

**Leveraging data analytics in the assessment of
the life insurance needs of retail banking
customers in South Africa**

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Abstract

The aim of this study was to contribute to the existing body of evidence regarding the sale of life insurance through retail banks in South Africa. The first objective was to investigate the perceived accuracy of responses that individuals are likely to provide when asked questions pertinent to the assessment of the level of life insurance they may need. The second objective was to establish the perceived preference of individuals when presented with a binary choice between the option to engage with an authorised representative who asks open-ended questions to determine life insurance needs versus an indicative life insurance needs assessment, based on their interpretation of the information the customer shared with the retail bank over time.

Evidence was collected by means of a self-administered questionnaire. Responses were assessed through both descriptive and inferential statistics using SPSS.

The results of a one-sampled t-test showed a significant level of inaccurate responses to essential assessment questions regarding the customer's assets, liabilities, income, expenses and dependants. A goodness-of-fit chi-squared test showed that, given a binary choice, respondents had a significant preference for an initial engagement based on open-ended questions versus an engagement based on information shared by the respondent with their retail bank over time.

When comparing across demographic variables, a Mann-Whitney U test did not indicate significant differences between the accuracy responses from females and males. Similarly, there was no significant correlation between accuracy and income range.

Whilst this study acknowledges the challenges faced in conducting the assessment of customer preferences in this regard. There is potential for further investigating how these perceived inaccuracies compare to actual existing customer data. There is also potential to research customer responses to the

methods of engagement (initial engagements based on open-ended questions versus where the authorised representative uses information shared with their retail bank over time), based on results (i.e., the acceptance of the life insurance offer).

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1. Introduction

1.1 Statement of Purpose

This study aims to explore whether retail banks might be able to use the customer information they collect over time to improve the life insurance needs assessment process. It also seeks to establish whether using information shared with the bank over time by the customer, as opposed to open-ended questions, increases the likelihood of success when a retail bank engages a customer about the possibility of undertaking a life insurance assessment process.

1.2 Background of the Study

As our world has become increasingly dependent on technology, organisations have been able to use various avenues to collect information related to the environment in which they do business. This has presented opportunities for businesses to use the information they collect to provide customers with a more personalised customer experience and better understand their needs (Niegel, Rasel & Viete, 2019). This is prevalent in services provided by companies such as Amazon, Walmart and Facebook who organise the information shared with them by their customers to link them with suppliers who may be able to meet their needs (Fishman, 2007; Popp, Wilson, Horbel & Woratschek, 2015; Qin & Liu, 2022). A similar situation has played out in the context of retail banks in South Africa, which are increasingly offering more services and playing more of an advisory role in their customer's finances.

The South African Banking sector has five major players who collectively hold 89.79% of the total banking sector assets: FNB as division of FirstRand Bank; Standard Bank Group; Absa Bank Limited; Nedbank; and Capitec Bank (South African Reserve Bank, 2022). There are also niche players such as Investec Bank (Investec Private Banking, 2024) and African Bank (African Bank, 2019), which

are focused on sub-sets of the market and offer elements of what the major banks offer, to specific parts of the market.

South African banks are a significant part of the domestic economy. Financial Services makes up 24% of the country's GDP (Maluleke, 2022). The major institutions have Business and Retail banking divisions. They may also have Corporate and Investment, Commercial, Public Sector, Life Insurance, Asset Management and Stockbroking units (FirstRand Bank Limited, n.d.).

Retail banks in South Africa offer services related to transactional and unsecured banking—cheque accounts, revolving credit facilities, credit cards, personal loans, etc. (Capitec Bank, n.d.); secured lending products based on a car, home or shares as security (ABSA Bank, n.d.); and investment solutions. Investment solutions include bank deposits of a short- (less than twelve months) and long-term nature (more than twelve months) (Standard Bank Group, n.d.). Investments may encompass a single asset class or a combination of asset classes (Nedbank, n.d.). Multi-asset class investments include but are not limited to a combination of bonds, property, equities, cash, private equity, and an offshore component made up of the asset classes mentioned in the form of international solutions. In addition, customers may access short-term insurance solutions that insure a vehicle against theft or an accident, or a home against robbery or a fire (ABSA Bank, n.d.). They may offer long-term insurance solutions such as life insurance and debt protection in the event of disability (FirstRand Bank Limited, 2023).

Research suggests that women, uneducated people and Black African people have a particularly low level of financial literacy in South Africa (du Preez & Ferreira-Schenk, 2024; Nanziri & Leibbrandt, 2018; Zeka & Veri, 2022). In addition, these studies have demonstrated that the majority of South Africans do not actively plan for retirement, with only approximately one in four people between the age of 18 and 65 doing so (Dhlembu, Kekana & Mvita, 2022). Studies additionally demonstrate that levels of financial literacy are correlated with how much retirement planning people do and that many South Africans will

reach retirement age with inadequate life savings (du Preez & Ferreira-Schenk, 2024; Nanziri & Leibbrandt, 2018; Zeka & Veri, 2022).

A key component of financial needs analysis is determining the amount of life insurance that a customer may require (Goodall, Rossini, Botha, Geach, du Preez & Rabenowitz, 2022; Life Insurance Online, n.d.; Robinson & Zaremba, 2012; Todd, 2004). The calculation encompasses factors such as current debt levels; income levels; and possible tax and other commitments at death. The more accurately the variables can be established the more likely the customer is to have an appropriate level of cover given their circumstances and avoid the potential drawbacks of being either underinsured or overinsured (Goodall et al., 2022; Robinson & Zaremba, 2012; Todd, 2004).

Life insurance needs may include, for example, policies intended to protect against debt (Goodall et al., 2022; Life Insurance Online, n.d.; Robinson & Zaremba, 2012; Todd, 2004). These are designed to settle the principal sum owed for fixed properties, motor vehicles or unsecured debt such as credit card facilities, overdrafts, personal loans and term finance in the event of death. They may also be designed to protect against the costs of death, including a lump sum intended to settle estate duty (which is levied at a rate of approximately 20% for assets exceeding R3.5 million in value up to R30 million and a rate of 25% for assets exceeding R30 million); and capital gains tax (which is levied at a maximum of 18% for individuals). Executors' fees, transfer duties and other costs related to the winding up of the customer's estate and transfer of assets in accordance with the customer's will may also apply (Goodall et al., 2022). The income replacement involves protection against the loss of income due to the death of a primary or secondary breadwinner. Here the lump sum is based on discounted cashflows where assumptions are made based on expected inflation and the amount that could be drawn against a lump sum invested. A policy can be structured in a manner that protects against disability in the first and third scenario mentioned above. These values change on a daily basis as the value of

assets, liabilities, income and debt increases and decreases daily, depending on behaviour (Goodall et al., 2022).

Much of the available research considers life insurance within the context of financial planning (Goodall et al., 2022); however, within financial planning, non-life insurance needs are also frequently considered (Agarwal, Amrominb, Ben-David, Chomsisengphet & Evanoff, 2015; Goodall et al., 2022; Yeo, Lim, & Yii, 2024). This adds complexity in terms of unpacking the specific criteria that may be influencing various outcomes (Goodall et al., 2022; Life Insurance Online, n.d.). This research hopes to focus particularly on life insurance, which is a specific and important product for many in itself (Goodall et al., 2022; Robinson & Zaremba, 2012; Todd, 2004).

Over the duration of my career in retail banking, my experience has been that customers appear to have a better understanding of their need for short-term insurance than their need for long-term insurance. This is possibly due to a lack of understanding regarding some of the cost implications of disability and death.

1.3 Research Problem and Aim

Banks have multiple points of contact with their customers and customers' information may be collected at each point. However, there appears to be limited research into how this information could be used to assist customers in determining their life insurance needs (outside of broader financial planning), especially in the South African context.

Information that customers may share with banks ranges from current and past employers to money received or paid, to existing or past creditors and debtors. All this information may form part of an assessment to determine whether the customer has a need for life Insurance. Other elements of retail banking have used similar principles to enhance banking and customer services (Babina et al., 2022; Hill, 2022; Kabrt, 2022; Nam, 2023; Wong, 2021).

The assertion in this study is that customers often either understate or overstate their circumstances for various reasons which could mislead the authorised representative of the bank in the financial planning discussion. This study aims to examine the prevalence of this and whether this variable is affected by gender or income range. The study also seeks to establish whether customers prefer a life insurance assessment where the initial enquiry is based on open-ended questions or information that the customer has shared with the retail bank over time.

1.4 Research Objectives

This project further aims:

- 1) To determine the accuracy of responses that customers are likely to provide when asked questions to determine their life insurance needs. This will include comparing levels of potential accuracy of responses based on demographic factors, namely gender and income level.
- 2) To determine whether using information acquired over time by the retail bank might be useful in convincing customers to engage a retail bank regarding their life insurance needs.

1.5 Research Questions

RQ1: Are the responses provided by customers to questions pertinent to determining their life insurance needs likely to be accurate? And are there significant differences in the accuracy of information provided across gender and income levels?

RQ2: Could using information collected over time by the retail bank, as opposed to open-ended questions, make customers more willing to engage a retail bank regarding their life insurance needs?

1.6 Rationale

When customers take up life insurance based on appropriate and accurately assessed insurance needs, this can reduce the adverse effects on others in the event of them passing away.

It may also reduce the burden incurred by the government and society at large in the event that a breadwinner passes away uninsured.

This research project seeks to investigate the level of accuracy customers are likely to provide, and whether any potential benefit may be derived from relying on more than reported feedback from customers in assessing their life insurance needs.

Outcomes may contribute to an improvement in the effectiveness with which retail banks engage with customers regarding their life insurance needs. It may enable banks to provide assessment-based insurance to certain customers for whom it may not have been economical to do so in the past.

1.7 Limitations and Delimitations of the Study

This research project is focused on the provision of advice-led life insurance services by retail banks in South Africa.

The research is based on a self-administered questionnaire distributed via LinkedIn to the population of subscribers who have a South African bank account. However, it is not possible to indicate with certainty that this outcome was realised. While the LinkedIn post requesting members to complete the survey is limited to LinkedIn members, there is a possibility that the link may be accessed by people who are not LinkedIn members (LinkedIn, 2024).

This research project does not delve into the element of consent, except to say that acquiring the consent of customers prior to the processing of their information for insurance assessments would be necessary.

Question 6 in the questionnaire has a sampling error; it gives the option 'prefer not not say' instead of, 'prefer not to say.'

As the researcher had no access to actual life insurance needs assessments, the questionnaire responses are perceived responses based on what respondents said they would do.

South Africa has twelve official languages. This survey was only available in English, which is the home language of 8.1% of South African people, and only 16.6% of South African people speak English when not at home according to Statistics South Africa (Cowling, 2023a).

This research assumes that all participants completed the questionnaire in good faith and were honest to the best of their knowledge.

1.8 Definitions of Terms

Behavioural Finance: The study of how personal biases affect people's decision-making with regard to financial matters (Goodall et al., 2022).

Prospect/Loss Aversion Theory: This theory suggests that people prefer the avoidance of losses to the realisation of gains of the same amount (Booij & van de Kuilen, 2009; Kahneman & Tversky, 1979).

Motivational Bias: Motivational bias is when an individual deviates from an objective based on subjective decisions due to personal interest. This may be due to a monetary incentive (when a participant expects some form of financial reward as a result); societal incentive (when an individual considers a certain outcome to be in the interest of their social group); or social incentive (when an individual wants to impress someone) (Dragos, Dragos & Muresan, 2020; Montibeller & von Winterfeldt, 2015).

Cognitive Bias: Kahneman (2011) observes that cognitive biases come from illusions of thought that are automatically generated. Cognitive biases are

statistically observable deviations from objective reasoning by the brain due in part to its inability to process all the information it receives. Examples include confirmation bias and stereotypes (Kahneman, 2011; Tversky & Kahneman, 1974).

Heuristics: This is the use of measurements such as a rule of thumb, using your gut, common sense, and trial and error by humans in coming to decisions when they regard calculating the actual decision to be too much trouble. In *Thinking, fast and slow* Kahneman describes heuristics as “a simple procedure that helps find adequate, though often imperfect, answers to difficult questions” (Kahneman, 2011).

Personal Context: For the purposes of this study this means including the customers’ estimated information in terms of, for example, debt levels or income, based on their retail banking history, as opposed to an abstract example.

Life Insurance Financial Needs Assessment: This is the assessment that an authorised representative would conduct to assist a customer to determine whether they have a need for life insurance and if so the quantum (Goodall et al., 2022). When calculating the amount of life insurance required by a customer the variables include inter alia income needs in the event of death or disability; and liability settlement needs in the event of death or disability; and the settlement of liabilities related to the winding up of an estate in the event of death (Goodall et al., 2022).

Retail Bank: A financial services company that provides banking services to natural persons who are either salaried or entrepreneurs (Majaski, 2023).

Business Bank: A financial services company that provides banking services to juristic persons such as companies, corporations, and trusts (Kagan, 2020).

Big Data: This is a catch-all term for large data sets. It is characterised by three variables: volume in reference to the amount of data; velocity which speaks to

the pace at which it is collected and processed; and variety which references the varying forms in which it comes (Gregersen, 2025).

1.9 Assumptions

This research assumes that participants were honest in their responses and that all parties engaged in good faith.

1.10 Structure of the Research

What follows is an outline of this research paper. This first chapter introduced the study topic by explaining that the goal of this research is to explore whether banks might be able to use information collected over time to improve their life insurance needs assessment process; and to investigate whether customers prefer an engagement based on open-ended questions or one which includes the use of information shared with the bank over time. The background section provided an overview of the banking industry with a particular focus on life insurance. It also touched on financial literacy levels in South Africa and some other parts of the world. The chapter also discussed limitations, including that this study focused specifically on advice-led life insurance services, the method in which information was obtained, and the implications thereof. It concluded with a definition of the major research terms used in this research paper.

The literature review will examine the available literature relating to why individuals may provide inaccurate responses when asked for information pertinent to determining the amount of life insurance they may require. This review will investigate theories underpinning these reasons, more specifically prospect theory, as well as motivational and cognitive biases. It will then investigate whether there is evidence of other instances where retail banks were able to use data analytics to enhance customer engagements. The second chapter will conclude with an overview of the main framework used in this research.

The research methodology chapter will explain the methodology used for this research. The goal of this study was to investigate the perceived accuracy of feedback from respondents when asked about some of the variables affecting their life insurance needs. The second goal was to investigate the perceived likelihood of respondents engaging in a life insurance needs assessment when presented with a binary choice between an initial engagement based on open-ended questions and one where the authorised representative uses information shared with the retail bank over the duration of their customer relationship. This chapter will describe the steps in the research process and methods employed.

The data analysis chapter will outline the process followed to conduct the research and the SPSS package used. It will begin by explaining the number of responses that could be used for the research (178 responses). It will explain that the paper focused on the perceived accuracy of reporting and that the responses indicate what the customer said they would do as opposed to what they might actually do. It will explain the secondary element which related to preferred assessment approach, which was evaluated through experimenting with a sample of customers via a t-test, a nonparametric chi-squared test, a Mann-Whitney U test and a Spearman Correlation. The chapter will conclude with a summary of the data analysis.

The findings chapter will begin by discussing the survey sample. It will then present the results of the research questions based on the categories being researched.

The discussion chapter will discuss the research results in more detail and outline the implications of the findings relating to each of the research questions.

This paper will conclude by outlining the core findings and discussing the conclusions that can be drawn from the research. Any limitations will be disclosed and suggestions for further research will be made.

