Square Adjusted
Attitude	0.568	0.558
Intention	0.181	0.144
Past Behaviour	0.073	0.053

R<sup>2</sup> Values of Variables

## Appendix S Effect Size ( $f^2$ )

f Square					
Matrix		f Square			
	Attitude	Demographic Vari...	Gender	Intention	Past Behaviour
Attitude				0.018	
Demographic Varia...					0.072
Gender					0.000
Intention					
Past Behaviour				0.001	
Perceived Behavio...				0.000	
Perceived Financial...	0.114				
Perceived Financial...	0.972				
Subjective Norms				0.045	

Effect Size ( $f^2$ )

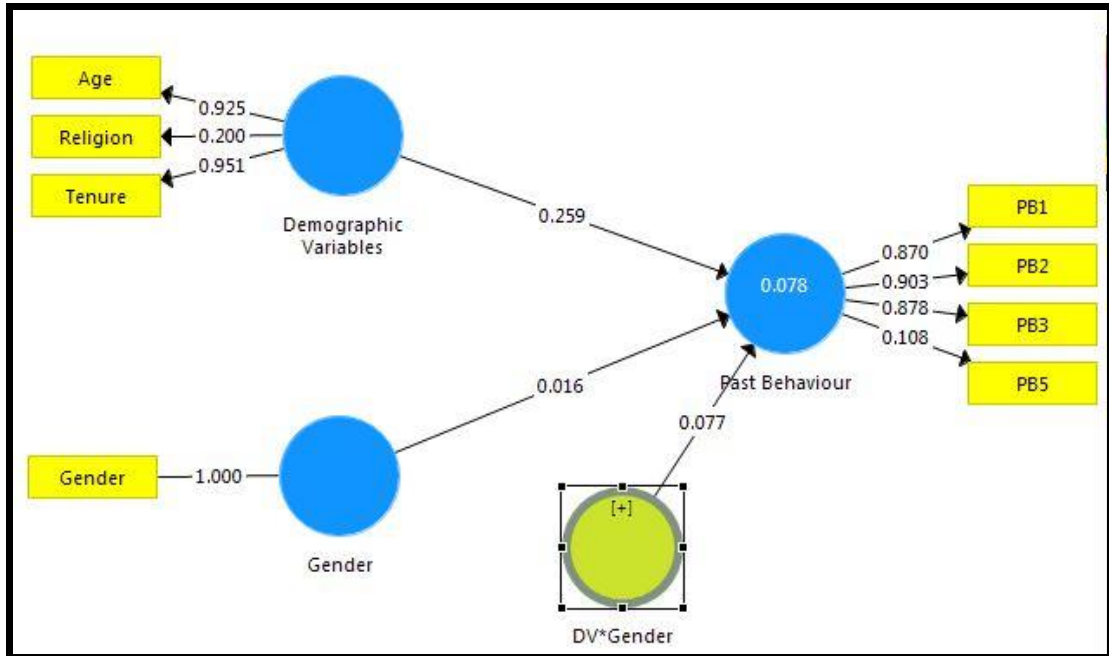
## Appendix T Predictive Relevance ( $Q^2$ )

<b>Construct Crossvalidated Redundancy</b>						
Total	Case1	Case2	Case3	Case4	Case5	Ca
		SSO	SSE	$Q^2 (=1-SSE/SSO)$		
Attitude		186.000	103.024	0.446		
Demographic Variables		279.000	279.000			
Gender		93.000	93.000			
Intention		279.000	257.398	0.077		
Past Behaviour		372.000	362.510	0.026		
Perceived Behavioural Control		372.000	372.000			
Perceived Financial Incentives		279.000	279.000			
Perceived Financial Risks		465.000	465.000			
Subjective Norms		558.000	558.000			

