The moderating effect of time-perspective on the intention-behaviour relationship

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ABSTRACT

Self-report measures of intentions are widely pursed in marketing research and are based on the premise that they are reliable proxies for actual ensuing behaviour. Although research supports this assumed relationship between intentions and behaviour, mounting empirical evidence suggests that the strength of this relationship is often modest at best. The inconsistency between what is *said* and what is *done* on the part of respondents results in a so called "intention-behaviour gap", which impinges upon marketers' ability to accurately explain and predict consumer behaviour. Gaining insight into factors which may potentially narrow this gap is of utmost importance to guard and/or enhance the value of marketing research. Despite offering considerable insight, the current state of the literature leaves as much as two-thirds of the discord unexplained. This study aimed to contribute to this stream of research by identifying a further variable which may offer additional explained variance; namely time-perspective. This novel psychological construct has been shown in the fields of psychology and behavioural economics to exert a profound influence on behaviour, particularly in so far as individuals failing to follow through on stated intentions. This study investigates whether time-perspective exerts a similar effect on consumer behaviour, particularly the extent to which such considerations enhance the predictive accuracy of self-reported intentions. The results of this study should assist marketers to arrive at more accurate measures of intentions, thereby improving the value of their research output.

Adopting and adapting Ajzen's (1991) Theory of Planned Behaviour as the theoretical paradigm, a hypothetical pension-preservation scenario was administered to a quota-controlled non-probability sample of working age and employed respondents via electronic survey. The longitudinal dataset was analysed using Partial-Least Squares Structural Equation Modelling whereupon it was found that time-perspective significantly moderated the relationship between intention and behaviour within the confines of retirement savings decisions. Therefore, this research suggests that the strength of the intention-behaviour relationship may be contingent upon the individual respondent's prevailing time-perspective. Future-orientated individuals were found to display intention-behaviour consistency more frequently than their present-orientated contemporaries. Accordingly, self-report measures offered by farsighted respondents can be assumed to be more accurate predictors of behaviour than those of more present-orientated respondents. The principle implication emanating from this research is that marketers should factor in time-perspective considerations when interpreting self-reported intentions measures as they potentially enhance predictive accuracy and thereby narrow the intention-behaviour gap.

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CHAPTER I
INTRODUCTION

1.1. INTRODUCTION

Marketing practitioners and researchers have for long pursed self-report measures of attitudes and intentions based on the assumption that they are valid and reliable proxies for actual consumer behaviour. However, a recurring observation in the literature of the social sciences is that actual behaviour does not necessarily flow coherently from attitudes nor from behavioural intentions (LaPiere, 1934; Rabinovich, Morton, & Postmes, 2010; Wicker, 1969). The contradiction between an individual's stated intentions and their actual subsequent behaviour creates an "intention-behaviour gap" (Sniehotta, Scholz, & Schwarzer, 2005). This "word-deed" discrepancy potentially diminishes the value of marketing research as it reduces marketers' capacity to accurately explain and predict consumer behaviour. Accordingly, gaining insight into the factors which may potentially narrow this intention-behaviour gap is of utmost importance as such findings may go some way to guarding and/or enhancing the worth of marketing research (Bagozzi, 1993).

Intention-behaviour discord is a pervasive phenomenon observed across a number of future orientated behaviours (i.e.: those behaviours in which the costs and benefits of behaviour are separated in time). The discord between stated savings intentions and actual savings behaviour is one such example of paradoxical consumer behaviour. Indeed unrealised savings intentions are so ubiquitous that academics often tout them as the epitome of future-orientated behaviour that displays high levels of intention-behaviour inconsistency (Thaler & Shefrin, 1981). Between an intention to financially secure one's retirement and the cogent behaviour of saving towards it, many individuals act paradoxically by engaging in immediately gratifying consumption. An intention-behaviour gap in the provision for retirement certainly exists and this discord is the explicit context within which this research is undertaken.

Preceding literature has explored numerous avenues that may potentially narrow the intention-behaviour gap. Such research has for example investigated methodological considerations that may improve the internal and external validity of these self-report measures. A separate stream of research has attempted to identify and support variables that potentially moderate the intention-behaviour relationship. Although offering significant insight, the current state of the literature leaves some two thirds of the variance in intention-

behaviour consistency unaccounted for (Conner & Godin, 2007; Conner, Sheeran, Norman, & Armitage, 2000). A contemporary stream of research has offered the psychological construct of time-perspective as a potentially significant moderator of the intention-behaviour relationship. Most saliently, studies within the fields of psychology and behavioural economics have demonstrated that this novel construct exerts a profound influence on a myriad of behaviours (see for example Zimbardo & Boyd, 1999). Time-perspective can be defined as a temporal bias induced by an overemphasis on either past, present, or future considerations in decision making (Zimbardo & Boyd, 1999). This overemphasis is argued to lead to individual predispositions to act in accordance with either long- or short-term contingencies in predictable ways. Therefore incorporation of time-perspective considerations into models of consumer behaviour may potentially enhance their predictive accuracy. This research aimed to expand upon this fledgling field of study by explicitly positing and testing for such a moderating effect of time-perspective on the intention-behaviour relationship within the context of retirement savings decisions. Insights gained from this research can, within reason, then be expanded to other instances of intention-behaviour discord.

Against this backdrop, the purpose of this study will be to answer the following research question: What is the influence of time-perspective on consumer behaviour and can it improve the predicative accuracy of self-reported intentions? More specifically this research will be principally guided by following two primary objectives:

(1) To determine if Time-perspective has a direct effect on individual pension-preservation decisions.
(2) To determine if Time-perspective has a moderating effect on the relationship between intention and behaviour within the context of pension preservation decisions.

This research potentially contributes to the literature in several ways. First, the primary value of this research is its potential provision of insights that may narrow the intention-behaviour gap, which in turn may improve the explanatory and predicative power of marketing research. Second, this research may be of potential value as it provides empirical support for the incorporation into marketing of novel psychological constructs (such as time-perspective) which have their origins in and are better understood in the allied social sciences of psychology and behavioural economics. Lastly, this research may be of value to the retirement savings literature (and the industry more broadly) as it provides insights that may potentially assist individual retirees achieve their retirement savings aspirations. Additionally,

this research may provide retirement savings organisations with salient considerations to identify those fund members who's continued saving may be under threat.