2. Literature Review

2.1 Introduction

The previous chapter explained some of the variables that should be taken into consideration when assessing the amount of life insurance that a person may require. It also mentioned research evidence indicating that many South Africans will not be adequately financially prepared for their retirement, linking this to financial literacy levels. This literature review will examine the available literature relating to why individuals may provide inaccurate responses when asked for information pertinent to determining the amount of life insurance they may require. In addition, it will investigate theories underpinning these reasons, more specifically prospect theory, as well as motivational and cognitive biases. It will then investigate whether there is evidence of other instances where retail banks were able to use data analytics to enhance customer engagements. This chapter will conclude with an overview of the main framework used in this research evaluation.

This chapter will cover the following:

- Prospect theory and how the way in which information is presented may affect customers' decision-making and how they evaluate the benefits and drawbacks of an option.
- Motivational and cognitive bias and how this may affect the accuracy of the information provided by respondents when collecting information relating to their life insurance needs.
- How retail banks are already utilising big data to determine their marketing strategies.

2.2 Theoretical Underpinnings

2.2.1 Background

Prospect theory and behavioural finance theory may explain why individuals do not seek adequate levels of life insurance or why they may not provide appropriate information for life assurance assessments.

The two biases that we focus on are cognitive and motivational bias. With this as the foundation it is my assertion that information sourced from customers may not be as accurate as required to accurately calculate a customer's life insurance needs.

2.2.2 Prospect Theory

Prospect theory was developed by Daniel Kahneman and Amos Tversky based on their observations of decision-making under risk (Kahneman & Tversky, 1979). They developed the theory using results from controlled studies where subjects were given choices in a variety of financial circumstances. Their study used university students as subjects.

In the first experiment, participants were offered a choice between an option where there was 80% chance that they would get 4000 shekels as opposed to a guaranteed 3000 shekels. In the first instance 80% of respondents chose the 3000 shekels. They were then offered 4000 shekels with 20% certainty vs 3000 shekels with 25% certainty. The result was that 65% of participants chose the 4000 and 35% chose the 3000 shekels. This suggests the effect of the 60% drop from 80% to 20% had less effect than the 75% drop from 100% to 25% even though in both instances the 3000 shekels had a 20% better chance of being realised (Kahneman & Tversky, 1979).

In another instance participants were given a choice between a 50% chance of a three-week tour of three countries and a definite one-week holiday in one country.

They were then offered a 5% chance of the three-week holiday as opposed to a 10% chance of the one-week holiday in one country. In the first instance 78% of respondents selected the one-week holiday but in the second instance 67% of respondents opted for the three-week holiday. Kahneman and Tversky (1979) hereby demonstrated that people underestimate the likelihood of a likely outcome relative to a certain one. This is called the certainty effect and leads to risk aversion when faced with a choice involving a definite gain; and risk taking when a choice involves a certain loss (Kahneman & Tversky, 1979).

In a subsequent experiment the positive outcomes were inverted with negative outcomes so respondents would be offered a loss of 4000 shekels as opposed to the profit in the examples above. In these circumstances customers opted for the riskier option—the majority of respondents (92%) opted for an 80% chance at losing 4000 shekels over a 100% chance of losing 3000 shekels. When the possibility of losing 4000 shekels dropped to 20% as opposed to a 25% chance of losing 3000 shekels the majority of respondents (58%) opted for the 3000-shekel option (Kahneman & Tversky, 1979).

In the question designed to demonstrate the isolation effect, subjects were given a two-stage game. In the first stage they had a 75% chance of getting nothing but if they got through the first stage, they could choose between getting 80% chance of getting 4000 shekels and 100% chance of getting 3000 shekels. In this instance 78% of respondents choose the 3000 shekels, disregarding factors that affected all the options. This illustrates that changing the way a question is asked may result in people making a different choice. This two-stage question is effectively the same as the choice between 25% opportunity at 3000 shekels versus a 20% opportunity at 4000 shekels above where 65% of respondents initially selected the chance to win 4000 shekels (Kahneman & Tversky, 1979).

The authors demonstrated, by means of complex modelling, that there is a more significant impact from potential losses than from potential gains even when the gain and loss is of the same value. The results demonstrate that losses are

approximately twice as painful as gains of the same value. Factors related to context may enhance impact, such as instances where potential losses may be equivalent to the amount that would cause the participant to lose their home. The third component describes what has come to be referred as loss aversion theory (Kahneman & Tversky, 1979).

A Dutch study that was based on a representative sample of 1935 respondents drawn from the general population investigated the applicability of loss aversion theory. This sample size was much larger than the 1979 study by Kahneman and Tversky and included a more diverse sample of respondents as it was not limited to university students. The sample was based on a newspaper survey of the broad Dutch population. The results were found to be consistent with previous research affirming prospect theory (also known as loss aversion theory). The study also found that women and individuals with lower levels of education were more risk averse (Booij & van de Kuilen, 2009).

Prospect theory provides the best basis for understanding how people take decisions in circumstances they regard as uncertain (Barberis, 2013). However, there have been some dissenting views regarding the correctness of prospect theory, with some researchers arguing that the influence of behavioural finance is exaggerated and accepted without question by academics and the wider scientific community. Rossiter (2019) argues that most people would not be able to do the maths required by prospect theory for decision-making. He also argues that it cannot be applied to real world customer engagements. He asserts that the biased nature of framing would be considered unethical in most customer markets. Rossiter (2019) also argues that inadequate research has been done to prove prospect theory.

Prospect theory shows that the manner in which information is presented may affect the way in which the recipient responds. It also shows that people are not good at making judgements regarding financial matters. In the correct context it may be possible to convince a subject to change their response. The dissent from

Rossiter (2019) suggests that it is important that where principles such as framing are used this should be done in an ethical manner. He also questions whether people make poor judgements because of nefarious reasons or if they just are not very good at maths. Rossiter (2019) also suggests that prospect theory was accepted too easily and without adequate evidence. This research project relates to the responses that people provide when probed regarding financial information that is required for their life insurance assessment. It also investigates whether, if a retail bank uses the information it already has on record, this is likely to increase the chances of an engagement. This research project provides additional evidence in support of and against the assertions of prospect theory. The reasons why customers do not make the correct choice is not as important as whether they do so or not. The aspects relating to possible unethical behaviour are accounted for in terms of the regulations that apply to representatives and financial services providers in terms of the *Financial Advisory and Intermediary Services Act 2002* (South African Government, 2002) and the *Protection of Personal Information Act 2013* (South African Government, 2013) amongst others.

2.2.3 Motivational Bias

Many elements impact the decision-making of humans beyond the events taking place at that moment in time. Beliefs, past experiences, level of education and training all contribute to the manner in which human beings process information. Humans may be affected by a desire to avoid or realise a particular outcome which benefits them in one manner or another (Dror, 2020).

Motivational biases are judgements where subjects are influenced by their preference for the materialisation, or not, of an event, result or outcome. Examples include where the person making the judgement prefers one outcome over another, expects the outcome to be more favourable than it actually is in reality, and is overly conservative when weighing up the likelihood of an adverse outcome (Montibeller & von Winterfeldt, 2015).

In the context of this research project, motivational bias suggests it may be worth investigating the reliability of responses that customers are likely to provide, as they may be motivated to under disclose assets relative to liabilities and income relative to expenses to avoid potential embarrassment relating to their financial circumstances. Subjects may also not disclose matters such as an illegitimate dependant or a parent they are sending funds to on a regular basis as their spouse may not be aware.

2.2.4 Cognitive Bias

According to Dror (2020), the human brain is unable to process all the information it receives. The brain therefore engages in a variety of processes to make sense of the world and the data around us. It prioritises the retention of what it considers relevant and to the best of its capability organises the information into an interpretable format.

Kahneman (2011) observes that cognitive biases come from illusions of thought that are automatically generated. Cognitive biases are statistically observable deviations from objective reasoning by the brain due in part to the inability to process all the information it receives. Examples include confirmation bias and stereotypes (Kahneman, 2011; Kahneman & Tversky, 1979).

Montibeller and von Winterfeldt (2015) describe this as follows: “A cognitive bias may also be described as a systematic discrepancy between the ‘correct’ answer in a judgmental task, given by a formal normative rule, and the decisionmaker’s or expert’s actual answer to such a task” (p. 1231). Examples of cognitive biases include anchoring, where a subject relies too heavily on the first piece of information they receive on a topic; and omission of relevant variable, where a relevant piece of information is ignored (Montibeller & von Winterfeldt, 2015). These biases are relevant in a slightly different way to the motivational biases as here a customer may not intend to misstate feedback, but they may misremember the correct answer when probed in that particular moment. Cognitive

biases also show why there may be value in investigating how accurate responses are likely to be when provided by the customer.

2.2.5 Benefits of Big Data in Retail Banking

The initial studies completed in regard to open banking, where the customer consents to potential creditors getting access to their payment profile when they apply for products, indicate that this has resulted in increased access to banking services. Data is used to determine whether the individual will be a viable customer prior to them beginning a relationship with the organisation. It allows for a much more personalised assessment than one based purely on assumptions about, gender, income levels, profession, etc. (Babina et al., 2022).

The value of using big data to assess the needs of customers has been well demonstrated by financial technology companies (fintechs) as they have successfully used this information to evaluate customers for credit. Access to this data has enabled them to conduct more holistic assessments and provide more effective lending solutions to customers (Nam, 2023).

Banks, including South African banks, are using technology, including data analytics and artificial intelligence, to understand customers. However, much of this research is skewed towards optimising sales rather than offering solutions per se. For instance, a study of a South African retail bank using decision-making algorithms to generate personalised offers for customers demonstrated biases in the data used to train these algorithms in the creation of the offers (Wong, 2021). Yet even these studies may demonstrate potential in the use of data analytics to limit the impact of inaccurate responses by customers, when assessing their life insurance needs.

An Eastern European study supports the assertion that, in the correct context, customers may be more willing to take up life insurance (Kabrt, 2022). The study assessed the factors affecting the demand for life insurance and the reluctance to invest in these products in instances when they had a demonstrable insurance

risk. Examples include myopia, which is when subjects underweight the likelihood of an outcome; narrow framing, which is the tendency to evaluate a decision in isolation without taking other relevant factors into account; mental accounting, where considerations do not accurately incorporate how variables interact with each other and over time; availability heuristics, where people demonstrate a bias towards events that occur to them first as well as their or their loved ones' personal experiences; and affection, which is an increase in the willingness to insure against the possibility of the loss of an object to which the subject has a personal attachment. In their survey, "Puzzles of insurance demand and its biases," Pitthan and De Witte (2021) found there to be no general solution to the demand problem because different solutions would be required for different biases. A lack of knowledge or misuse of financial concepts or products could be linked to a low level of financial literacy or lack of understanding of the subject (Pitthan & De Witte, 2021).

A study of Romanian subjects sought to find correlation between technology use and the likelihood of customers taking up insurance. Some of the additional insights included the inverse relationship between loss aversion and insurance take-up and the correlation between risk aversion and insurance take-up (Nagy, Alt, Benedek & Săplăcan, 2019).

In other industries, such as the hotel industry and health services, big data analytics have been used to improve customer experiences through investigating where there are opportunities to use the analysis of past interactions to predict future customer needs (Nicol, Bradshaw, Uwimana-Nicol & Dudley, 2017; Talon-Ballesterio, Gonzalez-Serrano, Soguero-Ruiz, Munoz-Romero & Rojo-Alvarez, 2018).

2.2.6 Interface Between Customers and Retail Banks on Life Insurance

Retail banks in South Africa engage customers predominantly through nine channels. These include the institution's downloaded app, which is now the

largest percentage at 37%, followed by branches and call centres which close out the top three with 28.6% and 14.5% respectively. The other channels include e-mail, online banking, ATMs, SMS and WhatsApp, and cell phone/USSD banking (DataEQ, 2022). There is also engagement through intermediaries that facilitate services such as cash withdrawals, for example Checkers and Pick n Pay (Capitec Bank, 2014), as well as private banking specialists (ABSA Bank, n.d.).

Life insurance in particular is offered through digital platforms, such as apps (FirstRand Bank Limited, n.d.), online banking (ABSA Bank, n.d.) and life insurance websites (Sanlam Life Insurance, 2024). It is also sold through intermediaries such as Hippo (Hippo Comparative Services, n.d.) and financial advisors (Liberty, n.d.). A key difference between financial advisors and the various platforms mentioned is that advisors will have a process through which customers can be assisted in determining the amount of life insurance they require in terms of the FAIS Act of 2002 (Financial Sector Conduct Authority, 2011).

Retail banks also provide customers with access to life insurance through branches. This may be in the form of an intermediary who will not provide advice and will implement only what the customer requests, or through authorised representatives who will either act on what the customer requests or provide the customer with guidance culminating in advice recommendations based on the financial needs assessments undertaken (FirstRand Bank Limited, n.d.).

Research from Romania has shown that the likelihood of a customer actually purchasing life insurance is affected primarily by past experiences with life insurance companies, with the second major element being the extent to which the customer can understand the need for life insurance or, put more broadly, their financial literacy (Dragos et al., 2020).

The complex nature of financial solutions means that customers will often need assistance in making optimal decisions (Hyland, Sebastian & Seetharam, 2021); and, even when experts are the decision-makers, it has been observed that steps

must be taken to limit the effect of personal bias. These include methods to limit decision-making to relevant considerations, finding ways to use objective sources, or reviewing the work of the decision-maker (Dror, 2020; Ogunlusi & Obademi, 2019).

2.3 Conceptual Framework

2.3.1 Key Ideas or Theories

This research project is based on three key ideas or theories:

- Prospect theory and how the framing of information may affect customers' decision-making, as well as how they evaluate the benefits and drawbacks of an option.
- Motivational and cognitive bias and how this may affect the accuracy of the information provided by respondents relating to their life insurance needs.
- How retail banks are already utilising big data to determine their marketing strategies.

This research project also investigates whether responses show material differences based on income level or gender. The study also seeks to establish whether there is a difference in the engagement by subjects based on whether open-ended questions were asked versus whether information collected by the retail bank over time is used.

2.3.2 First Theoretical Consideration

Variable: Perceived accuracy of information provided during the life insurance needs assessment process by the customer.

This is information provided verbally, in writing, or via correspondence by the customer to the authorised representative in order to determine the customer's

life insurance needs. Due to the nature of this research, the accuracy had to be perceived based on the participants' responses to questions relating to income, expenses, assets, liabilities and dependants. This is not an exhaustive list of the variables that affect the life insurance calculation.

2.3.3 Second Theoretical Consideration

Variables: Perceived engagement preference given a binary choice between an authorised representative using open-ended questions to assess life insurance needs versus presenting an indicative life insurance needs assessment based on their interpretation of the information shared by the customer with the retail bank over time.

When initiating a discussion relating to a life insurance need, a representative may engage the customer by asking open-ended questions related to assets, liabilities, etc.

Alternatively, an indicative assessment could be presented based on information shared by the customer with the retail bank over time relating to assets, liabilities, etc.