$Q^2$  Predictive Relevance values



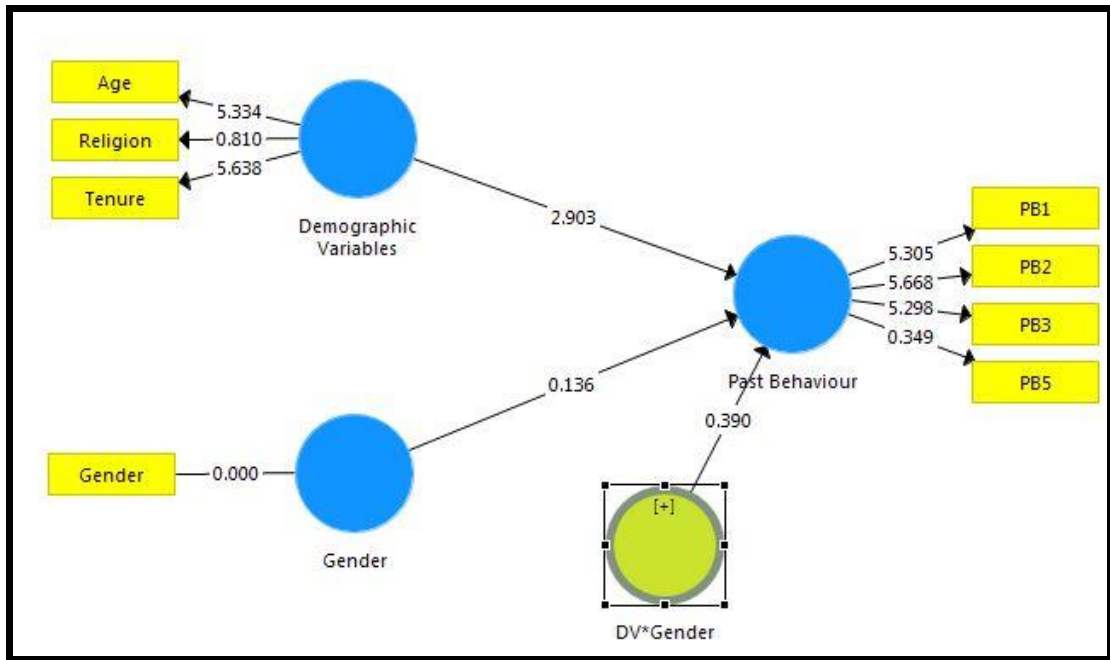
## Appendix U Moderation Analysis



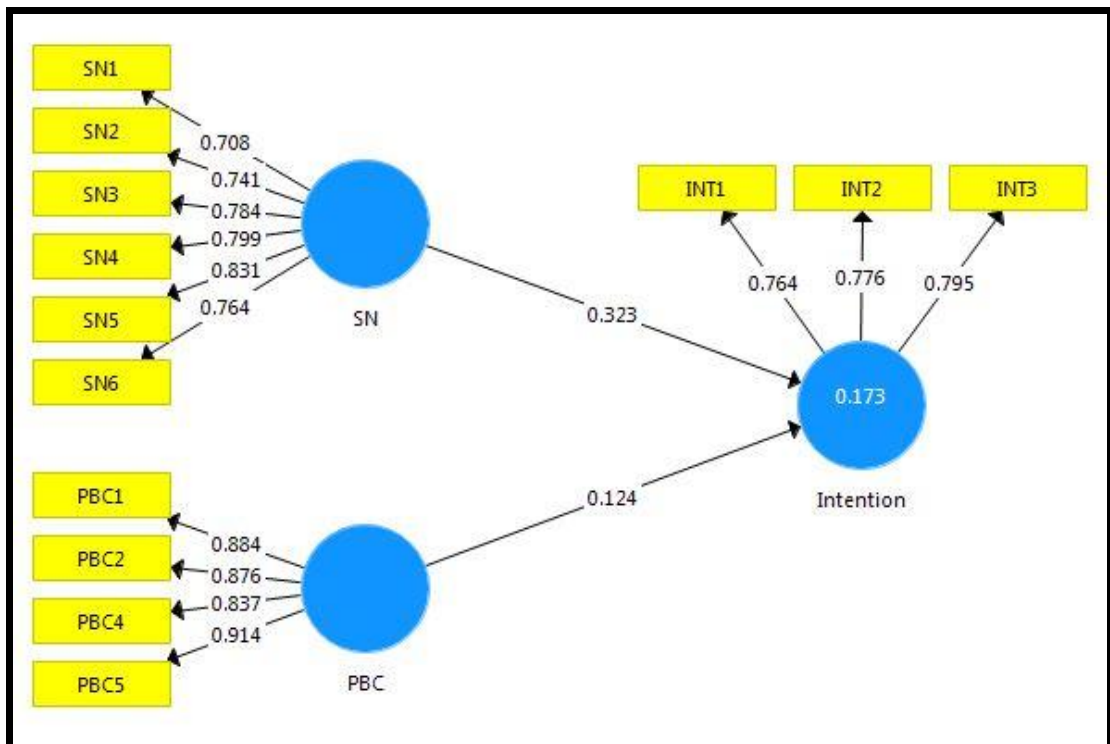
$R^2$  value of Past Behaviour after Demographic Variables moderated by Gender