This chapter forms the foundation of the study to follow and is structured in the following way. Firstly, this chapter sets forth and discusses the backdrop against which this research effort is undertaken. The research question guiding this study is then formally stated along with its associated primary and secondary objectives. Following this, a brief summary of the methodology is offered. The penultimate section of this review then charts the potential importance of this study to academia and industry. In closing, this introductory chapter then outlines the structure of the dissertation to follow.

1.2. BACKGROUND

The following section introduces the theory underlying this study. The intention-behaviour gap within marketing research is first delineated. Hereafter, the discord is discussed within the narrower context on retirement savings decisions. Following this, the Theory of Planned Behaviour (Ajzen, 1991) is identified as the theoretical lens through which this research approached the intention-behaviour gap. This section concludes by discussing prior research approaches to addressing the intention-behaviour gap, with specific focus given to the potential moderating effect of the novel time-perspective construct.

1.2.1. Intention-Behaviour Gap in Marketing Research

The American Marketing Association's most contemporary definition of marketing research describes it as the set of processes and activities that links the organisation to the customer through information (Malhotra, 2010). This information in turn is then theorised to be a crucial input into managerial decision making as well as to be the basis upon which marketers explain and predict consumer behaviour (Aaker, Kumar, & Day, 2008; Malhotra, 2010; Shiu, Hair, Bush, & Ortinau, 2009). Therefore it is clear that the generation of accurate information is a central task of marketing research (Kotler, Tybout, & Calder, 2010). Indeed it may be argued that much of the value of marketing research is inextricably linked to the explanatory and predictive accuracy of the information is produces.

Marketing researchers generally infer such information from data which is amassed through the measurement of attitudes and intentions in quantitative or qualitative research. The former is by far the more popular approach and is most often in the form of survey research (Rindfleisch, Malter, Ganesan, & Moorman, 2008). Marketing researchers assume these easy to collect self-report measures to be valid and reliable proxies for actual consumer

behaviour. Such an assumption is problematic when one considers a stream of research that recurrently shows the relationship between such proxies and actual behaviour to be far from perfect. For example, researchers have for long noted that behaviour does not necessarily flow coherently from self-reported attitudes (LaPiere, 1934; Rabinovich et al., 2010; Wicker, 1969) nor from self-reported intentions (Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Armitage & Conner, 2001; Sheppard, Hartwick, & Warshaw, 1988). This latter discord between stated intentions and actual behaviour will be the explicit focus of this research.

In the words of Carrington, Neville, and Whitwell (2010), a "word-deed gap" certainly exists and its size is not negligible. Indeed, authors examining the intention-behaviour relationship are in consensus that the relationship is often modest at best (Fennis, Adriaanse, Stroebe, & Pol, 2011; V. Morwitz, 1997; Van Ittersum, 2012). Demonstrating the irregularity with which intentions predict behaviour, correlations as weak as r=0.03 for cancer screening (Montano & Taplin, 1991) to as strong as r=0.84 for drug use (Conner & McMillan, 1999) have been found in preceding research. In light of this, assumed researcher confidence in survey measures may be misplaced to the detriment of marketing research. Accordingly, gaining insight into the factors which drive the intention-behaviour gap is of utmost importance so as to guard and enhance the value of marketing research (Bagozzi, 1993).

It is clear from the above discussion that intention-behaviour inconsistency is a pervasive phenomenon that is observed across number future-orientated behaviours (i.e.: those behaviours wherein the costs and benefits of an action are separated by temporal distance). The discord between stated savings intentions and actual savings behaviour is one such example of paradoxical consumer behaviour. Indeed, unrealised savings intentions are so ubiquitous that academics often tout it as the epitome of future-orientated behaviour that displays high levels of intention-behaviour inconsistency (Thaler & Shefrin, 1981). Given that savings is the archetype of such time-inconsistent behaviour, this research will address the intention-behaviour gap within such a savings context. More specifically this research will examine the oft observed discord between retirement savings intentions and actual retirement savings behaviour.

1.2.2. Intention-Behaviour Gap in Retirement Savings Decisions

The carefree and slow-paced serenity of a well-funded retirement is a journey's end many individuals aspire to achieve. The lure of ultimately taking up comfort in the fruits of one's working life is motivation enough to forego the many temptations of immediate gratifying consumption in order to financially provide for those idyllic sunset years. Unfortunately for many individuals thou, this aspiration often turns out to be a dream unfulfilled. When individuals succumb to the temptation of spending on the impulsive pleasures of the now and worry about retirement later, they might not save enough (Benartzi & Thaler, 2007). Retirement, for those that fail to provide for it, is often associated with a sudden decrease in quality of life and a precarious and worrisome financial solvency (Hershfield et al., 2011; Jacobs-Lawson & Hershey, 2005).

Cross-sectional and longitudinal retirement savings statistics are signifying that failure on the part of individuals to save for retirement is high and progressively worsening. For example, Munnel, Webb, and Goloub (2009) found that more than half of all American households will fail to reach their aspirant retirement goals. Glass and Kilpatrick (1998) similarly found that most individuals are saving at a rate just one-third of what is required to fund their later years. Less than adequate savings rates do not appear to be confined to the first world economies however. A failure to sufficiently provide for retirement seems to be even more pounced in sub-Saharan Africa, and more pertinently in South Africa. Indeed, sub-Saharan Africa saves significantly less of gross national disposable income (GNDI) than any other region in the world (Loayza, Schmidt-Hebbel, & Servén, 2000). Furthermore, South Africa's gross national saving rate declined by half over the preceding three decades and it is currently estimated that South Africans save only a mere 15.4% of GDP (World Bank, 2011). Additionally, a recent survey by Old Mutual (2011) found that as little as 54% of South Africans who were ten years or less away from retirement were actually saving for that retirement. The same survey also indicated that some 58% of respondents expected to have to work for pay after they reached retirement, an expectation based on financial necessity rather than volitional choice (Old Mutual, 2011). Although slightly improved, these inadequate saves rates have continued to be observed in more recent surveys (Old Mutual, 2013).