2.3.4 Graphical Representation of the Theoretical Framework

Figure 2.1

First Theoretical Consideration (Accuracy of Information)

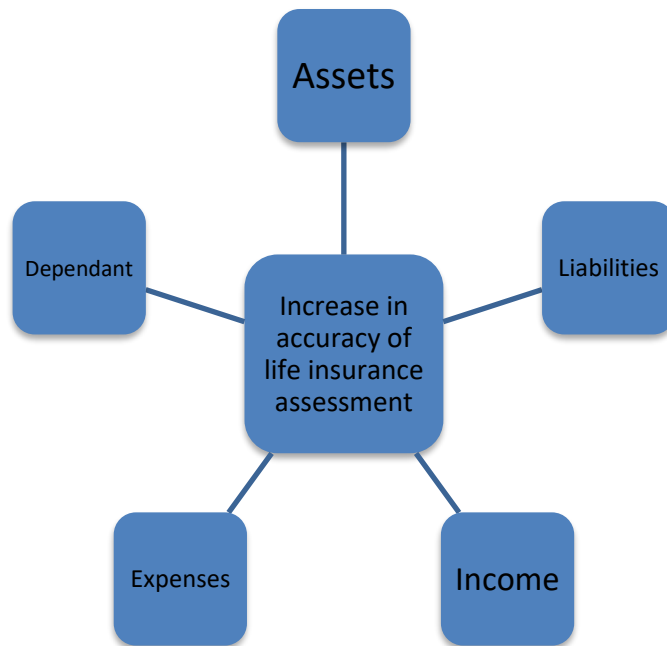
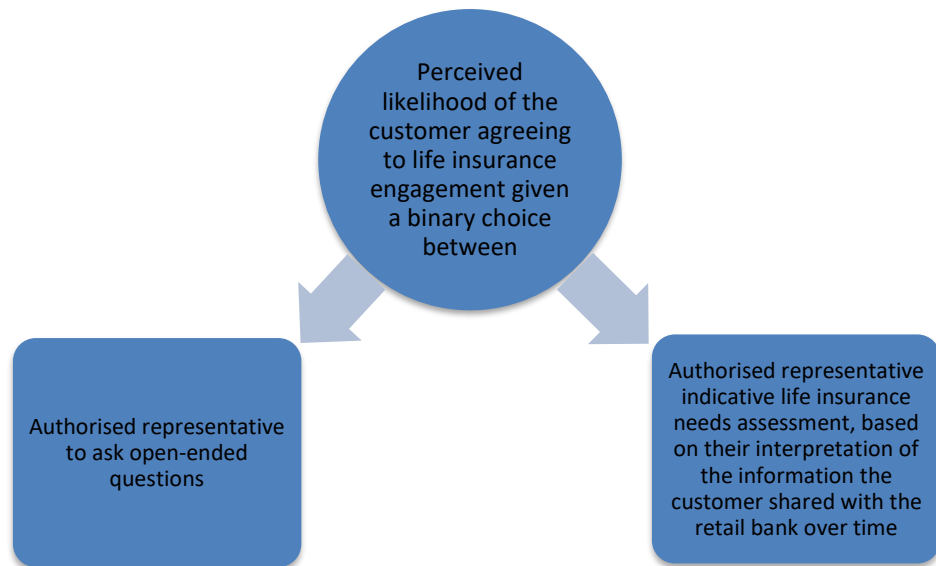


Figure 2.2

Second Theoretical Consideration (Needs Assessment Preference)



2.4 Hypothesis Testing

2.4.1 First Hypothesis

There is a significant perceived inaccuracy among potential customers.

$$H_0: U(y) - U(n) = 0$$

2.4.2 Second Hypothesis

There is a perceived preference when given a binary choice between an authorised representative engaging based on open-ended questions versus information shared with the retail bank over time.

$$H_0: U(y) - U(n) = 0$$

3. Research Methodology

3.1 Introduction

This chapter explains the research methodology used for this research. The goal of this study was to investigate the perceived accuracy of feedback from respondents when asked about some of the variables affecting their life insurance needs assessments. The second goal was to investigate the perceived likelihood of respondents engaging in a life insurance needs assessment when presented with a binary choice between an initial engagement based on open-ended questions and one where the authorised representative uses information shared with the retail bank over the duration of their customer relationship. This chapter describes the steps in the research process and methods employed.

3.2 Research Design

Quantitative studies are often administered through surveys and offer participants limited options in providing feedback (Bougie & Sekaran, 2020). Qualitative research involves the collection of feedback through interviews, observation and open-ended questions in a survey (Bougie & Sekaran, 2020). The feedback is generalised from the participants' responses (Bougie & Sekaran, 2020).

The research design for this study was quantitative in nature. Quantitative studies involve three steps: data reduction; display; and then the process of drawing conclusions. There are notable limitations to quantitative research. For instance, quantitative feedback often lacks the same level of insight that qualitative research can achieve, but it is less susceptible to the bias of the researcher. However, quantitative research is more likely to be replicable than qualitative research.

Conducting a qualitative study on a topic of this nature in South Africa would present various challenges relating to language, culture, levels of education, etc.

It would require a material number of individual engagements, which would not be feasible from a time and cost perspective. The vastly different backgrounds of South African citizens in terms of ethnicity, religion, culture, and language from province to province would also limit the ability to generalise qualitative feedback (Cowling, 2023a).

Considering the questions and hypotheses presented previously, a quantitative approach was used in this research. While the exploratory nature of qualitative research is valuable, this is beyond the scope of this research.

Quantitative research fits within the positivist paradigm which begins with researching a topic; you then formulate hypotheses that can be tested, design an experiment, conduct an empirical study and conclude by interpreting results (Alharahsheh & Pius, 2020; Park, Konge & Artino, 2020; Saunders, Lewis & Thornhill, 2009).

In qualitative research, which fits into an interpretivist paradigm, the researcher tries to understand a phenomenon based on the experiences of individuals. It involves interviews where respondents are asked to express opinions which the researcher will then use to identify common themes (Alharahsheh & Pius, 2020; Pervin & Mokhtar, 2022; Saunders et al., 2009).

In a mixed methods study, which fits into a pragmatist paradigm, the researcher combines elements of a quantitative and qualitative study. This allows the researcher to collect information about the reasons that individuals say they are behaving in a particular fashion. This method can enrich a quantitative study as it may explain why respondents select a particular option (Saunders et al., 2009).

3.3 Data Collection Methods

Surveys are a very popular way of collecting data, as this can be collected online, disseminated via e-mail, and allows for engagement with a large population or sample (Wright, 2005). Surveys can be designed to allow for close-ended

responses only, which assists in the process of aggregating responses, participants can remain anonymous, and questions can be answered at their convenience (Bougie & Sekaran, 2020).

Drawbacks relating to surveys include a lack of nuance and that the responses of the participants represent a moment in time, which may be affected by current affairs, personal circumstances and other elements not directly related to the survey. Surveys are vulnerable to social pressures, so participants may give responses that represent what they believe to be the socially acceptable response as opposed to honest feedback (Groves et al., 2009).

Additional challenges presented by surveys are potential low response rates and, for online surveys, the requirement for participants to be computer literate. Where the survey is not conducted in the home language of participants, they may have difficulty interpreting the questions.

Regardless, this format would enable a large number of respondents to provide anonymous feedback that could be used to both describe and compare various outcomes statistically, and test the hypotheses outlined in the previous chapter. The selection of respondents would also not be susceptible to the bias of the researcher. As a result, a survey approach was seen as appropriate for this research (Saunders et al., 2009).

3.3.1 Population and Sample

The data for this study was collected using the Opinion Stage, a platform that enables the creation of surveys and collection of responses (Opinion Stage, n.d.). Surveys were disseminated via my LinkedIn network. LinkedIn is a social media platform intended for professional networking purposes. It allows professionals to connect with colleagues, professionals in similar fields, industry leaders and potential employers. LinkedIn is the largest professional network in the world (LinkedIn, n.d.).

The number of LinkedIn users in South Africa was estimated to be 11,6 million as at the end of March 2023 (Cowling, 2023b). As of August 2024, 26.7% of LinkedIn users were between the ages of 18 and 24; 51.8% were between the ages of 25 and 34; 18% were between the ages of 35 and 54; and 3.1% were age 55 years or older (Cowling, 2024a). Research conducted in 2021 found that LinkedIn users were 51% male and 49% female in South Africa (Cowling, 2023b). As of January 2024, the ad reach of LinkedIn in South Africa was found to be 52% male and 48% female (Cowling, 2024b).

Participants accessed the self-administered questionnaire via a link at the bottom of my LinkedIn post. In theory, everyone in South Africa who has LinkedIn would be able to access the article and link if they came across it. The sampling method applied was convenience sampling as ethical considerations relating to assessing customer information of retail banking customers meant that a probability sampling was not possible. Convenience sampling based on online responses involves respondents accessing the survey through an online platform. It is popular as it allows for anonymity and may allow for the identification of a suitable sample within the desired parameters (Johnston, Trummal, Lõhmus & Ravalepik, 2009; Leiner, 2016).

In research, conclusions made from samples are meant to be extrapolated to the entire population. Consequently, the sample must be representative of the entire population, which is more likely with a larger sample. For a study to be effective and to yield reliable, statistically significant results, the sample size is crucial. One of the ways to do this is to employ appropriate sample techniques (Shiluvana et al., 2023; Taherdoost, 2017).

The sample size can be calculated using equation1 (sample size calculator) shown below:

$$Sample\ Size = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 \times N}\right)} \dots \dots \dots (1)$$

where,

z: the z- score is determined by predicting the confidence level as per Table 3.1.

Table 3.1

Z-Score Predictor

Desired confidence level	z-score
80%	1.28
85%	1.44
90%	1.65
95%	1.96
99%	2.58

N: Total population size

E: Margin of error (percentage in decimal form)

p: Standard deviation (%)

A confidence level of 90% was used for the purposes of this study, which corresponds to a z-score of 1.65. As was already established, there are approximately 11,6 million South African LinkedIn users over the age of 18. With a margin of error of 6% and a standard deviation of 65%, 172 respondents were therefore needed for the survey to accurately represent the entire population. For this study, the final sample size exceeded this number, with N = 178. The calculation hereof is shown in equation 2:

$$\begin{aligned}
 \text{Sample Size} &= \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 \times N}\right)} = \frac{\frac{1.65^2 \times 0.65(1-0.65)}{0.06^2}}{1 + \left(\frac{1.65^2 \times 0.65(1-0.65)}{0.06^2 \times 11'600'000}\right)} \\
 &= 172,0443 \dots \dots (2)
 \end{aligned}$$

(Shiluvana et al., 2023; Taherdoost, 2017)

3.4 Research Instrument

The research instrument was an online survey, which was accessed via a post on LinkedIn. The survey had seventeen questions.

The first two questions required participants to disclose whether they were over the age of 18 and whether they had a retail bank account. These questions were dichotomous, requiring a yes/no response and allowed for the exclusion of feedback from individuals under the age of 18 years and/or individuals who do not have a retail bank account.

The next five questions required participants to indicate their disability status, income range, race, religious affinity and gender. Options for these questions were provided on a categorical scale which enabled the responses to be grouped according to each variable or a combination of variables (Bougie & Sekaran, 2020), allowing me to assess how representative the sample was to the broader population.

The next five questions used a categorical scale eliciting responses from a range of options. The questions related to variables central to the life insurance needs assessment. The respondents were asked how they were likely to respond when probed about their assets, liabilities, income, expenses and dependants (Bougie & Sekaran, 2020).

The thirteenth question used a categorical scale to measure customers' emotions when asked about their life insurance needs by a financial advisor; and the

fourteenth question asked respondents whether they regarded life insurance as a necessity.

The fifteenth question asked participants whether they preferred a first engagement based on open-ended questions or information shared over time with the retail bank, with a categorical scale to divide the responses into the two categories. The last two questions tested participants' feelings on the different approaches using a categorical scale with a range of options (Bougie & Sekaran, 2020).

3.5 Data Analysis Strategies and Interpretation

The research project used the IBM Statistical Package for Social Sciences (SPSS) Version 28.0 programme to analyse the data. SPSS is a statistical tool to analyse the data using:

- descriptive statistics to describe the basic features of the data; and
- inferential analysis to draw conclusions about the sample.

Many of the questions directly aligned with the goals of the study. Therefore, a descriptive approach to much of the analysis was appropriate. However, hypotheses relating to the accuracy of information as compared across gender and age could be further tested using inferential tests.

In this research project a consolidated variable was created by making all the instances in which respondents indicated that they would accurately state their response regarding income, assets, liabilities, expenses and dependants a score of 1 and all other responses 0. The variable is an ordinal variable ranging from 1 to 5 and a normal distribution is unlikely. As a result, non-parametric tests were considered.

A t-test was used to assess the accuracy of responses relating to the consolidated variable referred to above.

A non-parametric chi-squared test was used to assess whether there was a preference for an engagement based on open-ended questions versus one where the authorised representative used the information that had been shared with the retail bank over the duration of the customer relationship.

The Mann-Whitney U test was used to compare two groups, i.e., where we sought to compare the perceived accuracy of respondents based on male and female responses (Laerd Statistics, 2018a).

The Spearman correlation was used to assess whether there was a correlation between two variables (Laerd Statistics, 2018b). In this case, the consolidated variable (also used for the Mann-Whitney U test) and income range selected by respondents were used. The intention was to establish whether the responses showed a decrease in the likelihood of the customer providing accurate responses based on income range (Laerd Statistics, 2018b).

3.6 Limitations, Validity and Reliability

A survey was selected for this study as it allowed the participants to remain anonymous. The accuracy of questions relating to gender and whether the respondent had a bank account with a South African retail bank were contingent on the honesty of the respondent.

Questions were not interpreted for participants. This is important in the South African context, where there are 12 official languages and even among the respondents who do speak English, their understanding of the language may be elementary. Therefore, this survey can only represent a subset of the population (Bougie & Sekaran, 2020).

Despite South Africa having 12 official languages, this survey was only available in English, which is the home language of 8.1% of people, and only 16.6% of people speak English when not at home according to Statistics South Africa (Cowling, 2023a). According to an article in BusinessTech, the results of census

2022 showed that only 8.7% of South Africans used English as their primary language (Fraser, 2025). As of January 2024, there were 45.34 million active internet users in South Africa out of a total population of 62 million (Cowling, 2024a). The world bank estimated internet access at 75% in 2022 in South Africa (World Bank Group, 2025). This means many South Africans have no access to the internet, much less LinkedIn, so they would fall outside the scope of potential respondents. There were no responses from people who disclosed a disability. According to Stats SA, 7.5% of the population was disabled in 2011 (Statistics South Africa, 2014). The updated census results in 2022 showed that there were 3.3 million disabled people against a total population of 62 million which is approximately 5.30% (Statistics South Africa, 2023). In this study, there was one respondent who said they were non-binary, this would have represented 0.56%. South Africa's non-binary population was estimated as 530'000 by Quartz South Africa (Wakefield, 2021). Compared to an estimated population of 62'000'000 in 2021 this means that the non-binary for South Africa would be 0.85%. The data was excluded due to privacy concerns given there was one respondent and the inability to get reliable data for further analysis. The department of Home Affairs of South Africa has proposed a method that may enable them to provide estimates of the non-binary population size of South Africa in the future. (Department of Home Affairs , 2025).

This survey was conducted online so there is an over representation of high-income earners, Caucasian and Indian respondents. Low income and Black African respondents are under-represented compared to the actual population. (Government of South Africa, 2025) (Orthofer, 2016).

The simple nature of the questions meant that the positivist paradigm and a quantitative study was the most suitable option. This research project was aimed at determining likely behaviour and preferences of customers, as opposed to why they behaved in a certain way so interpretivism and a qualitative approach was less relevant. Pragmatism or a mix-methods approach was not relevant in terms of this research as the aim of the study was to investigate whether or not people

would misrepresent facts as opposed to the reasons why they might do so. The goal was to obtain as representative a sample as possible as an indication of what people would do or prefer. The vastly different backgrounds of the respondents meant that a more representative sample could be obtained through a survey than would be the case if interviews were conducted.

3.7 Ethical Considerations

The survey included a question which required participants to disclose their age. The respondents would have been members of the LinkedIn social media platform which requires members to be 18 years or older. However, participants who did not confirm that their age was over 18 could not continue with the survey. This enabled me to avoid collecting information from minors.

In the section of the survey where participants were asked about their gender there was an option that allowed the participant to not disclose this information.

Ethical consent was received from the Wits Business School prior to the collection of responses. Respondents agreed to participate and were provided with a number to call in the event of any concerns with the survey, before proceeding to the survey.

It was not possible to get LinkedIn data based on income range, religious background or non-binary, so these variables were excluded from further analysis. No responses were received from people with disabilities.