Path Coefficients					
	Original Sample (O)	Sample Mean (M)	Standard Deviation (S)	T Statistics (O/STD...)	P Values
DV*Gender -> Past Behaviour	0.077	0.074	0.197	0.390	0.348
Demographic Variables -> Past Behaviour	0.259	0.291	0.089	2.903	0.002
Gender -> Past Behaviour	0.016	0.008	0.121	0.136	0.446

Path coefficients to test Interaction Plot (DV\*Gender)



Path Coefficients for Interaction Plot (DV\*Gender)

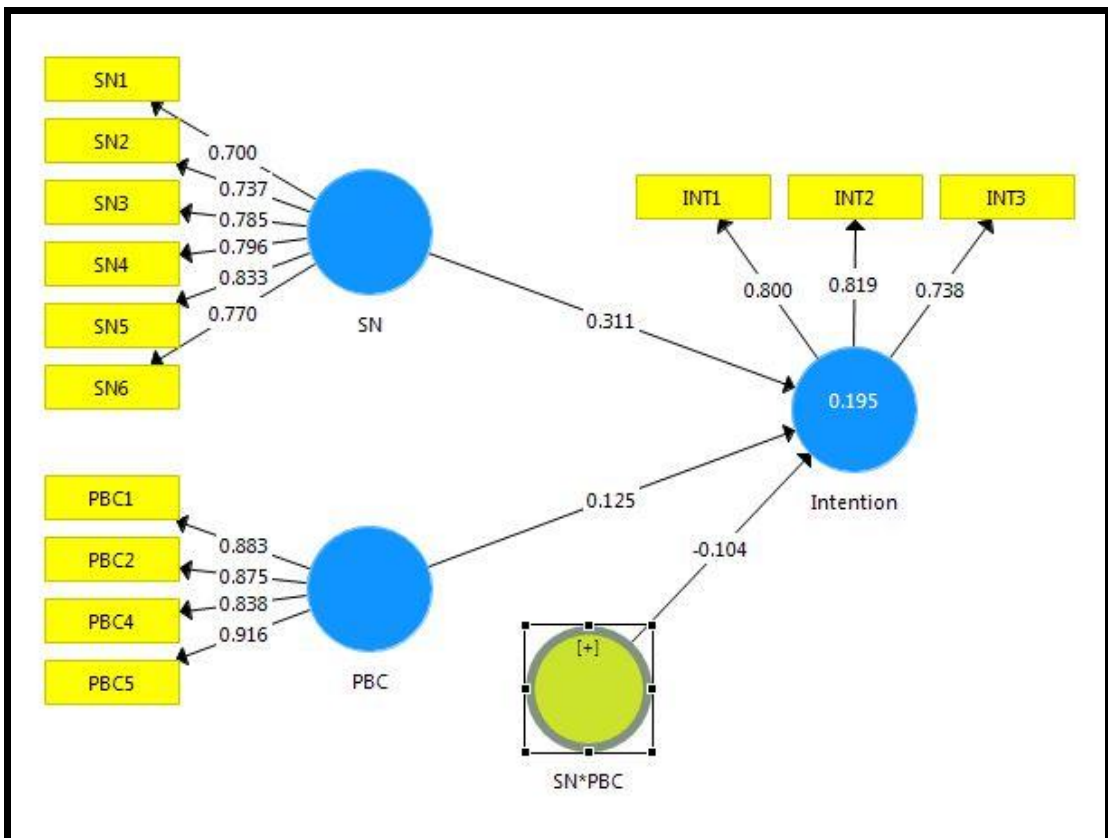