A paradox emerges however when one juxtaposes measured attitudes and intentions regarding retirement provision against these aforementioned low savings rates. The same surveys frequently report both positive attitudes towards and relatively optimistic retirement savings intentions (Old Mutual, 2011, 2013). It appears that between an intention to secure

one's retirement and the cogent behaviour of saving towards it, many individuals act paradoxically. In spite of aspirations and intentions to the contrary, many individuals fail to save what they need for retirement. An intention-behaviour gap in the provision for retirement certainly exists and this discord will be the context of this research effort going forward. General retirement savings decisions however, such as what percentage of monthly income to save, are often made once and rarely revisited (Thaler & Shefrin, 1981). In light of this, this research will rather focus upon a much more frequently faced retirement savings decision; namely what to do with accumulated retirement savings at the point that employment with an organisation is concluded be it by retrenchment or termination. These are so called *pension preservation* decisions and will be the specific context within which this research approaches the intention-behaviour gap. Insights gained from this narrow context may, within reason and where appropriate, be extended to other instances of intention-behaviour inconsistency.

The explanation of retirement savings behaviour in all its complexity (and general consumer behaviour for that matter) is not a simple task when one considers the multitude of factors theorised to influence it. Therefore, a theoretical paradigm is required to more clearly understand the constituent roles of the various antecedents and influencers of behaviour. The Theory of Planned Behaviour (TPB) (Ajzen,1985, 1991, 2011) is one such a framework and one which has emerged as the most popular social psychology model of human behaviour (Ajzen, 2011).

1.2.3. Theoretical Framework: The Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (see Figure 1.1.) is suggested to be suitable for dealing with the complexities of human behaviour and is designed to be predictive of behaviour under specific contexts (Ajzen, 1991). The TPB was first discussed in 1985 and is an extension of the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980). It is distinguished from its predecessor by the inclusion of perceived behavioural control as an antecedent of both intention and of behaviour. The TPB has received considerable academic support which has substantiated its predictive validity across numerous domains (Ajzen, 2011). Of importance to this

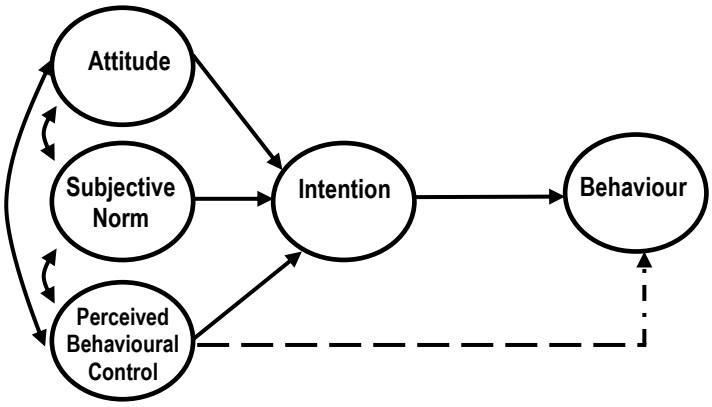

Figure 1. 1. The Theory of Planned Behaviour (Ajzen, 1991)

research effort, the TPB has been used in several seminal studies investigating the intention-behaviour gap (Albarracin et al., 2001; Conner et al., 2000; Fennis et al., 2011; Sheeran, 2011; Sniehotta et al., 2005).

The TPB suggests that the best way to predict an individual's ensuing behaviour is to examine how that individual plans to behave – that is by probing their behavioural intent (Foltz, Schwager, & Anderson, 2008). The notion that self-reported intentions are related to behaviour has found considerable support in the literature of the social sciences (Albarracin et al., 2001; Conner & Sparks, 2005). Indeed, Godin & Kok (1996) found that intentions accounted for some 34% of the variance in behaviour across 35 reviewed applications of the TPB. Similarly, Sheeran et al. (1999) showed that intentions accounted for approximately 40% of the variance in behaviour. The astute reader would note however that intentions leave approximately two thirds of the variance in behaviour unaccounted for. Armitage and Conner (2001) refer to this chasm as quantitative evidence of an intention-behaviour gap. The three antecedents of intention posited by the TPB are namely attitudes, subjective norms, and perceived behavioural control. The curved lines adjoining these three antecedents of intention in Figure 1.1 above suggests that there is often interaction and feedback between the constructs. Each of the respective antecedents of intention is now discussed in turn. Hereafter, a brief discussion regarding methodological and respondent-level considerations which potentially may narrow the intention behaviour gap is forwarded.

1.2.3.1. Antecedents of Intention

Attitudes are defined as a favourable or unfavourable appraisals of the target behaviour (Ajzen, 2011). Attitudes are theorised by the TPB to flow out of an individual's behavioural beliefs and the positive or negative valence associated with the likely consequence of that behaviour. Behavioural beliefs can be understood as an individual's subjective estimation as to the probability that a particular behaviour will lead to a particular outcome. For example, an individual may believe (their subjective probability) that contribution to a monthly retirement savings scheme (the behaviour) will improve their financial security in retirement (a positive outcome). Given the positive valance associated with the behavioural belief, one may infer that the individual will harbour a positive attitude towards retirement savings which in turn may lead to an intention to save for retirement. Supporting this hypothesised relationship is research by Shim, Xiao, Barber, and Lyons (2009) who showed that young people's attitudes toward retirement savings was significantly related to their retirement savings intentions.

Social Norms (also known as subjective norms) is defined within the TPB as the factor of perceived social pressure to perform or not the particular behaviour in question (Ajzen, 1991). Foltz et al. (2008) suggests that the construct is analogous to peer-pressure. Social pressure has roots in an individual's perceived normative beliefs which can be understood as the individual's subjective estimation that a given referent individual or group (such as friends, family, society etc.) would approve or disapprove of the behaviour. The individual's motivation to comply with referents' prevailing norms will determine the influence of subjective norms on their intent to perform the particular behaviour (Ajzen, 2011). For example, if a savings culture is not espoused by the society surrounding an individual, and the individual wishes to adhere to the norms of that society, their intention to save for retirement may be accordingly diminished.

Perceived Behavioural Control (PBC) is the final antecedent of intention posited by the TPB and captures the notion that individual perceptions of volitional control (more so than actual control) is a prerequisite of intention. An individual's perceived behavioural control has roots in their control beliefs, which are the subjective estimations as to the ease or difficulty with which a particular behaviour can be performed. Control beliefs themselves are determined by the availability of requisite resources (such as time, money, skills, and/or the cooperation of others). Given that some behaviour may be relatively more or less difficult to perform, the influence of perceived behavioural control can and does vary across behaviours. For example, the observed income inequality in South Africa and associated poverty for many may inhibit engagement with financial intermediaries as the cost of doing so may be prohibitive. Therefore, due to a lack of income, individuals may have a lower intention to save for retirement as doing so may simply be beyond their financial means.