4. Data Analysis

4.1 Overview

This research project was conducted by means of a self-administered questionnaire via a link shared through the LinkedIn social media platform. The responses were collected using the Opinion Stage platform. The survey took between three and four minutes for each respondent to complete. The participants were all members of LinkedIn and were all over 18 years. As mentioned in section 3.5, the study made use of the IBM SPSS Version 28.0 programme to analyse the data.

4.2 Sample Analysis and Interpretation

4.2.1 Respondent Demographics

One hundred eighty-two responses were received and all the respondents were over the age of 18 years. However, only one hundred seventy-eight respondents (97.8%) had an account with a South African retail bank. There were no responses from people with disabilities. Of the one hundred seventy-eight respondents that could be used for further analysis, eighty-six (48.31%) were female and ninety-two (51.69%) were male.

4.3 Perceived Accuracy Reporting

Five questions within the survey related to the perceived accuracy of reporting by various respondents in relation to income, expenses, assets, liabilities and dependants. This section highlights the responses to these questions, and shows the relative responses between men and women when it came to answering these questions.

One hundred thirty-nine (78.1%) of the total respondents said that they would accurately state their income, 12.4% said they would understate their income, 5.1% would refuse to disclose, and 4.5% would overstate their income. Among the female respondents, 79.1% said that they would accurately state income, 12.8% said they would understate their income, 4.7% would refuse to disclose, and 3.5% would overstate their income. Among the male respondents, 77.2% said that they would accurately state income, 12.0% said they would understate their income, 5.4% refused to disclose, and 5.4% would overstate their income.

On the subject of expenses, 67.4% of total respondents said that they would accurately state their expenses, 22.5% said they would understate their expenses, 2.2% would refuse to disclose, and 8.1% would overstate their expenses. Among the female respondents, 69.8% said that they would accurately state expenses, 20.9% said they would understate their expenses, 1.2% refused to disclose, and 8.1% indicated they would overstate their expenses. Among the male respondents 65.2% said that they would accurately state their expenses, 23.9% said they would understate their expenses, 3.3% would refuse to disclose, and 7.6% indicated they would overstate their expenses.

One hundred forty-eight (83.1%) of total respondents said that they would accurately state their assets, 10.1% said they would understate their assets, 1.7% would refuse to disclose, and 5.1% would overstate their assets. Among the female respondents 82.6% said that they would accurately state their assets, 10.5% would understate their assets, 1.2% would refuse to disclose, and 5.8% would overstate their assets. Among the male respondents 83.7% said that they would accurately state assets, 9.8% would understate their assets, 2.2% would refuse to disclose, and 4.3% would overstate their assets.

When it came to liabilities, 79.8% of total respondents said that they would accurately state liabilities, 13.5% would understate their liabilities, 2.2% would refuse to disclose, and 4.5% would overstate their liabilities. Among the female respondents 82.6% said that they would accurately state liabilities, 11.6% would

understate their liabilities, 2.3% would refuse to disclose, and 3.5% would overstate their liabilities. Among the male respondents 77.2% said that they would accurately state liabilities, 15.2% would understate their liabilities, 2.2% would refuse to disclose, and 5.4% would overstate liabilities.

On the subject of dependants, 93.3% of total respondents said that they would accurately state their number of dependants, 2.2% would understate their dependants, 2.2% would refuse to disclose, and 2.2% would overstate dependants. Among the female respondents, 91.9% said that they would accurately state their dependants, 1.2% would understate their dependants, 3.5% would refuse to disclose, and 3.5% would overstate dependants. Among the male respondents, 94.6% said that they would accurately state their number of dependants, 3.3% would understate their dependants, 1.1% would refuse to disclose, and 1.1% would overstate their dependants.

Information collected from customers (Q8 -12)

Descriptive statistics revealed an overall mean score of 1.48. This showed that customers generally intended to be accurate when responding to the variables below. The overall mean for women was 1.47 and for men it was 1.51. This shows that women are more likely to attempt to provide accurate data in good faith.

In general, respondents revealed that they would accurately state the necessary information for an assessment. Overall, 16.8% of respondents revealed they would misstate income. Among female respondents this was 16.3%, as opposed to 17.8% for males. In terms of expenses, 30.1% of respondents revealed they would misstate expenses. Among female respondents this was 29%, as opposed to 31.5% for males. In terms of assets, 15.1% of respondents revealed they would misstate assets. Among female respondents this was 16.3%, as opposed to 14.1% for males. In terms of liabilities, 17.9% of respondents revealed they would misstate liabilities. Among female respondents this was 20.6%, as opposed to 15.1% for males. In terms of dependants, 4.4% of respondents revealed they

would misstate number of dependants. Among female respondents this was 4.7%, as opposed to 4.4% for males.

4.4 Preferred Assessment Approach

In terms of approaches to be followed for assessing life insurance needs, 61% of total respondents showed a preference for open-ended questions whereas 38.2% were willing to be presented with an indicative assessment based on the available information. Of the female respondents, 58.1% wanted open-ended questions and 41.9% agreed to the latter option. Of the male respondents, 65.2% opted for open-ended questions, with 34.8% agreeing to the latter option.

Regarding how they would feel in the event that the bank used the information they have on record, 50.6% of total respondents were indifferent, 30.3% said they would be grateful if the bank did so, and 19.1% said they would be defensive. Among female respondents, 52.3% were indifferent to whether the bank used the information or not, 27.9% said they would be grateful, and 19.8% said they would be defensive. Among male respondents, 48.9% were indifferent to whether the bank used the information or not, 32.6% said they would be grateful, and 18.5% said they would be defensive.

On the prospect of a financial advisor using information the customer had previously shared with their bank to determine life insurance needs, 28.1% of total respondents were neutral, 25.8% would find it intrusive, 22.5% would expect this, 12.9% would find this assertive, and 10.7% would find it unacceptable.

Among female respondents, 29.1% were neutral on the prospect of a financial advisor using information that they had shared with the bank to position life insurance, 25.8% would find it intrusive, 22.5% would expect this, 12.9% would find this assertive, and 7.0% would find it unacceptable.

Among male respondents, 27.2% were neutral on the prospect of a financial advisor using information that they had shared with the bank to position life

insurance, 21.7% would find it intrusive, 25% would expect this, 12.0% would find this assertive, and 14.1% would find it unacceptable.

Question 15

Descriptive statistics revealed an overall mean score of 1.38. This indicates that generally respondents preferred an engagement based on open-ended questions. The overall mean for women was 1.42 and for men it was 1.35. Most respondents were more likely than not to prefer an engagement based on open-ended questions. Women were more likely to prefer an engagement based on information shared over time, but the majority of them preferred an engagement based on open-ended questions.

Question 16

Descriptive statistics revealed an overall mean score of 2.31. This indicated that most respondents were indifferent to whether the information shared previously was used in their insurance calculation. The overall mean for women was 2.33 and for men it was 2.30. This suggested that the responses based on gender were more or less equal.

Question 17

Descriptive statistics revealed an overall mean score of 3.01. The overall mean for women was 2.95 and for men it was 3.07. This suggested that men were more likely than women to be receptive to an engagement based on information shared over time

4.5 Inferential Tests

4.5.1 T-Test

The t-test results demonstrated that there would be a material number of inaccurate responses relating to the five variables in question. The t-test had a

mean of 4.069. The mean would have been 5 had all questions been answered accurately. A $p < 0.01$ indicates that the results are statistically significant. This means that the first hypothesis would pass.

4.5.2 Nonparametric Chi-Squared Test

The chi-squared test result showed that the majority of respondents preferred an engagement based on open-ended questions. The result of the chi-square is 9.910^a and a Asymp. Sig 0.002 means that the result is statistically significant. This indicates that the second hypothesis would pass.

4.5.3 Gender Comparisons: Mann-Whitney U Test

The Mann-Whitney U test responses show that there was no material difference in responses based on gender. The p-value of 0.565 is > 0.05 and therefore not significant.

4.5.4 Income Comparisons: Spearman Correlation

The results of the Spearman correlation show a very weak positive correlation between the income range and combined variable. The positive correlation is 0.082 which is close to 0. Positive correlations are generally considered strong when they exceed 0.500. This relationship is not significant, with $p = 0.278$, which is greater than the significance level of 0.05 chosen for this research.

The result of the Spearman correlation shows that there is no significant correlation between income range, the combined variable, or the likelihood of accurate responses based on income range.

4.6 Data Analysis Summary

The t-test results showed that a material number of responses to the questions relating to the variables used to evaluate life insurance needs were inaccurate. In light of this the first hypothesis would pass.

The chi-squared test results showed that in the event that respondents were presented with a binary choice between an initial engagement based on open-ended questions and one based on information shared with the bank over time, the majority of respondents would prefer the former. In light of this, the second hypothesis would pass.

The results of the Mann-Whitney test showed that there was no material difference in responses based on gender.

The responses to the questions indicated that there may be value in conducting further research to compare the accuracy of the needs assessments based on customer feedback to the aforementioned insurance needs assessment once enriched with other information that the retail banks may have access to.

Interestingly, 62% of respondents preferred to be asked open-ended questions to assess life insurance needs; and 38% preferred to be presented with an indicative assessment. Of the female respondents, 58.1% preferred open-ended questions, while 41.9% preferred an indicative assessment. Of the male respondents, 65.2% preferred open-ended questions, whereas 34.8% preferred an indicative assessment.

Results revealed that 19% of respondents were defensive about the prospect of a bank representative inferring that there was a need for life insurance based on their banking relationship, 30.2% indicated they would be grateful, and 50.8% were indifferent. Of the female respondents, 19.8% were defensive, 27.9% were grateful and 52.3 % were indifferent. Of the male respondents, 18.5% were defensive, 32.6% were grateful and 48.9% were indifferent.

On the subject of an Advisor using prior information shared with the bank to position life insurance, 12.8% of respondents indicated that they would find this to be assertive, 22.3% expected the bank to do this, 26.3% regarded this as intrusive, 27.9% were neutral and 10.6% considered this unacceptable.

Among the female respondents, 14.0% indicated that they would find an Advisor who used prior information shared with the bank to position life insurance needs to be assertive, 19.8% expected the bank to do this, 30.2% regarded this as intrusive, 29.1% were neutral, and 7.0% considered this unacceptable.

Among the male respondents, 12.0% indicated that they would find an Advisor who used prior information shared with the bank to position life insurance needs to be assertive, 25.0% expected the bank to do this, 21.7% regarded this as intrusive, 27.2% were neutral, and 14.1% considered this unacceptable.

Approximately 60% of customers indicated a preference for an engagement based on open-ended questions. Approximately 80% of respondents indicated that they were indifferent or open to the bank using past information to infer a need for life insurance during the insurance engagement, with 62% indicating that it was expected, that they were neutral to the idea, or would regard it as assertive.

5. Findings

5.1 Introduction

This research project was conducted by means of a self-administered questionnaire via a link shared through the LinkedIn social media platform. The responses were collected using the Opinion Stage platform. The survey took between three and four minutes for each respondent to complete. The participants were all members of LinkedIn and were all over 18 years of age.

5.1.1 Sample Overview

The required number of responses for this self-administered questionnaire was one hundred seventy-two. This figure was calculated using the formula detailed in section 3.3.1. One hundred eighty-three people began the survey. Four respondents were excluded due to not having an account with a South African retail bank. One respondent identified themselves as non-binary. Their responses were excluded from further analysis to protect their anonymity as well as due to the lack of data regarding the representation of non-binary people who are members of the LinkedIn platform.

There were one-hundred seventy-eight responses that could be used for the research project as these respondents had answered all the questions in the questionnaire.

Research conducted in 2021 found that LinkedIn users were 51% male and 49% female in South Africa (Cowling, 2023b). There was no data available for the number of members who are non-binary. In terms of this study, 46% of the respondents identified as female, and 54% identified as male.

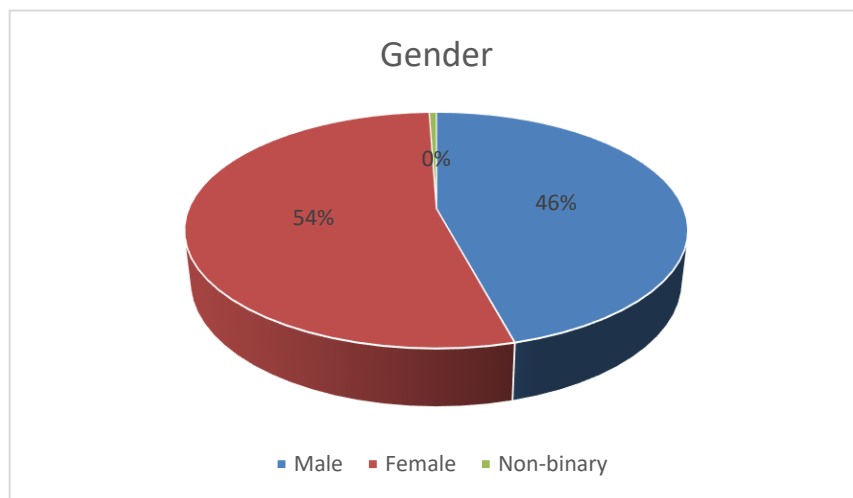
There was no information relating to income range, religious background and race available for the LinkedIn population, so these elements were not assessed further.

5.1.2 Gender

Figure 5.1 is a graphical representation of the sample of respondents based on gender. The figures can be found in Appendix C.

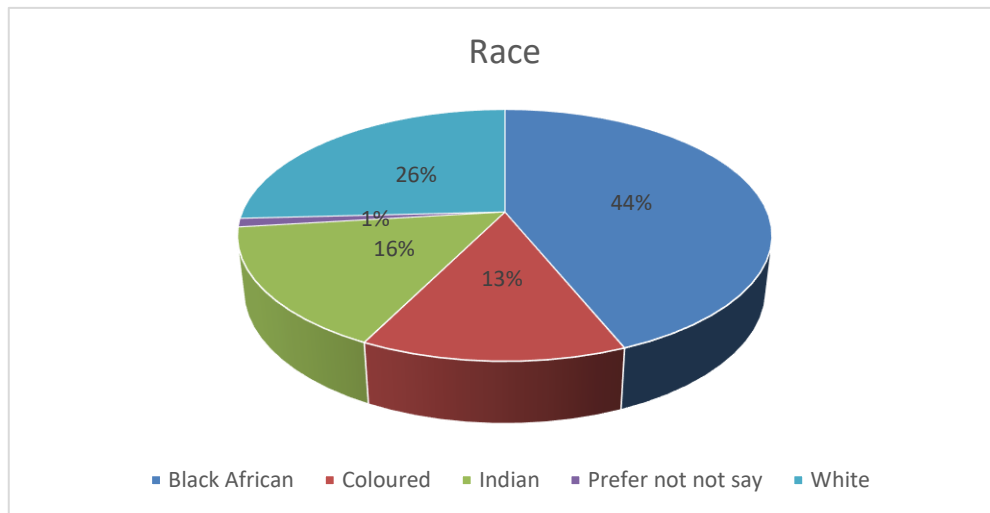
Figure 5.1

Gender



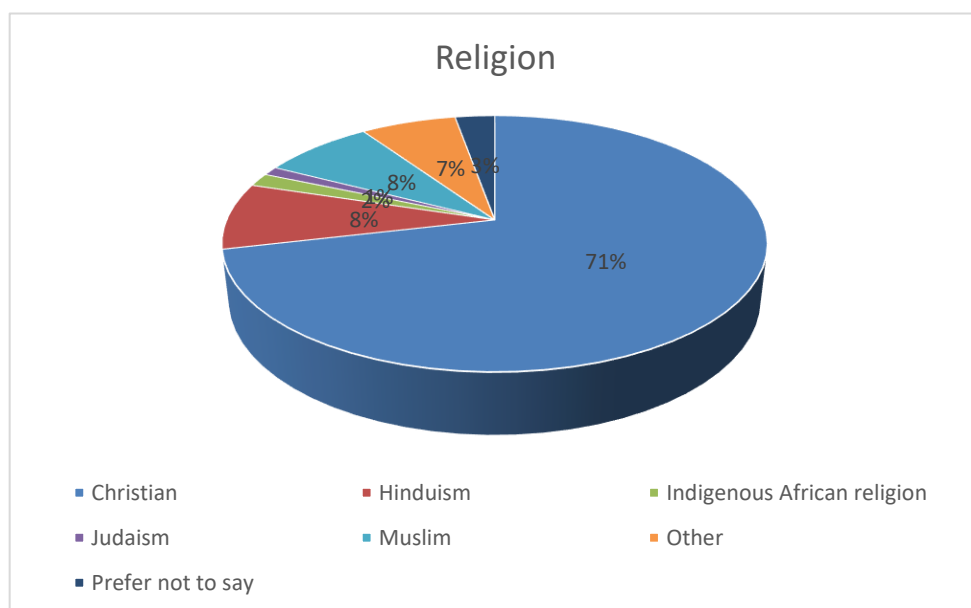
5.1.3 Race

Figure 5.2 is a graphical representation of the sample of respondents based on race. The figures can be found in Appendix C.