R<sup>2</sup> value of Intention before Subjective Norms moderated by Perceived Behavioural Control

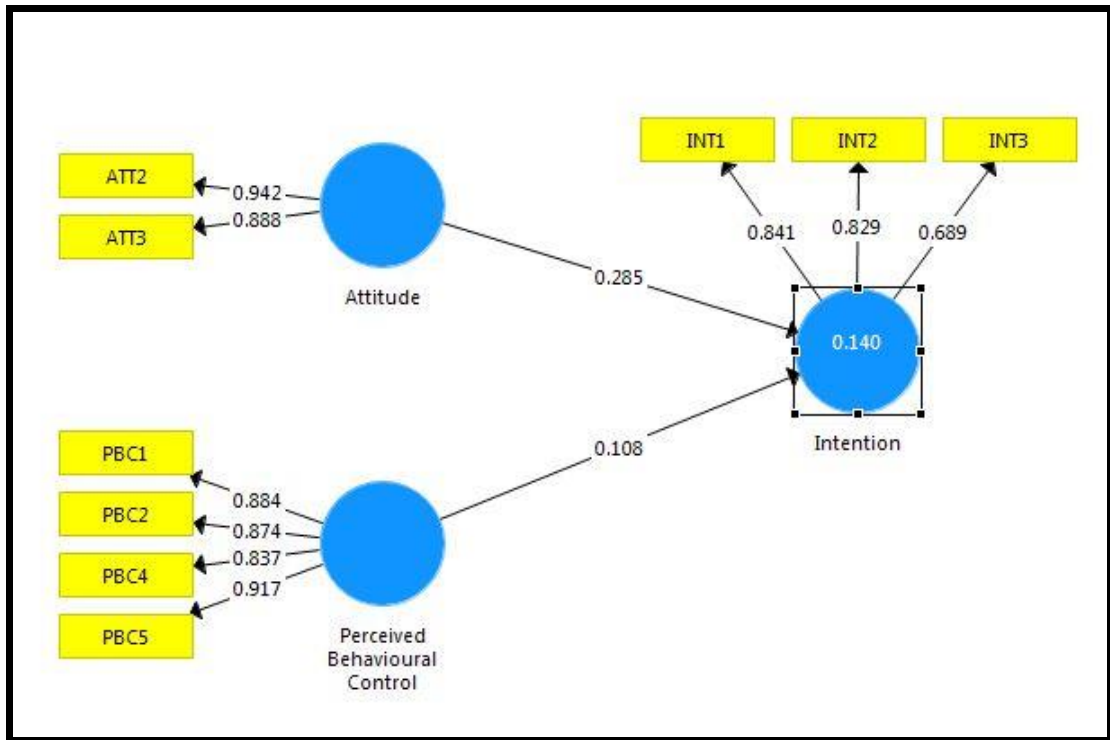
### Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation...	T Statistics (O/STD...	P Values
PBC -> Intention	0.125	0.121	0.206	0.605	0.273
SN -> Intention	0.311	0.364	0.176	1.760	0.040
SN*PBC -> Intention	-0.104	-0.001	0.214	0.486	0.314

Path coefficients to test Interaction Plot (SN\*PBC)



Path Coefficients for Interaction Plot (SN\*PBC)