Despite its wide spread use and empirical support, the TPB still leaves much of the variance in intention-behaviour consistency unaccounted for. Indeed, it was noted above that the intention construct explains only a mere +/-40% of the variance in behaviour (Conner & Sparks, 2005; Godin & Kok, 1996; Sheeran et al., 1999). Several scholars from disparate academic fields such as psychology and behavioural economics have attempted to identify variables and other considerations that may potentially narrow the intention-behaviour gap. Failure to incorporate such insights from the allied social sciences was noted by Hall and Fong (2007) to devalue existing socio-cognitive models of human behaviour such as the TPB. Preceding research into factors that potentially elucidate the intention-behaviour gap is now summarised in the next section of this chapter.

1.2.3.2. Addressing the Intention-Behaviour Gap

Research into the factors that may enhance the predictive accuracy of self-reported measures were argued above to be of both theoretical and practical importance. Chandon, Morowtiz and Reinartz (2005) note that such efforts must focus on both improving the external and internal validity of intention measures. Preceding studies that have attempted to address the intention-behaviour gap can largely be separated into two types. Firstly, prior research has attempted to identify salient methodological considerations that may explain and potentially narrow the intention-behaviour gap. Second, research efforts have attempted to identify several respondent-level constructs which may potentially moderate the relationship between intention and behaviour. These two discreet streams of research are now briefly discussed in turn.

At the methodological level, a multifaceted stream of research has examined how the sheer act of measurement may bias intention measures and thereby attenuate the intention-behaviour relationship. Accordingly, several authors have argued that prudent marketers should take cognisance of and account for the possible biasing effects of intention measurement. For example, Self-Generated Validity Theory (Feldman & Lynch, 1988) posits that the act of measurement may create new and/or make manifest dormant cognitions in the mind of consumers which may later exert disproportionate influence over ensuing behaviour. A second such methodological consideration is that which is articulated in Common Method Variance (Buckley, Cote, & Comstock, 1990) which posits that the common use of single-scale measures taken at a single point in time may result in measurement error. Such biased measures then result in spurious covariance among constructs thereby obscuring the true magnitude of the relationship between intention and behaviour. Although offering significant insight into the drivers of intention-behaviour inconsistency, one prominent author notes that attributing more than 60% of the variance in intention-behaviour consistency to measurement error alone is implausible (Sheeran et al., 1999). Accordingly, investigators have attempted to identify certain individual difference variables that may further illuminate the intention-behaviour gap.

At the respondent-level, examining the potential moderating effect of individual dispositional tendencies may further elucidate the intention-behaviour gap. Numerous such potential moderators of the intention-behaviour gap have been examined in preceding literature and include confidence (Pieters & Verplanken, 1995), intention uncertainty (Chandrashekaran, McNeilly, Russ, & Marinova, 2000), conscientiousness (Conner, Rodgers, & Murray, 2007), purchase involvement (Morwitz, 1997), amount of planning (Gollwitzer, 1999) and

behavioural control and willpower (Fitch & Ravlin, 2005). These previously established moderators of the intention-behaviour gap can be distilled into four summative types namely; past-behaviour, the stability with which an intention is held, self-regulatory capacity, and planning and intention implementation. Each of these groups of moderators is thoroughly discussed in the forthcoming theory chapters (see Section 2.5).

A fledgling stream of respondent-level research has offered the novel psychological construct of time-perspective as a potentially fruitful individual-difference variable ripe for investigation to explain additional variance (Conner et al., 2000; Rabinovich et al., 2010; Van Ittersum, 2012). This research sets out to expand upon this formative research by positing and testing for a potential moderating effect of time-perspective on the intention-behaviour relationship within a retirement savings context. Explicit justification for this hypothesis is offered in the third chapter of this dissertation. A brief introduction to the time-perspective construct is however offered in the forthcoming section.

1.2.4. Time-Perspective

Time-perspective can be defined as a temporal bias induced by a chronic overemphasis of one particular temporal-orientation (past, present, or future) in decision making which predisposes individuals to act in accordance with either short- or long-term rewards in predictable ways (Zimbardo & Boyd, 1999). Although an application to marketing would be novel, time-perspective is by no means a new construct within the allied social sciences and has been examined under different guises in fields of economics and psychology for over one hundred years. For example, the early economic theorist N.W. Senior (1836) alluded to the concept in his seminal work *An Outline of the Science of Political Economy* by noting that:

> *"…to abstain from the enjoyment that is in our power, or to seek distant rather than immediate results are among the most painful exertions of the human will"*
> *(Senior, 1836:60)*

This eloquent phrase captures the very essence of the battle between self-restraint on the one hand and desire on the other that is so central to future-orientated behaviours such as retirement savings. Later, Rae and Mixter (1905) spoke to the role of time-perspective in human behaviour by noting that individuals lacked the ability to "effectively accumulate" for the future as they, in the words of Eugen von Böhm-Bawerk (1959), suffered from a systematic tendency to underestimate future wants. Many of these economic insights were

later encapsulated into Paul Samuelson's (1937) discounted utility model which would become entrenched as the dominant economic framework for inter-temporal choice (Frederick, Loewenstein, & O'donoghue, 2002). This theory of "temporal discounting" is widely used to explain the time-inconsistent behaviour of individuals choosing smaller sooner rewards over larger later rewards (Teuscher & Mitchell, 2011).

Whilst acknowledging its shared origins and similarities with the economic theory of temporal-discounting, this research will adopt a more psychological interpretation of the time-perspective construct. In parallel with the work of the early economic theorists discussed above, time-perspective has similarly been discussed by psychologists for over a century. One of the founding fathers of psychology, William James (1890), deemed time so central to human behaviour that he devoted an entire chapter to it in this monumental text *The Principles of Psychology.* Later, the renowned psychologists Kurt Lewin (1942) and Sigmund Freud (1911) would too dedicate significant research effort to understanding the effects of time on human behaviour. It is the seminal work of Zimbardo and Boyd (1999) however which has guided much contemporary time-perspective research. This research formalised much of the preceding literature and succinctly articulated how predictable cognitive biases manifest from an individual's overemphasis of one particular time-perspective (past, present or future) in decision making. Indeed, these authors professed that the time-perspective construct is one of the most powerful influencers on human behaviour yet discussed in the field of psychology (Zimbardo & Boyd, 1999). Later scholars would reinforce this observation and have similarly noted that time-perspective exerts a profound influence over human behaviour (Rabinovich et al., 2010).