Figure 5.2*Race*

5.1.4 Religion

Figure 5.3 is a graphical representation of the sample of respondents based on religion. The figures can be found in Appendix C.

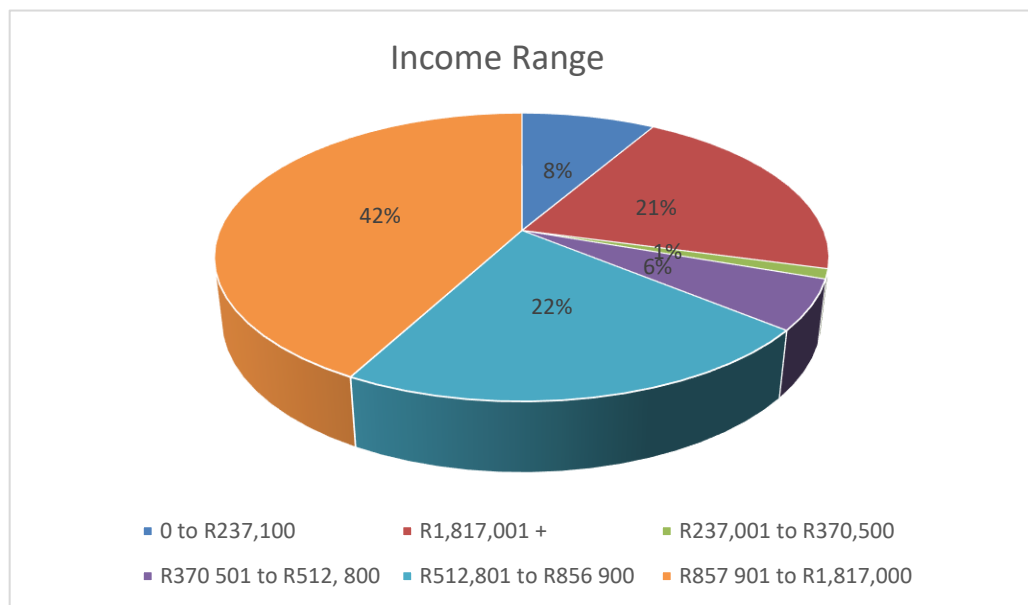
Figure 5.3*Religion*

5.1.5 Income Range

Figure 5.4 is a graphical representation of the sample of respondents based on income range. The figures can be found in Appendix C.

Figure 5.4

Income Range



5.2 Results for Research Question One (RQ1)

5.2.1 Overview

The first research question sought to investigate the respondent's perceived accuracy of the information provided during the life insurance needs assessment process. Respondents were asked how they were likely to respond if an authorised representative asked about their income, expenses, assets, liabilities, and dependants. The options included to accurately state, understate, overstate, or not disclose. A combined variable was created by adding together the accurate responses. There were five possible responses. In approximately one in five

instances respondents indicated that they would provide a response that was not accurate. The mean of the combined variable was (4,017) with a standard deviation of (1,43592) which is calculated as significantly different from fully accurate expectations (i.e., 5/5) when compared using a t-test.

Responses to these variables also differ slightly, but not necessarily significantly, when broken up by gender as displayed in sections 5.2.1.1 to 5.2.1.5.

5.2.1.1 Income

Figure 5.5

Income Disclosure (Total Sample)

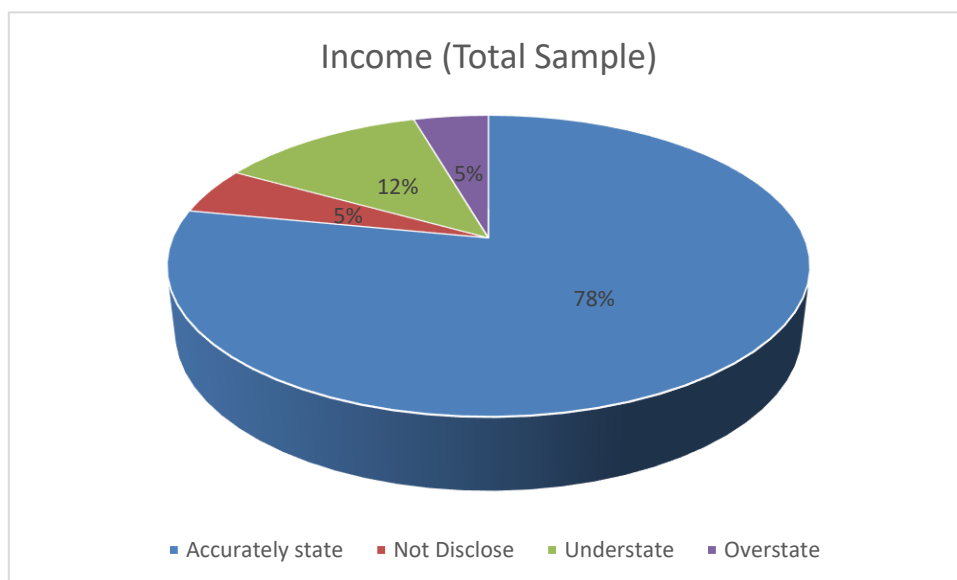
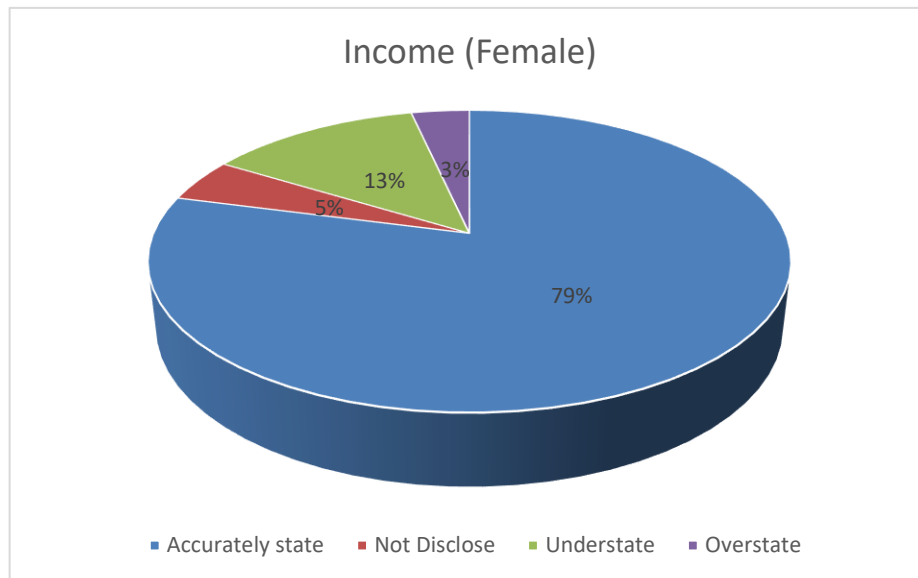
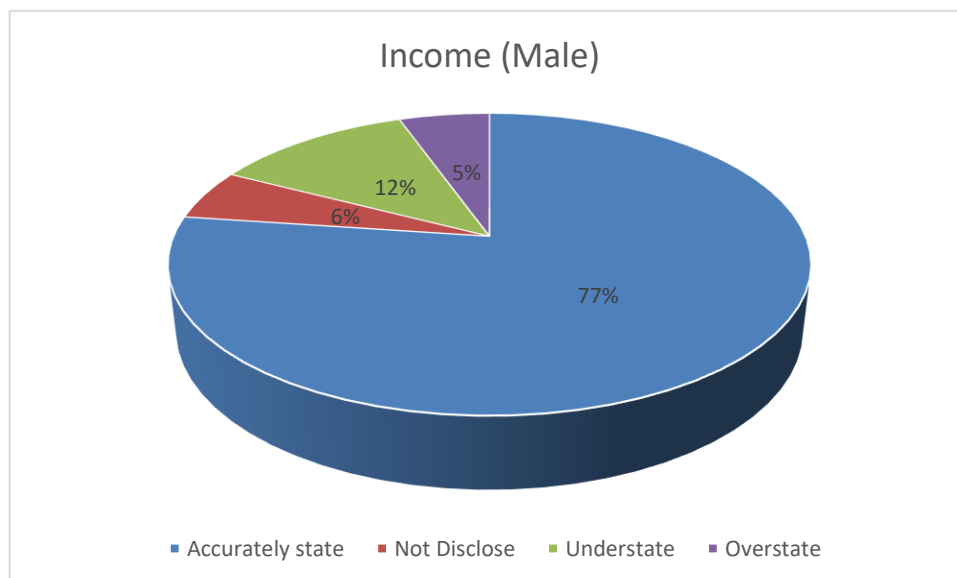


Figure 5.6*Income Disclosure (Female)***Figure 5.7***Income Disclosure (Male)*

When asked about their monthly income specifically, the majority of respondents (78% overall) indicated that they would accurately state responses, broken down into 79% of females and 77% of males.

5.2.1.2 Expenses

Figure 5.8

Expense Disclosure (Total Sample)

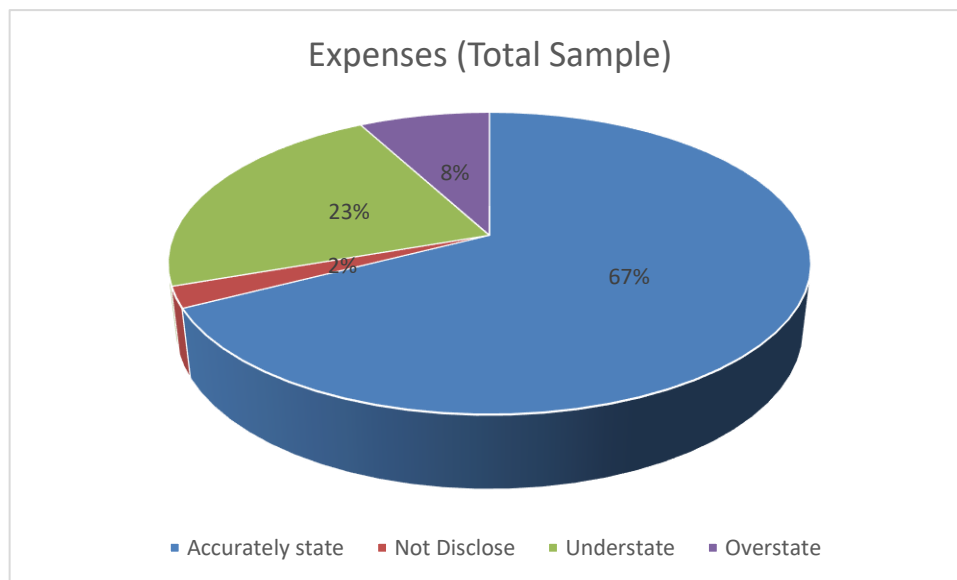


Figure 5.9

Expense Disclosure (Female)

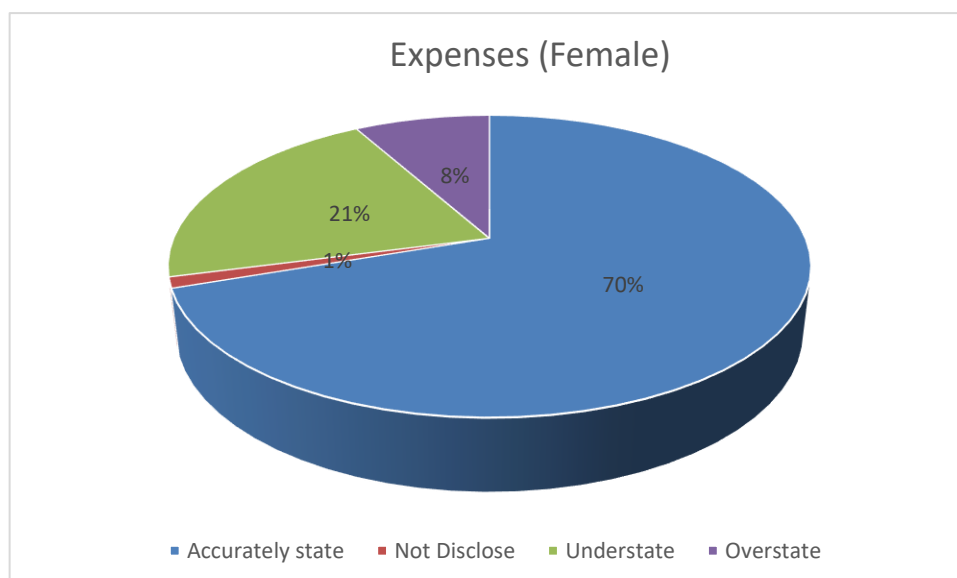
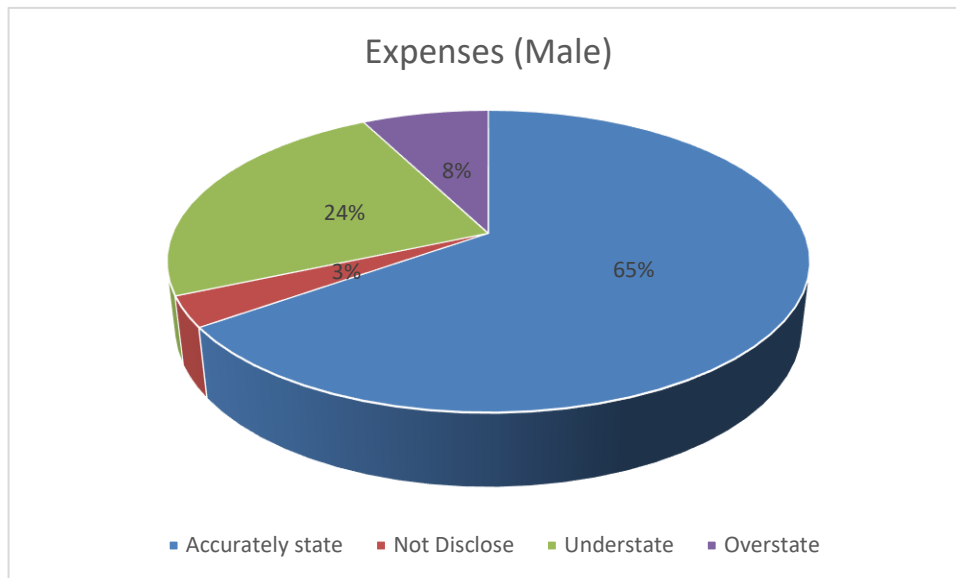


Figure 5.10*Expense Disclosure (Male)*

In terms of expenses, 67% of total respondents said they would provide accurate responses, with responses from females increasing to 70% and male respondents at 65%.