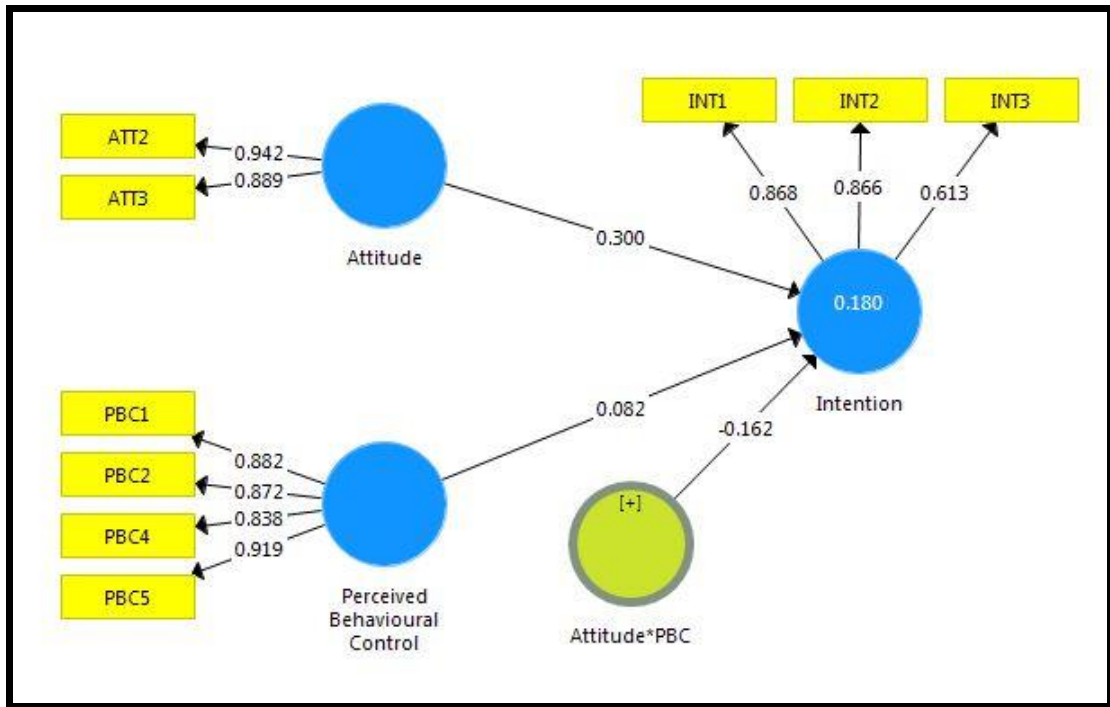


R<sup>2</sup> value of Intention before Attitude moderated by Perceived Behavioural Control

### Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics (O/STD...)	P Values
Attitude -> Intenti...	0.300	0.289	0.162	1.847	0.033
Attitude*PBC -> In...	-0.162	-0.149	0.206	0.787	0.216
Perceived Behavio...	0.082	0.113	0.166	0.493	0.311

Path coefficients to test Interaction Plot (Attitude\*PBC)



Path Coefficients for Interaction Plot (Attitude\*PBC)

## Appendix V Predictive Model Assessment

MV Prediction Summary				
	RMSE	MAE	MAPE	Q <sup>2</sup> _predict
ATT2	0.646	0.471	15.357	0.322
ATT3	0.650	0.438	19.060	0.515
INT3	0.474	0.444	10.032	0.120
INT1	0.775	0.591	18.084	-0.014
INT2	0.502	0.325	8.347	-0.037
PB3	0.771	0.494	17.701	0.003
PB2	0.660	0.371	14.393	0.013
PB5	1.051	0.700	41.028	-0.008
PB1	0.785	0.514	18.282	0.003

PLSpredict PLS-SEM values

MV Prediction Summary				
	RMSE	MAE	MAPE	Q <sup>2</sup> _predict
ATT2	0.650	0.488	14.997	0.314
ATT3	0.659	0.458	18.262	0.502
INT3	0.513	0.422	9.629	-0.031
INT1	0.855	0.614	18.888	-0.235
INT2	0.601	0.439	11.190	-0.486
PB3	0.621	0.491	12.543	0.353
PB2	0.512	0.371	11.017	0.407
PB5	1.163	0.895	52.411	-0.233
PB1	0.658	0.454	13.392	0.300