Time-perspective has been acknowledged to influence a wide range of addictive and non-addictive health behaviours such as drug and alcohol abuse, fruit and vegetable consumption, regular physical activity, and propensity to engage in risky sexual behaviour (Beenstock, Adams, & White, 2011). Research too has explored the role of time-perspective in the self-regulatory failure associated with pathological gambling (Hoch & Loewenstein, 1991). Additionally, time-perspective has been shown to be associated with personality and also to predispose individuals to certain positive or negative mood states. Goldberg and Maslach (1996) for instance found time-perspective to be correlated with the long established psychological constructs captured by the Big Five Personality Questionnaire. Several authors have noted that a chronic focus on one particular time-orientation (particularly a preoccupation with the past) can lead to depression, anxiety, general unhappiness, low self-esteem, and even aggression (Lyubomirsky & Nolen-Hoeksema,

1995; Zimbardo & Boyd, 1999; Zimbardo, Keough, & Boyd, 1997). Studies into the effects of time-perspective on behaviour have recently expanded beyond this domain of health and personality to include other areas of human behaviour, including consumer behaviour.

1.2.4.1. Effect of Time-Perspective on Consumer Behaviour

The predictable cognitive biases associated with time-perspective have been shown in literature to influence individual purchase decisions. Foxall (2010) perceives time-perspective as a near universal tendency in consumer behaviour, perhaps even a sufficient basis from which explain consumption across the continuum from impulsive to routine purchases. For example, consumers who overemphasise a past-orientation in their decision making have been shown to demonstrate a preference for products and services that remind them of their past (Holbrook, 1993). Additionally such past-orientated consumers have been shown to consciously avoid new or unfamiliar stimuli, to be less sensation seeking, less spontaneous, and ultimately to be less impulsive in their consumption decisions (Karande & Merchant, 2012). More present-orientated individuals on the other hand have been shown to be more imprudent in their consumption decisions, to be more sensation-seeking and to be keener on immediately gratifying consumption (Karande & Merchant, 2012). In contrast, future-orientated consumers (those with a temporal emphasis on the long-term repercussions of present behaviour) have been shown to be less prone to sensation-seeking behaviour and to be more farsighted in consumption decisions (Lennings & Burns, 1998; Raju, 1980). In conclusion, Karande and Merchant (2012) declare that a substantial proportion of the variance in retail shopper behaviour can be explained by time-perspective. There is mounting evidence too that time-perspective is likely to have a significant influence on individual savings behaviour (Jacobs-Lawson & Hershey, 2005; Rabinovich & Webley, 2007).

1.2.4.2. The Effect of Time-Perspective on Retirement Savings Behaviour

The application of time-perspective considerations in the analysis of financial decision making clearly has precedence in the literature. For instance, it has been shown that time-perspective is positively associated with self-reported preparedness for retirement (Hershey & Mowen, 2000; Howlett, Kees, & Kemp, 2008). A further study by Hershfeild et al. (2011) additionally highlighted the role of time-perspective in savings behaviour by demonstrating that decisions to save can be influenced by exposing individuals to age-progressed renderings of their own likeness, which was assumed to manipulate individual time-perspective towards future considerations. This study showed that influencing individual time-perspective in this way lead respondents to allocate more than twice as much money

towards their retirement in a hypothetical scenario. In conclusion to this study the researchers posited the self-continuity hypothesis which theorised that those individuals who cannot envisage their future selves (perhaps due to a failure of imagination) are less likely to save for their future (Hershfield et al., 2011).

The above discussion has provided strong evidence that an individual's time-perspective exerts a significant direct effect on their behaviour across a number of domains. Van Ittersum (2012) suggests then that understanding people's time-perspective may help identify those individuals who are relatively more or less prone to the biasing effects of temporal distance, and thus the construct may be particularly useful in the prediction of behaviour. Echoing this, Frederick et al. (2002) suggests that the incorporation of psychological variables such as time-perspective will help to better understand and explain the inter-temporal choices we observe in the real world. It is the contention of this research that time-perspective exerts a similarly considerable influence over individual pension-preservation decisions. Shim et al. (2012) supports this hypothesis by noting that financial decision making clearly requires a distant planning horizon. In addition to this direct effect of time-perspective, this research further aims to posit a moderating effect of time-perspective on the intention-behaviour discrepancy often observed in pension preservation decisions. This instance of intention-behaviour discord was previously highlighted to be an exemplar of future-orientated behaviour that displays high levels of intention-behaviour inconsistency (Thaler & Shefrin, 1981).

1.2.4.3. The Moderating Effect of Time-Perspective on the Intention-Behaviour Gap

The influence of time-perspective on the attitude-behaviour relationship was first examined by Rabinovich et al. (2010) who found empirical support for its moderating effect. Van Ittersum (2012) expanded upon this work by similarly hypothesising time-perspective's moderating effect on the intention-behaviour relationship. At the time of writing, this seminal work was the only such published article. This research examined the discord between intention to adopt GPS cell-phone technology and subsequent actual purchase behaviour. The results of this research showed that intentions alone accurately predicted an average of 60.2% of subsequent purchase behaviour across the entire sample. When considering only the subset of respondents classified as future-orientated however, intentions accurately predicted 84.2% of subsequent purchasing. Van Ittersum (2012) thus provided the first empirical evidence that accounting for time-perspective significantly improves the predictive accuracy of self-reported intentions. Explanation as to the mechanisms theorised to underlay this phenomena is deferred to the third chapter of this dissertation. Van Ittersum (2012)

however closed with the suggestion that time-perspective is a critical and often overlooked individual difference variable that warrants further attention in endeavours to explain the intention-behaviour gap. This research aims to heed to this call, and this seminal work will accordingly form the foundation upon which this research is built.