5.2.1.3 Assets

Figure 5.11

Assets Disclosure (Total Sample)

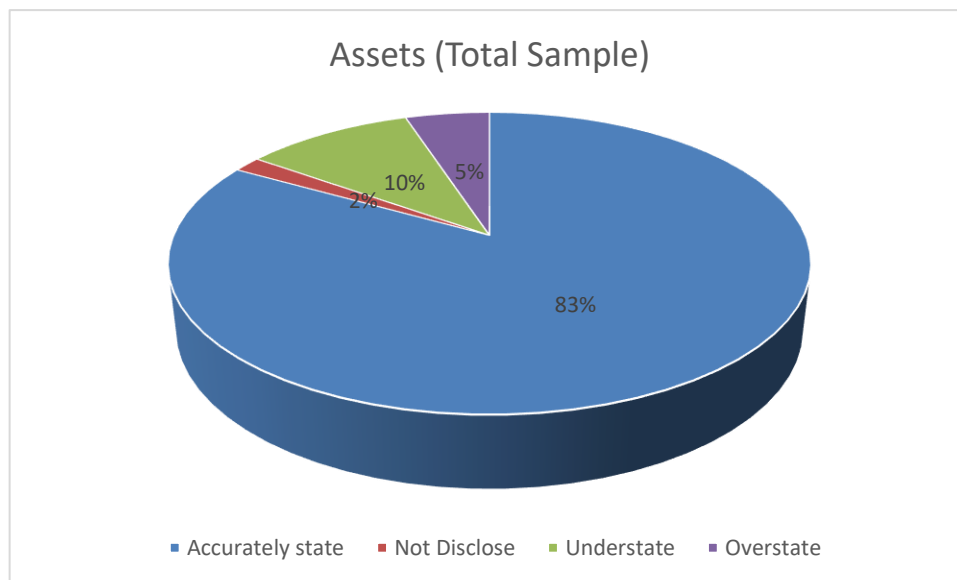


Figure 5.12

Assets Disclosure (Female)

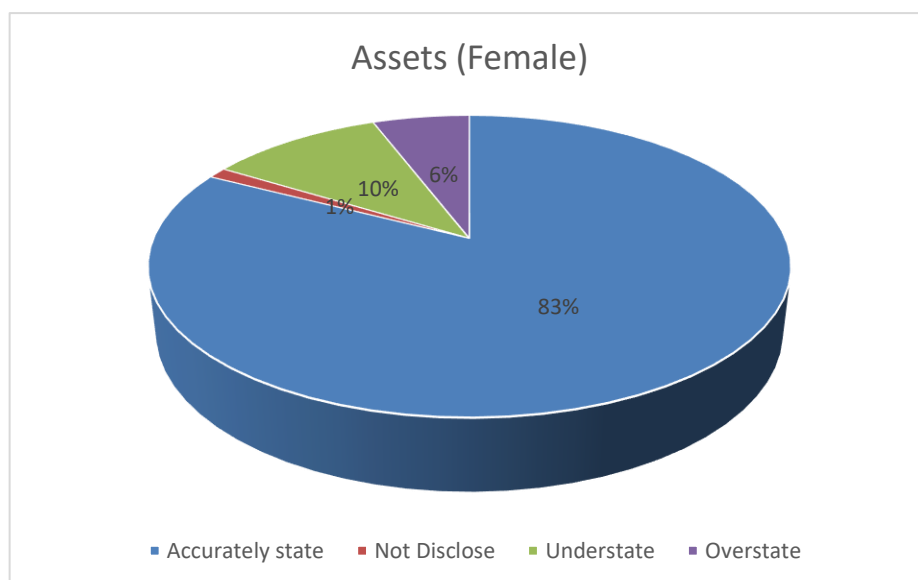
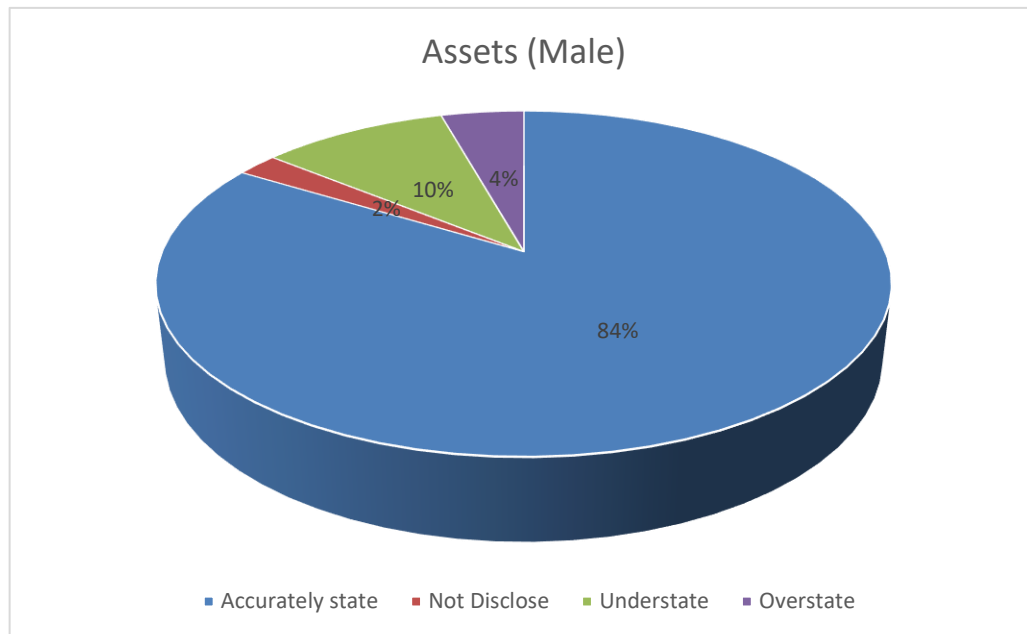


Figure 5.13*Assets Disclosure (Male)*

In terms of assets, 83% of total respondents indicated that they would provide an accurate response, broken down into 83% for female respondents and 84% for male respondents.

5.2.1.4 Liabilities

Figure 5.14

Liabilities Disclosure (Total Sample)

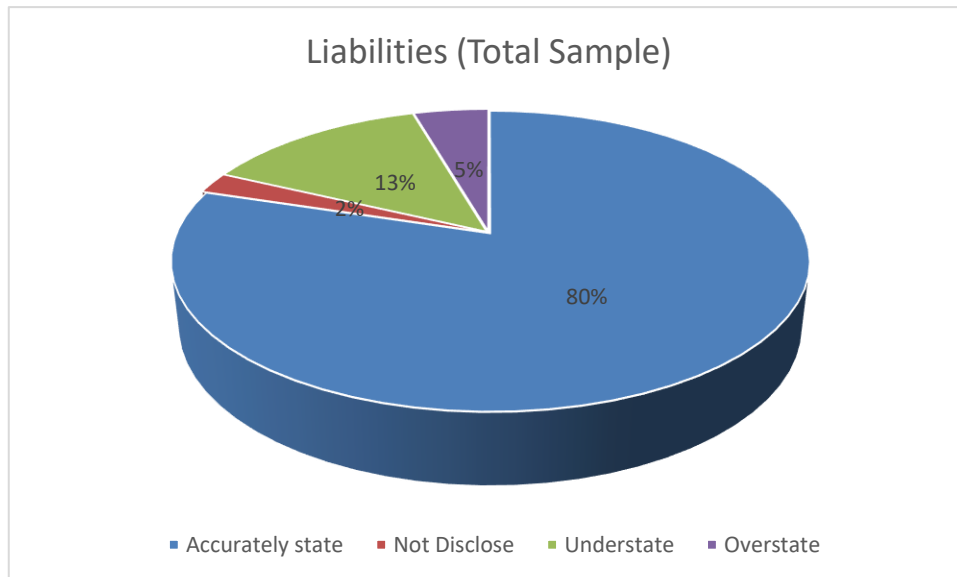


Figure 5.15

Liabilities Disclosure (Female)

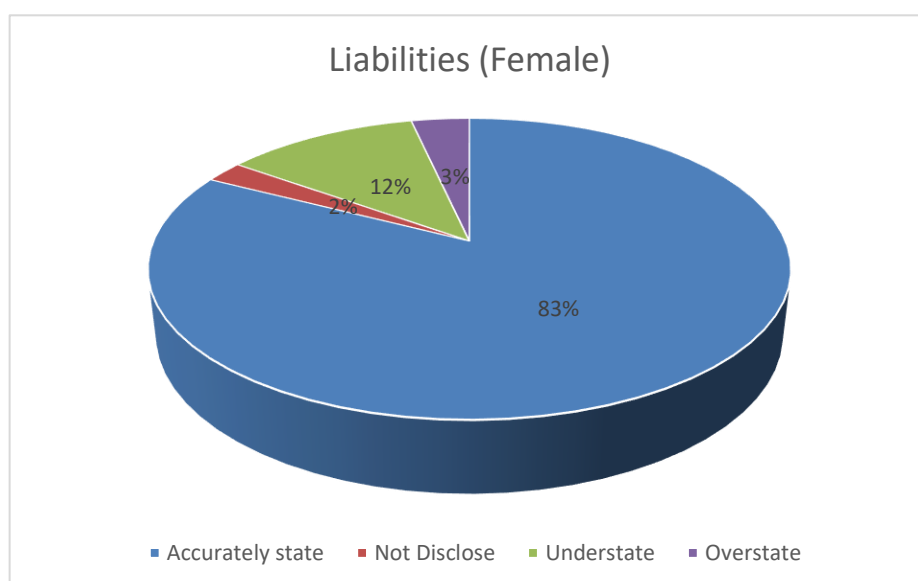
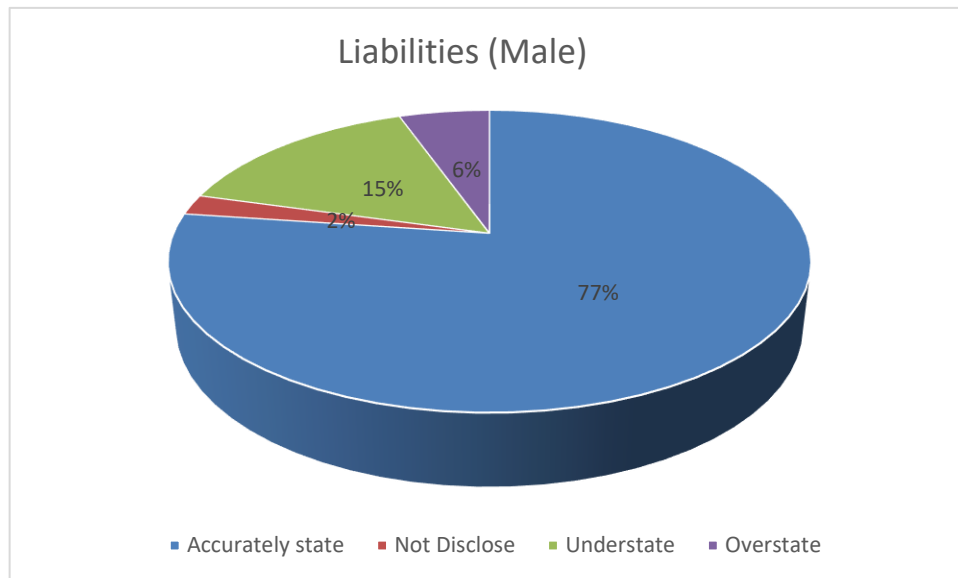


Figure 5.16*Liabilities Disclosure (Male)*

In terms of liabilities 80% of total respondents indicated that they would provide an accurate response regarding liabilities, broken down into 80% for females and 77% for males.

5.2.1.5 Dependants

Figure 5.17

Dependants Disclosure (Total Sample)

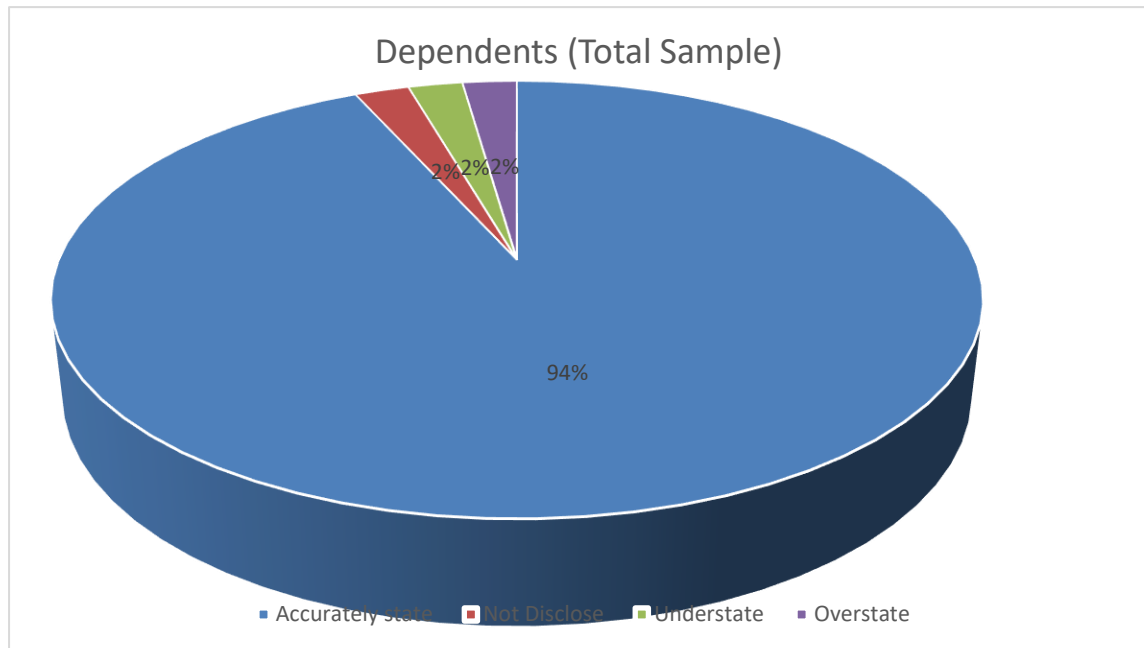


Figure 5.18

Dependants Disclosure (Female)