PLSpredict Linear Regression Model (LM) values

### Appendix W Summary of Hypothesis Testing

Relationship	VIF	Path Coefficient	Standard Error	BCI LL	BCI UL	t-value	p-value	R square	f square	Effect Size	Q Square After Blindfolding	Decision
Perceived Financial Incentives -> Attitude	1.059	0.228	0.075	<b>0.09</b>	<b>0.339</b>	3.042	0.001	0.568	0.114	Weak	0.446	<b>Accept</b>
Perceived Financial Risks -> Attitude	1.059	-0.667	0.067	<b>-0.77</b>	<b>-0.548</b>	9.940	0.000		0.972	Substantial		<b>Accept</b>
Attitude -> Intention	2.790	0.201	0.219	-0.14	0.561	0.916	0.180	0.181	0.018	Weak	0.077	<b>Accept</b>
Subjective Norms -> Intention	2.619	0.310	0.242	-0.093	0.657	1.281	0.100		0.045	Weak		<b>Accept</b>
Past Behaviour -> Intention	3.297	-0.040	0.206	-0.38	0.304	0.193	0.424		0.001	None		<b>Not Accepted</b>
Demographic Variables -> Past Behaviour	1.095	0.271	0.082	<b>0.081</b>	<b>0.36</b>	3.283	0.001	0.073	0.072	Weak	0.026	<b>Accept</b>

### Hypothesis Assessment and Decision

## LIST OF PUBLICATIONS

- Yong, W. K.** and Md Husin, M. (2019) 'Using the Decomposed Theory of Planned Behaviour to identify the key beliefs of Bank Officers' Selling Intention towards Small to Medium Sized Industries', 1<sup>st</sup> Scientia Academia Conference, Universiti Teknologi Malaysia Kuala Lumpur, Malaysia, 6-7 April 2019 (SAC – MESS – 2019 – 365).
- Yong, W. K.** and Md Husin, M. (2019) 'Using the Decomposed Theory of Planned Behaviour to identify the key beliefs of University Students' Intention towards joining the Malaysian Armed Forces', 1<sup>st</sup> Scientia Academia Conference, Universiti Teknologi Malaysia Kuala Lumpur, Malaysia, 6-7 April 2019 (SAC – MESS – 2019 – 366).
- Yong, W. K.** and Md Husin, M. (2019) 'Should Past Experience be Ignored? An Insight from the Decomposed Theory of Planned Behaviour', *Global Business and Management Research: An International Journal*, 11(3), pp. 14 – 18. (ERA)
- Yong, W. K.** (2019) 'Factors influencing bank officers into recommending financial products to SME's: A Literature Review', *International Journal of Innovation and Business Strategy*, 12(2), pp. 1 – 26.
- Yong, W. K.** and Yong, W. M. (2020) 'New Malaysia, Brexit and US-China Trade War – Credit Risk to Malaysian Banks', *Banking and Finance*, Intech Open.
- Md Husin, M., Ong, C. H. and **Yong, W. K.** (2020) 'Crowdfunding: A Platform to Support Small and Medium Enterprise's Business Sustainability', *Management, Accounting and Economics 2020 Conference*, Jakarta, Indonesia, 13-14 February 2020.
- Yong, W. K.**, Md Husin, M. and Kamarudin, S. (2021) 'Understanding Research Paradigms – A Scientific Guide', *Journal of Contemporary Issues in Business and Government*, 27(2), pp. 5857 – 5865. (Web of Science)
- Yong, W. K.**, Md Husin, M., Liew, K. J., Mohd Said, O., Syed Ahmad, F., Sockanathan, S., Ismail, N., and Rosly, M. R. (2021) 'Identifying the key



beliefs of Private University Students towards joining the Malaysian Armed Forces', *International Journal of Business Continuity and Risk Management*, 11(2/3), pp. 142 – 155. (Scopus)