Following from this, this research effort now aims to explicitly test for a possible moderating effect on time-perspective on the "word-deed gap" observed in pension preservation decisions. Supporting evidence for this hypothesised moderating effect is forwarded in the third chapter of this dissertation but is summarised here. Evidence is structured by relating the time-perspective construct to and highlighting its empirical linkages to three established respondent-level moderators of the intention-behaviour relationship; namely temporal stability of intentions, self-regulatory capacity, and planning and intention implementation. In essence this research will propose that time-perspective may in actual fact underlay and/or be an antecedent of many of the explanations of the intention-behaviour discord offered in the preceding research. Such a suggestion is reminiscent of that of Zimbardo and Boyd (1999) who likewise posit that time-perspective may be the foundation upon which a diverse array of psychological constructs are erected. Such a contribution to the literature, if supported, will potentially improve the predictive accuracy self-report measures and thereby guard and/or enhance the value of marketing research. The primary and secondary objectives of this research are now presented in the forthcoming section.

1.3. PROBLEM STATEMENT AND RESEARCH OBJECTIVES

As noted in the above background to this study, time-perspective literature asserts that the construct may exert significant direct and/or moderating effects on individual behaviour. Therefore, it was argued that time-perspective may be a potential individual-difference variable upon which to base explanations and predictions of consumer behaviour. Such potentially improved explanatory power and predictive accuracy is founded upon time-perspective's demonstrated capacity to identify those individuals who may be relatively more or less prone to the biasing effects of temporal distance (Van Ittersum, 2012). Informed by the current state of the literature, this research was directed by the following research question:

What is the influence of time-perspective on consumer behaviour and can it improve the predicative accuracy of self-reported intentions?

In order to address this research question, the following two primary research objectives were forwarded and guided the research process that followed.

(1) To determine if Time-perspective has a direct effect on individual pension-preservation decisions.

(2) To determine if Time-perspective has a moderating effect on the relationship between intention and behaviour within the context of pension preservation decisions.

In order to better understand the effect on time-perspective on consumer behaviour, this research approached the intention-behaviour gap through the theoretical lens of the Theory of Planned Behaviour (Ajzen, 1991). This seminal model was expanded upon to include the proposed direct and moderating effect of time-perspective. The final theoretical model forwarded for empirical testing is presented below in Figure 1.2.

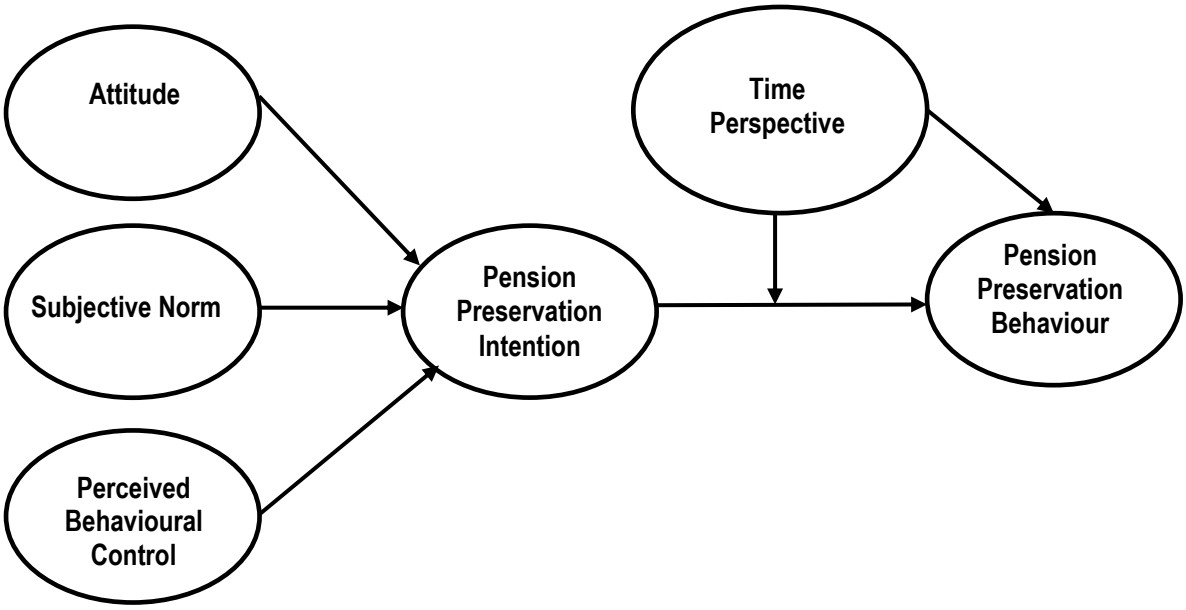

Figure 1. 2. Final Theoretical Model

In addition to time-perspective, each constituent construct within this final model is discussed in the forthcoming theory chapters of this dissertation. In order to test the whole conceptual model, the following secondary objectives were accordingly examined.

(1) To determine if intention to preserve retirement savings is positively associated with actual pension-preservation behaviour.

(2) To determine if attitude towards pension-preservation decisions is associated with intention to preserve retirement savings.

(3) To determine if subjective norms regarding pension-preservation is associated with intention to preserve retirement savings.

(4) To determine if the extent of perceived behavioural control is associated with intention to preserve retirement savings.

The above primary and secondary research objectives lead to the following set of hypotheses being forwarded in the forthcoming literature review. These hypotheses are central to this dissertation and are the subject of the statistical analysis and interpretation summarised herein.

H_1: There is a positive correlation between intentions to preserve accumulated retirement savings and subsequent actual pension preservation behaviour.

H_2: There is an association between attitude towards pension preservation decisions and intention to withdraw or not the accumulated retirement savings.

H_3: There is an association between subjective norms regarding pension preservation decisions and intention to withdraw or not accumulated retirement savings.

H_4: There is an association between perceived behavioural control regarding pension preservation decisions and intention to withdraw or not accumulated retirement savings.

H_5: There is a negative association between Time-Perspective and actual pension preservation behaviour.

H_6: Time-Perspective interacts with intention to moderate the intention-behaviour relationship within the context of pension preservation decisions.

The methodology employed to test these hypotheses is now briefly discussed. A thorough presentation of these methodological considerations and justifications is offered in the fifth chapter of this dissertation.