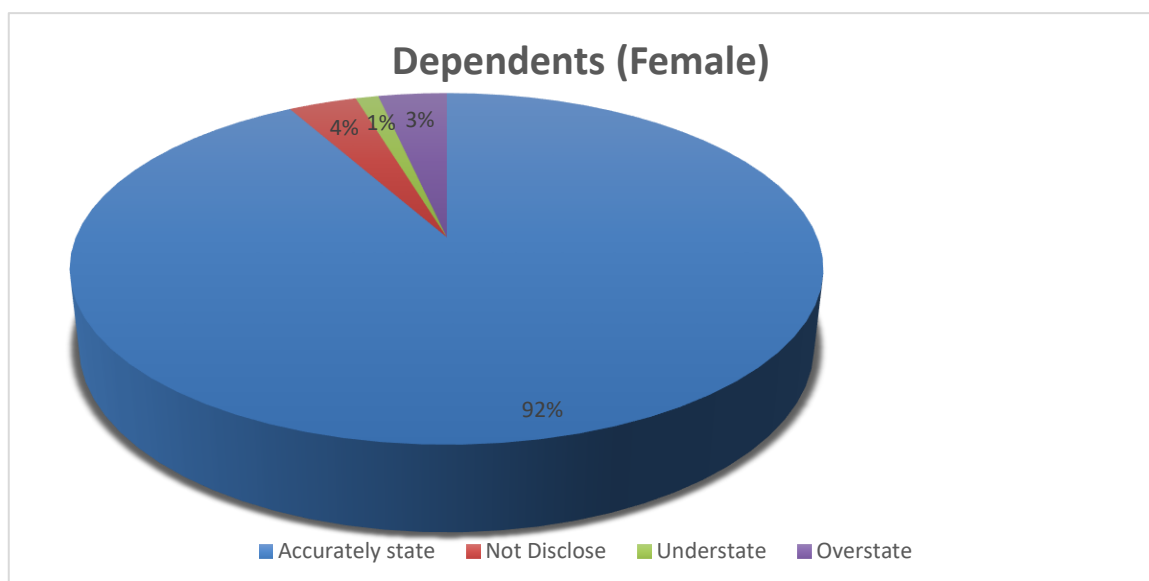
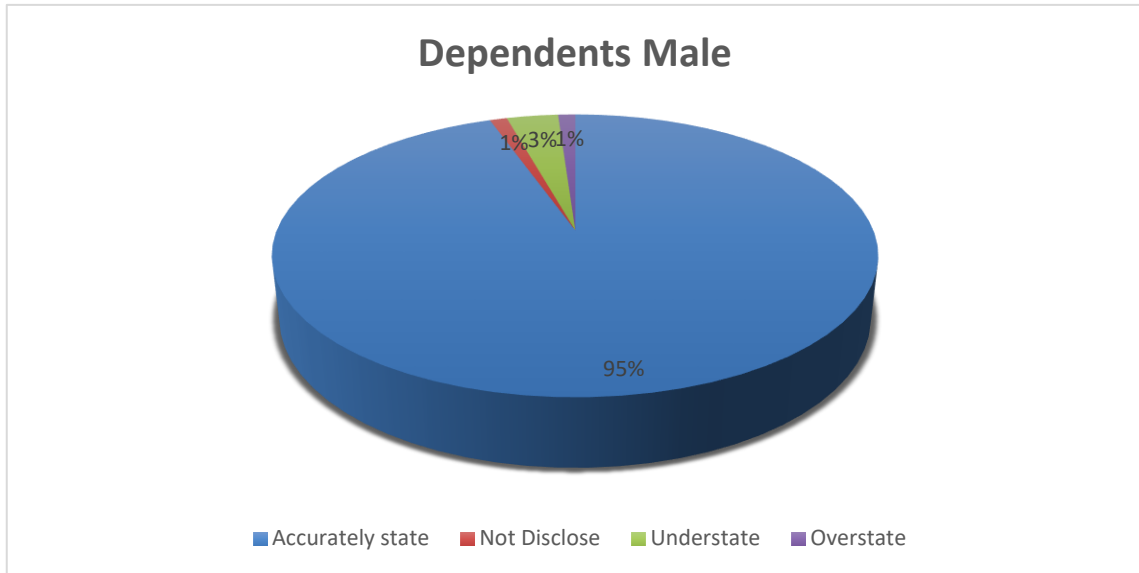


Figure 5.19*Dependants Disclosure (Male)*

In terms of disclosing number of dependants, 94% of total respondents indicated that they would provide an accurate response, broken down into 92% for female respondents and 95% for male respondents.

5.3 Results for Research Question Two (RQ2)

5.3.1 Overview

The second research question sought to investigate the perceived engagement preference of the respondent when given a binary choice between an authorised representative using open-ended questions or information shared with the retail bank over time.

A non-parametric chi-squared test was used to compare these, $X^2 = 9,910$, with $p = 0.001$, indicating that the result is statistically significant. The respondents indicated a perceived preference for engagements based on open-ended

questions over the option of using information shared with the bank over time as indicated in 5.3.1.1 below.

5.3.1.1 Engagement Preference

Figure 5.20

Engagement Preference (Total Sample)

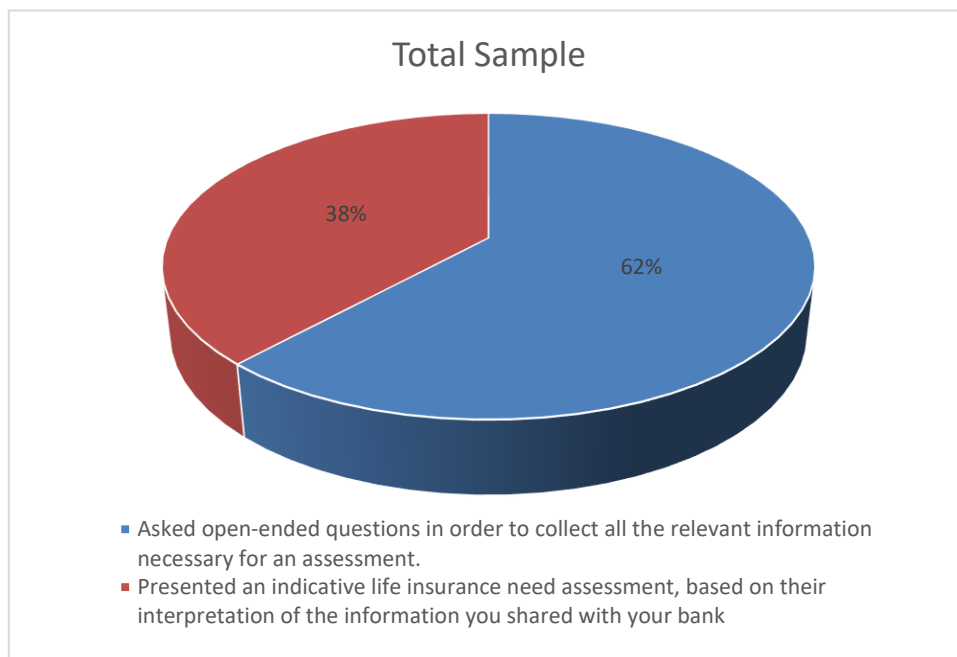
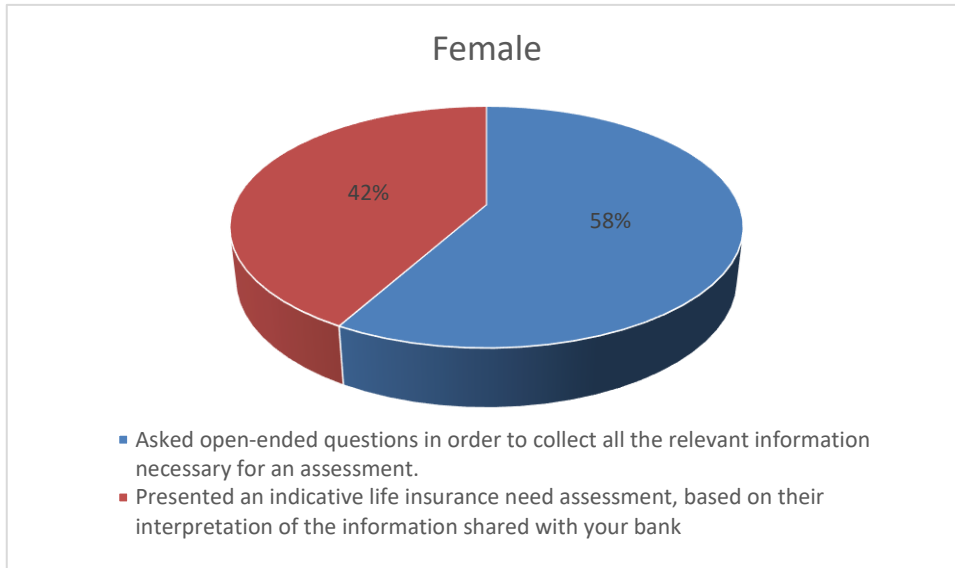
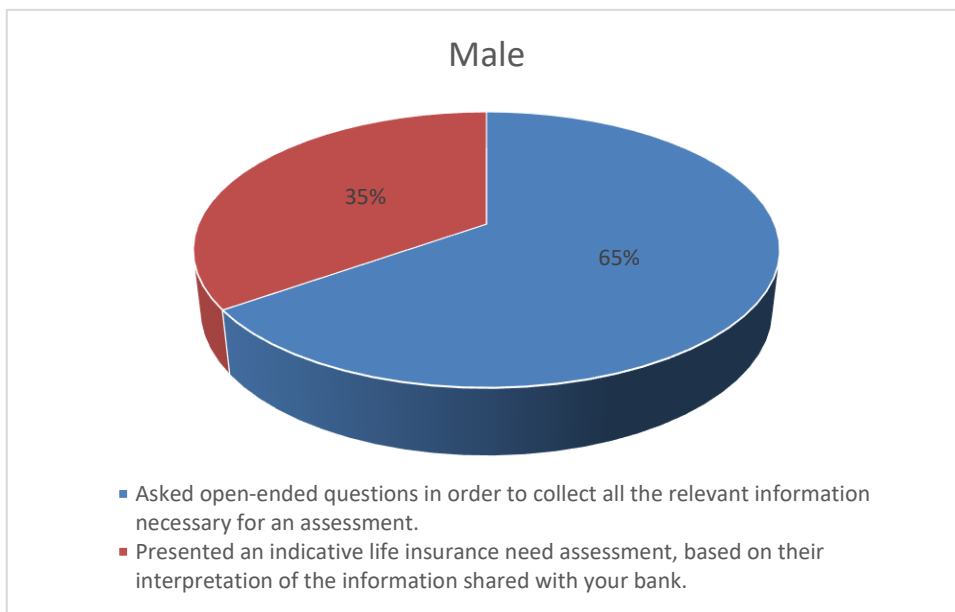


Figure 5.21***Engagement Preference (Female)*****Figure 5.22*****Engagement Preference (Male)***

These figures show that 62% of total respondents preferred an engagement based on open-ended questions, broken down into 58% of female respondents and increasing to 65% for male respondents.

6. Discussion of Results

6.1 Overview

The goal of the first research question was to investigate the likelihood of the respondents being accurate in their responses. The combined variable was utilised as the components are some of the factors that have a material impact on the life insurance needs calculation. The question sought to investigate the likelihood of the respondent providing an accurate answer. While it is worse if the customer answers no questions accurately, it should be noted that even answering one question inaccurately may result in an inaccurate calculation of the customer's needs.

6.2 RQ1: Likelihood of Accurate Responses

Although the majority of respondents indicated that they believed that they would provide accurate responses for most of the criteria evaluated, there were significant instances where respondents indicated that they would not provide accurate responses. Responses relating to expenses presented the greatest likelihood of inaccuracy for both men and women. Respondents appeared most likely to provide accurate responses to questions relating to number of dependants. The perceived accuracy of these responses may ultimately prove to be lower if a respondent fails to disclose non-standard dependants such as a parent, a nephew or an illegitimate child. The combined variable was utilised as the components represented factors that impact the life insurance needs calculation.

The literature review revealed that inaccuracies could be expected. There is a possibility that this inaccuracy may be exacerbated due to various elements discussed previously. These include, among others, heuristics where people provide a response they believe to be mostly correct, such as a gut feel;

motivational bias, where the person making the judgement prefers one outcome over another (for example, if I don't want to look bad, I will understate my expenses); anchoring, where a subject chooses a random or poorly selected foundation from which to provide a response (I estimate my monthly groceries based on the last amount I remember spending); and omission of relevant information, where a respondent only considers, for instance, formal grocery spending while excluding funds spent haphazardly from day to day. Recency bias also applies, where respondents base responses on their most recent experience, perhaps three days back and do not consider what may have happened at the start of the month or the 1st week of the month (Kahneman, 2011; Pitthan & De Witte, 2021; Tversky & Kahneman, 1974).

The feedback from the questionnaire is consistent with the research suggesting motivational and cognitive biases impact the accuracy of responses that respondents may provide when probed in this manner.

The outcomes of this finding may have broader implications: the use of inaccurate responses during assessment means that the wrong assumptions may be used in calculating the respondent's life insurance needs. This could result in them having their need over- or underestimated. The results of this research project suggest that there may be value for retail banks in further investigating how data analytics could be used to assist in enabling their representatives to arrive at a more accurate life insurance needs assessment.

It is worth noting that the accuracy level of responses was consistent regardless of gender, with the difference between male and female responses always being less than 5% apart.

6.3 RQ2: Preferred Engagement

From the survey, respondents indicated a preference for engagements based on open-ended questions rather than the use of information shared over time with their retail bank. This was consistent across both male and female respondents. Even though female respondents appeared more willing to engage using the information shared with the bank over time, the majority of both genders preferred an engagement based on open-ended questions.

The responses seem to suggest that the majority of people are uncomfortable with the idea of assumptions being made about their life prior to an engagement. This may be due to concerns regarding the intrusive nature of this method and possible embarrassment or concerns regarding the state of their current financial affairs.

It may be that the people in favour of the data driven assessment saw value in the convenience of someone being able to provide them with an idea of their insurance needs without having to sit through an engagement session with someone going through their balance sheet and monthly expenditure on a line-by-line basis.

There may be an opportunity to rearrange the engagement in a manner that alleviates some of the concerns that respondents may have with regard to the use of information shared over time with the retail bank. Perhaps the respondents would be more open to an engagement based on information shared over time if this could be limited to a component of the life insurance needs assessment, such as debt or estate planning as opposed to income replacement. Once this has been achieved and the customer has seen the value, the other components could be added. This is consistent with the two-stage game that Kahneman and Tversky undertook, during their prospect theory study, in which they demonstrated that changing the structure of questions might enable you to arrive at an intended outcome (Kahneman & Tversky, 1979).

7. Conclusion

7.1 Core Findings

The core findings of this research project, using a questionnaire distributed to South Africans through LinkedIn, are that there is a perceived likelihood of slightly, but significantly inaccurate responses to life insurance needs assessment questions. This will result in inaccurate outcomes if needs are based solely upon the responses of the person being assessed.

The responses to the questionnaire also showed that, when given a binary choice between engagement options, respondents preferred life insurance needs assessments based on open-ended questions as opposed to the utilisation of information shared with a retail bank over time.

The responses did not appear to vary in a material way based on gender.

7.2 Conclusion for RQ1: Likelihood of Accurate Responses

The results of this research project suggest that there may be value for retail banks in further investigating how data analytics could be used to assist in enabling their representatives to arrive at a more accurate life insurance needs assessment. Expenses appeared to present the greatest opportunity for provision of inaccurate information for both male and female respondents. It is important to note that various biases or misremembered information resulting in less accurate needs assessments may negatively impact customer outcomes.

7.3 Conclusion for RQ2: Preferred Approach

The majority of respondents (six in ten) were in favour of an engagement based on open-ended questions, which was calculated as significant. There may be opportunity for the information shared over time to be re-packaged in a way that makes it more palatable for the individual looking for an open-ended engagement.

In this instance the authorised representative might ask questions directed by the information shared by the customer.

7.4 Policy and Practical Recommendations

The retail bank could benefit from validating the information provided against available data given the possibility that the customer may over- or underrepresent or misremember income, expenses, assets, liabilities or dependants.

Broadly speaking, if the customer has debt, the advisor might communicate the benefits of life insurance in terms settling debt as opposed to simply presenting the customer with an estimated life insurance calculation. This might enable the representative to engage on the border of the binary choices presented in this paper.

The advisor could use the information that the customer has shared over time to formulate the relevant open-ended questions. For example, if a customer does not have property finance debt the advisor could rather engage with them on unsecured or vehicle finance debt when referencing the debt component of the life insurance needs assessment.

7.5 Limitations of the Research

The respondents to this survey via LinkedIn may not be representative of the South African demographic from a race or language perspective.

There are 12 official languages in South Africa with English being the home language of less than 20% of citizens. This figure may be higher for people who have a LinkedIn profile, but the sample may still not be representative.

Many South Africans may not have access to LinkedIn. People who make use of social media platforms may be more agreeable to data driven engagements as they have become used to sharing their information via digital media.

It is possible that members of the public who are resistant to engagement via digital media platforms and unsure of how they work may have a greater level of resistance.

7.6 Recommendations for Future Research

It may be worth investigating whether inaccurate responses may be exacerbated by various elements. For instance, the responses do not account for instances where respondents intend to provide an accurate response, but end up providing an inaccurate response as they do not know the correct response.