1.4. METHODOLOGY

As the purpose of this research was to describe the influence of time-perspective on consumer behaviour, and particularly on intention-behaviour consistency, a descriptive research approach was deemed to be most appropriate (Malhotra, 2010). As such an electronically administered longitudinal survey was conducted using a quota-controlled convenience sample of working age respondents. The sample was exposed to a standardised hypothetical scenario which indicated that they had been unexpectedly retrenched and now needed to decide whether to withdraw their accumulated retirement savings or preserve their savings through prudent reinvestment. A preliminary measure of intentions was followed two weeks later by a measure of actual pension-preservation behaviour. After a process of data preparation, this final dataset was subjected to PLS-SEM model estimation to support or reject the hypothesis posited within the final theoretical model. Specific methodological considerations regarding sampling, data-collection, construct measurement, and data-analysis are now briefly summarised.

1.4.1. Sampling

The target population for this study was broadly defined as employed individuals between the ages of eighteen and sixty-five who were contributing on a monthly basis towards some form of retirement savings plan. Given the highly-defined nature of the proposed sample, and therefore the increased difficulty of identifying suitable respondents, a snowball sampling technique was employed. Snowball sampling has been argued in literature to be an effective technique to study hard-to-reach and/or hidden populations (Heckathorn, 2002). Previous comparable research by Rabinovich et al. (2010) too provided support for the choice of a snowball sampling. Consequently a non-representative sample resulted. In an attempt to ensure that the final resultant sample mirrored that of the target population, quota sampling was in addition employed to ensure certain control characteristics were adhered to such as age, gender, education, and employment status. The second salient sampling consideration deliberated was that of sample size.

Three considerations most strongly influenced final targeted sample size. Firstly, the use of a longitudinal research approach brought with it the distinct possibility of sample unit mortality. To mitigate this concern the targeted sample size was accordingly revised upwards. Second,

the sample size achieved in the seminal study within this domain was considered. Van Ittersum (2012) achieved a final realised sample size of n=73 from an initial sample size of n=173. Lastly, the use of PLS-SEM mandated certain sample size requirements. It was noted that SEM applications typically require sample sizes in the order of +/-n=200 (Durbach, 2010; Malhortra, 2010). PLS-SEM however has been shown to be robust to smaller sample sizes (i.e.: less than n=100) (Reinartz, Haenlein, & Henseler, 2009). Balancing these three discreet considerations with time and budgetary constraints, a final realized sample size of n=100 was pursued. The measurement of this study's key constructs is now discussed.

1.4.2. Measurement

This study adopted a previously validated operational definition for the key time-perspective construct. The constituent constructs within the TPB however required the construction of context specific measurement instruments as no research had as then been conducted in a sufficiently similar context. These measurement considerations are now summarised in the sections to follow.

1.4.2.1. Time-Perspective

Several measures of time-perspective have been forwarded by researchers. The Zimbardo Time-perspective Inventory (Zimbardo & Boyd, 1999) was one such highly empirical scale considered for adoption in this study. The ZTPI consists of fifty-six Likert-type scale items which, after application of factor analysis, define a respondent as being either of past (positive or negative), present (hedonistic or fatalistic), or future orientation. The length of the ZTPI was a dissuading factor for this researcher. Alternatively, a briefer but equally valid and reliable scale was adopted to measure the time-perspective construct within this study. The Consideration for Future Consequences Scale (CFC) developed by Strathman et al. (1994) is a twelve item Likert-type scale measuring the extent to which individual's consider distant versus immediate consequences of their behaviour. In this way the scale measures time-perspective on a single continuum from present- to future-mindedness. The CFC scale has been shown in preceding literature to be correlated with other markers of time-perspective, including the ZTPI (Ferguson, 2007). The CFC too has been shown to demonstrate sufficient reliability across numerous application with cronbach alpha's ranging from 0.76 to 0.86 (Daugherty & Brase, 2010). Given the brevity of the CFC scale and its demonstrated reliability and validity, the CFC was adopted as the measure of time-perspective within this study.

1.4.2.2. Measures within the Theory of Planned Behaviour

Ajzen (2011) notes that measurement of the constituent constructs within TPB must adhere to the principle of compatibility. This implies that attitude, subjective norm, perceived behavioural control, intention, and behaviour must all be defined in terms of the same action, target, context and time frame. For the purposes of this study, the behaviour and context of interest is that of pension-preservation, i.e.: the decision to withdraw or not accumulated savings two weeks following an unexpected retrenchment. As noted above, no sufficiently similar research has been conducted and thus context specific measurement instruments were constructed in accordance with the recommendations of Fishbein and Ajzen (2011).

The initial (Appendix A) and follow-up (Appendix B) questionnaires were developed following a small scale focus group which was used to elicit the appropriate behavioural beliefs (which give rise to attitudes), normative referents (which influence subjective norms), and control beliefs (which influence perceived behavioural control). All scale items were seven-point likert-type scales and thus resulted in interval scale data. Further elaboration upon the development of these scale items is deferred to chapter five of this dissertation. The final measurement consideration was that of the longitudinal measure of actual pension-preservation behaviour.

After a period of two weeks following the administration of the initial questionnaire, participants were invited via electronic mail to complete the follow-up measurement instrument. The two items that constituted the follow-up questionnaire were rephrased from the intention questions previously administered. However, were the items previously referred to “intentions” or “willingness”, the follow-up measures were more declarative with phrasing such as “want to” and “it is my decision”. This operational definition of behaviour thus also resulted in interval scaled data. The similar phrasing used facilitated the compatibility considerations previously highlighted as important in applications of the TPB (Ajzen, 2011).

1.4.3. Data Collection and Preparation

Prior to the collection of the data, permission to survey external respondents was obtained from the appropriate UCT Faculty Ethics Committee. Data for this study was collected via an electronic survey method, facilitated through www.surveymonkey.com. Data collection was separated into two phases, an initial measure of intention and a follow-up measure of behaviour after a period of two weeks. The initial sample of respondents was invited to participate in the study via electronic mail. This initial sampling frame was in the form of email address lists obtained from three medium-to-large firms operating in the marketing

industry within Cape Town. Prior to sending of invitations for participation, each sampling units' alignment with the defined target population was assured through correspondence with the firms. The invitation contained a URL link to the initial survey as well as affirmed the confidentiality of responses. After a period of two weeks, each respondent was contacted again via electronic mail to invite their participation in the follow-up measurement. To mitigate the potential for sample unit mortality, respondents who failed to complete the follow-up questionnaire were sent periodic reminders requesting them to complete their participation. Furthermore, a potential R500 lottery price was offered to respondents to incentivise complete participation.