Future studies could also consider investigating why respondents prefer an engagement based on open-ended questions. If one were able to identify and address the reasons for this, there may be scope for more respondents to be convinced to agree to an engagement based on information they have shared with their retail bank over time.

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9. Appendices

Appendix A: Self-Administered Survey

Question 1: Are you over the age of 18 years old?

Option	Option
Yes	No

Question 2: Do you have a bank account with a South African Retail Bank?

Option	Option
Yes	No

Question 3: Is your gender?

Option	Option	Option	Option	Option
Female	Male	Non-binary	Transexual	Prefer not to say

Question 4: What religion are you affiliated with?

Option	Option	Option	Option	Option	Option	Option
Buddhist	Christian	Judaism	Hinduism	Muslim	Other	Prefer to not say

Question 5: Do you have a disability?

Yes	No
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Question 6: What is your racial classification?

Option	Option	Option	Option	Option	Option
Asian	Black African	Coloured	Indian	White	Prefer not to say

Question 7: Which of the ranges below best reflects your income level?

Option	Option	Option	Option	Option	Option
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0 to R237,100	R237,001 to R370,500	R370 501 to R512, 800	R512,801 to R673 000	R857 901 to R1,817,000	R1,817,001 +
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Question 8 – 12: When engaging a financial advisor, and they ask you about your personal affairs, please select your most likely course of action when probed about each of the following matters?

Question 8

Variable	Option 1	Option 2	Option 3	Option 4
Monthly Income	Understate	Overstate	Accurately state	Not disclose

Question 9

Variable	Option 1	Option 2	Option 3	Option 4
Expenses	Understate	Overstate	Accurately state	Not disclose

Question 10

Variable	Option 1	Option 2	Option 3	Option 4
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Assets	Understate	Overstate	Accurately state	Not disclose
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Question 11

Variable	Option 1	Option 2	Option 3	Option 4
Liabilities	Understate	Overstate	Accurately state	Not disclose

Question 12

Variable	Option 1	Option 2	Option 3	Option 4
Dependants	Understate	Overstate	Accurately state	Not disclose

Question 13: When discussing your financial affairs with your Financial Advisor do you experience feelings of?

Option	Option	Option	Option	Option
Anxiety	Suspicion	Calm	Relief	Excited

Question 14: Do you think that Life Insurance is a necessity?

Option	Option	Option	Option
Yes	No	Maybe	Sometimes

Question 15:

In the event that you consented to a life insurance need assessment, would you be more likely to engage with an authorised representative who:

- a) Asked open-ended questions in order to collect all the relevant information necessary for an assessment before outlining any potential needs?

Or

- b) Presented an indicative life insurance need assessment, based on their interpretation of the information you shared with the bank over time, even if it required you to provide additional information prior to finalisation?

Question 16: How would you feel about a bank representative who inferred that you have a life insurance need, and used your banking relationship to justify doing so:

Option	Option	Option
Defensive	Indifferent	Grateful

Question 17: If a Financial Advisor used information you shared with the bank in the past to position Life Insurance, would you find this:

Option	Option	Option	Option	Option
Unacceptable	Intrusive	Neutral	Assertive	Expected

Appendix B: Quantitative Analysis

T-Test Results

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Consolidated variable	178	4,0169	1,43592	,10763

One-Sample Test							
	Test Value = 0						
	t	df	Significance		Mean Difference	95% Confidence Interval of the Difference	
			One-Sided p	Two-Sided p		Lower	Upper
Consolidated variable	37,322	177	<,001	<,001	4,01685	3,8045	4,2293

One-Sample Effect Sizes					
		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Consolidated variable	Cohen's d	1,43592	2,797	2,470	3,123
	Hedges' correction	1,44204	2,786	2,460	3,109

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation.

Hedges' correction uses the sample standard deviation, plus a correction factor.

Chi - Square Test

In the event that you consented to a life insurance need assessment, would you be more likely to engage with an authorised representative who:			
	Observed N	Expected N	Residual
Asked open-ended questions in order to collect all the relevant information necessary for an assessment before outlining any potential needs?	110	89,0	21,0
Presented an indicative life insurance need assessment, based on their interpretation of the information you shared with the bank over time, even if it required you to provide additional information prior to finalisation?	68	89,0	-21,0
Total	178		

Test Statistics	
	In the event that you consented to a life insurance need assessment, would you be more likely to engage with an authorised representative who:
Chi-Square	9,910 ^a
df	1
Asymp. Sig.	,002
a. 0 cells (0,0%) have expected frequencies less than 5. The minimum expected cell frequency is 89,0.	

Appendix C: Frequency Statistics

Question 1

There were 183 responses in total, and all the respondents were over the age of 18 years. There was one response from a non-binary individual—these responses were excluded from further analysis to protect the privacy of the respondent.

Question 2

Do you have a bank account with a South African Retail Bank?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	4	2,2	2,2	2,2
	Yes	178	97,8	97,8	100,0
	Total	182	100,0	100,0	

Question 3

There were 86 male and 92 female responses. There was one response from a non-binary individual—these responses was excluded from further analysis to protect the privacy of the respondent.

Question 4

What religion are you affiliated with?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Christian	127	71,3	71,3	71,3
	Hinduism	15	8,4	8,4	79,8

	Indigenous African religion	3	1,7	1,7	81,5
	Judaism	2	1,1	1,1	82,6
	Muslim	14	7,9	7,9	90,4
	Other	12	6,7	6,7	97,2
	Prefer not to say	5	2,8	2,8	100,0
	Total	178	100,0	100,0	

Question 5

No responses were received from people with disabilities.

Question 6

What is your racial classification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Black African	78	43,8	43,8	43,8
	Coloured	24	13,5	13,5	57,3
	Indian	28	15,7	15,7	73,0
	Prefer not not say	2	1,1	1,1	74,2
	White	46	25,8	25,8	100,0
	Total	178	100,0	100,0	

Question 7

Which of the ranges below best reflects your income level?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 to R237,100	15	8,4	8,4	8,4
	R1,817,001 +	37	20,8	20,8	29,2
	R237,001 to R370,500	2	1,1	1,1	30,3
	R370 501 to R512,800	10	5,6	5,6	36,0
	R512,801 to R856 900	39	21,9	21,9	57,9
	R857 901 to R1,817,000	75	42,1	42,1	100,0
	Total	178	100,0	100,0	

Question 8 - 12

Summary						
		Monthly Income	Expenses	Assets	Liabilities	Dependants
N	Valid	178	178	178	178	178
	Missing	0	0	0	0	0

Female						
		Monthly Income	Expenses	Assets	Liabilities	Dependants
N	Valid	86	86	86	86	86
	Missing	0	0	0	0	0

Male						
		Monthly Income	Expenses	Assets	Liabilities	Dependants
N	Valid	92	92	92	92	92
	Missing	0	0	0	0	0

Monthly Income - Total		
	N	%
Accurately state	139	78,1%
Not disclose	9	5,1%
Overstate	8	4,5%
Understate	22	12,4%

Monthly Income - Female		
	N	%
Accurately state	68	79,1%
Not disclose	4	4,7%
Overstate	3	3,5%
Understate	11	12,8%

Monthly Income - Male		
	N	%
Accurately state	71	77,2%
Not disclose	5	5,4%
Overstate	5	5,4%
Understate	11	12,0%

Expenses – Summary		
	N	%
Accurately state	120	67,4%
Not disclose	4	2,2%
Overstate	14	7,9%
Understate	40	22,5%

Expenses - Female		
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	N	%
Accurately state	60	69,8%
Not disclose	1	1,2%
Overstate	7	8,1%
Understate	18	20,9%

Expenses - Male		
	N	%
Accurately state	60	65,2%
Not disclose	3	3,3%
Overstate	7	7,6%
Understate	22	23,9%

Assets – Summary		
	N	%
Accurately state	148	83,1%
Not disclose	3	1,7%
Overstate	9	5,1%
Understate	18	10,1%

Assets - Female		
	N	%
Accurately state	71	82,6%
Not disclose	1	1,2%
Overstate	5	5,8%
Understate	9	10,5%

Assets - Male		
	N	%
Accurately state	77	83,7%
Not disclose	2	2,2%
Overstate	4	4,3%
Understate	9	9,8%

Liabilities - Summary		
	N	%
Accurately state	142	79,8%
Not disclose	4	2,2%
Overstate	8	4,5%
Understate	24	13,5%

Liabilities - Female		
	N	%
Accurately state	71	82,6%
Not disclose	2	2,3%
Overstate	3	3,5%
Understate	10	11,6%

Liabilities - Male		
	N	%
Accurately state	71	77,2%
Not disclose	2	2,2%
Overstate	5	5,4%
Understate	14	15,2%

Dependants - Summary		
	N	%
Accurately state	166	93,3%
Not disclose	4	2,2%
Overstate	4	2,2%
Understate	4	2,2%

Dependants - Female		
	N	%
Accurately state	79	91,9%
Not disclose	3	3,5%

Overstate	3	3,5%
Understate	1	1,2%

Dependants - Male		
	N	%
Accurately state	87	94,6%
Not disclose	1	1,1%
Overstate	1	1,1%
Understate	3	3,3%

Question 13

How would you feel about a bank representative who inferred that you have a life insurance need, and used your banking relationship to justify doing so:					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Defensive	34	19,0	19,0	19,0
	Grateful	54	30,2	30,2	49,2
	Indifferent	91	50,8	50,8	100,0
	Total	179	100,0	100,0	

Question 14

If a Financial Advisor used information you shared with the bank in the past to position Life Insurance, would you find this:					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Assertive	23	12,8	12,8	12,8
	Expected	40	22,3	22,3	35,2

	Intrusive	47	26,3	26,3	61,5
	Neutral	50	27,9	27,9	89,4
	Unacceptable	19	10,6	10,6	100,0
	Total	179	100,0	100,0	

Question 15

In the event that you consented to a life insurance need assessment, would you be more likely to engage with an authorised representative who (Summary):		
	N	%
Asked open-ended questions in order to collect all the relevant information necessary for an assessment before outlining any potential needs?	110	61,8%
Presented an indicative life insurance need assessment, based on their interpretation of the information you shared with the bank over time, even if it required you to provide additional information prior to finalisation?	68	38,2%

In the event that you consented to a life insurance need assessment, would you be more likely to engage with an authorised representative who (Female):		
	N	%
Asked open-ended questions in order to collect all the relevant information necessary for an assessment before outlining any potential needs?	50	58,1%
Presented an indicative life insurance need assessment, based on their interpretation of the information you shared with the bank over time, even if it required you to provide additional information prior to finalisation?	36	41,9%

In the event that you consented to a life insurance need assessment, would you be more likely to engage with an authorised representative who (Male):		
	N	%
Asked open-ended questions in order to collect all the relevant information necessary for an assessment before outlining any potential needs?	60	65,2%

Presented an indicative life insurance need assessment, based on their interpretation of the information you shared with the bank over time, even if it required you to provide additional information prior to finalisation?	32	34,8%
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Question 16

How would you feel about a bank representative who inferred that you have a life insurance need, and used your banking relationship to justify doing so (Summary):		
	N	%
Defensive	34	19,1%
Grateful	54	30,3%
Indifferent	90	50,6%

How would you feel about a bank representative who inferred that you have a life insurance need, and used your banking relationship to justify doing so (Female):		
	N	%
Defensive	17	19,8%
Grateful	24	27,9%
Indifferent	45	52,3%

How would you feel about a bank representative who inferred that you have a life insurance need, and used your banking relationship to justify doing so (Male):		
	N	%
Defensive	17	18,5%
Grateful	30	32,6%
Indifferent	45	48,9%

Question 17

If a Financial Advisor used information you shared with the bank in the past to position Life Insurance, would you find this (Summary):		
	N	%
Assertive	23	12,9%
Expected	40	22,5%
Intrusive	46	25,8%
Neutral	50	28,1%
Unacceptable	19	10,7%

If a Financial Advisor used information you shared with the bank in the past to position Life Insurance, would you find this (Female):		
	N	%
Assertive	12	14,0%
Expected	17	19,8%
Intrusive	26	30,2%
Neutral	25	29,1%
Unacceptable	6	7,0%

If a Financial Advisor used information you shared with the bank in the past to position Life Insurance, would you find this:		
	N	%
Assertive	11	12,0%
Expected	23	25,0%
Intrusive	20	21,7%
Neutral	25	27,2%
Unacceptable	13	14,1%

Appendix D: Descriptive Statistics

Information collected from customers (Q8 -12)

Summary					
	N	Minimum	Maximum	Mean	Std. Deviation
Monthly Income	178	1	4	1,51	1,043
Expenses	178	1	4	1,85	1,280
Assets	178	1	4	1,42	,978
Liabilities	178	1	4	1,52	1,075
Dependants	178	1	4	1,13	,546
Information from customer	178	1,00	4,00	1,4876	,72124

Gender							
Is your gender?		Monthly Income	Expenses	Assets	Liabilities	Dependants	Information from customer
Female	Mean	1,50	1,80	1,44	1,44	1,14	1,4651
	N	86	86	86	86	86	86
	Std. Deviation	1,049	1,263	1,001	1,013	,512	,71517
Male	Mean	1,52	1,90	1,40	1,59	1,13	1,5087
	N	92	92	92	92	92	92
	Std. Deviation	1,043	1,301	,961	1,131	,578	,73014
Total	Mean	1,51	1,85	1,42	1,52	1,13	1,4876
	N	178	178	178	178	178	178
	Std. Deviation	1,043	1,280	,978	1,075	,546	,72124

Question 15

Summary					
	N	Minimum	Maximum	Mean	Std. Deviation
In the event that you consented to a life insurance need assessment, would you be more likely to engage with an authorised representative who:	178	1	2	1,38	,487
Valid N (listwise)	178				

Gender			
In the event that you consented to a life insurance need assessment, would you be more likely to engage with an authorised representative who:			
Is your gender?	Mean	N	Std. Deviation
Female	1,42	86	,496
Male	1,35	92	,479
Total	1,38	178	,487

Question 16

Summary					
	N	Minimum	Maximum	Mean	Std. Deviation
How would you feel about a bank representative who inferred that you have a life insurance need, and used your banking relationship to justify doing so:	178	1	3	2,31	,775
Valid N (listwise)	178				

Gender			
How would you feel about a bank representative who inferred that you have a life insurance need, and used your banking relationship to justify doing so:			
Is your gender?	Mean	N	Std. Deviation
Female	2,33	86	,789
Male	2,30	92	,767
Total	2,31	178	,775

Question 17

Summary					
	N	Minimum	Maximum	Mean	Std. Deviation
If a Financial Advisor used information you shared with the bank in the past to position Life Insurance, would you find this:	178	1	5	3,01	1,207
Valid N (listwise)	178				

Report			
If a Financial Advisor used information you shared with the bank in the past to position Life Insurance, would you find this:			
Is your gender?	Mean	N	Std. Deviation
Female	2,95	86	1,157
Male	3,07	92	1,256
Total	3,01	178	1,207

Gender Comparisons: Mann-Whitney U test

Ranks				
	Gender	N	Mean Rank	Sum of Ranks
Consolidated variable	Female	86	91,56	7874,00
	Male	92	87,58	8057,00
	Total	178		

Test Statistics ^a	
	Consolidated variable
Mann-Whitney U	3719,000

Wilcoxon W	7905,000
Z	-,635
Asymp. Sig. (2-tailed)	,525
a. Grouping Variable: Gender	

Income Comparisons: Spearman Correlation

Correlations				
			Range	Consolidated variable
Spearman's rho	Range	Correlation Coefficient	1,000	,082
		Sig. (2-tailed)	.	,278
		N	178	178
	Consolidated variable	Correlation Coefficient	,082	1,000
		Sig. (2-tailed)	,278	.
		N	178	178