Once the process of data collection had ended, the data file was extracted. Respondent's intention measures and ultimate behaviour measures were linked based on the respondent's email address. Hereafter, the resultant dataset was subjected to a standard process of data preparation which included coding, cleaning, and other consistency checks. The data preparation process was conducted using a combination of Microsoft Excel and IMB SPSS 20. With confidence as to the quality of the dataset assured, focused then turned to the PLS-SEM model estimation.

1.4.4. Statistical Analysis

Statistical analysis for this research effort was conducted in two parts; descriptive statistics and inferential statistics. Firstly, descriptive statistics regarding the final resultant sample was examined so as to assess its suitability relative to the target population identified. In addition, each of the studies key constructs was examined in terms of their mean and standard deviations so as to understand both their central tendency and spread. Following this, attention then turned to statistical analysis of the final theoretical model.

In order to support or reject the hypothesises presented for study, the multivariate statistical analysis technique of partial least squares structural equation modelling (PLS-SEM) using SmartPLS software was used (Ringle, Wende, & Will, 2005). Preceding explicit hypothesis testing however, the proposed measurement model was first evaluated so as to ensure both its reliability and validity. Reliability of the measurement model was assessed via examination of cronbach alpha's ($\alpha>0.60$), composite reliability ($cr>0.60$), and indicator reliability (factor loadings in excess of 0.70). Validity was confirmed by demonstrating both convergent and discriminant validity. With confidence in measurement model affirmed, focus then turned to examination of the structural model. Test statistics resulting from the bootstrapping procedure were used to either support or reject the hypotheses at the 5%

significance level. Following this, the results of the PLS algorithm then facilitated assessment as to the strength and directionality of each of the supported relationships. The hypothesised moderating effect of time-perspective on the intention-behaviour relationship was in closing tested using the product indicator approach forwarded by Chin et al. (2003). The findings of this research yield several potential contributions to literature and industry which are charted in the next section.

1.5. IMPORTANCE OF THE RESEARCH

This study aimed to contribute both to intention-behaviour literature and consumer behaviour literature by testing for a moderating effect of time-perspective on the intention-behaviour relationship. This research is only the second such study and builds upon the work of Van Ittersum (2012). This study however is novel and makes a unique contribution to the literature in that it is conducted within a context of pension preservation decisions, which are prototypical of behaviour displaying high levels of intention-behaviour inconsistency. Exploring the intention-behaviour gap within such a retirement savings setting has the potential to yield several significant contributions to marketing. The primary value of this research is its potential provision of insights that may narrow the intention-behaviour gap. Although conducted in a narrow context, the insights gleaned from this study may, within reason, be expanded to other instances of intention-behaviour discord. Offering such specific insights that potentially improve the explanatory and predicative power of commonly used self-report measures may go some way to guarding and/or even enhancing the value of marketing research.

This research is furthermore of potential importance to the literature as it provides empirical support for the incorporation into marketing of novel psychological constructs such as time-perspective which have their origins in and are better understood in the allied social sciences of psychology and behavioural economics. This study's affirmation as to the potential of such variables to explain additional variance heeds to the call of Hall and Fong (2007) who argued that the value of many socio-cognitive models of human behaviour are diminished by researcher ignorance of such abstract constructs.

Lastly, this research may potentially be of importance to industry in two ways. First, providing insights to assist individuals more fully realise their savings intentions may facilitate more comfortable retirement which certainly has positive externalities for society. Secondly, this research may benefit retirement savings institutions by potentially offering tangible insights to identify those fund members whose savings intentions are more or less prone to the

biasing effects of temporal distance. As such, insights offered by this research may help retirement savings organisations to better detect those fund members upon whom to focus interventions. Such efforts may go some way to ensuring continued fund member loyalty and thereby secure the value of existing customer bases.

1.6. STRUCTURE OF DISSERTATION

This dissertation is comprised of seven chapters which are structured as follows. The structure to be outlined in coming section is graphically presented in Figure 1.3 below. The first chapter of this dissertation serves to introduce the study and lay the foundation for the research effort to follow. Included in this introductory chapter was a concise background to the research problem and accordingly it made reference to applicable theory regarding the intention-behaviour gap, retirement savings, the theory of planned behaviour, and time-perspective. This chapter then sets forth the research question that guided this study and formally stated the corresponding primary and secondary objectives. This first chapter then briefly summarised the methodological considerations made and steps followed in the execution of the study. Lastly this introductory chapter then charted the importance of this research to both academia and industry

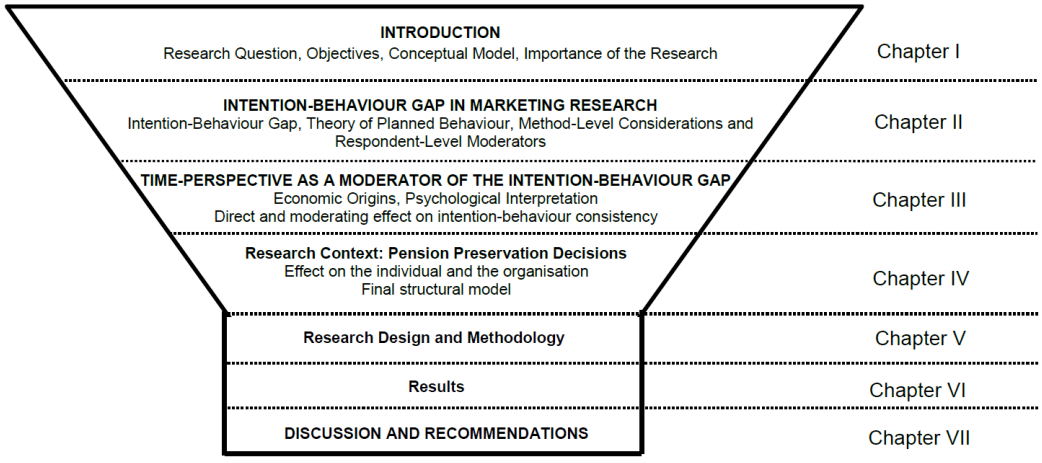

Figure 1. 3. Outline of Chapters

Chapter II of this dissertation sets forth the majority of the theoretical grounding for this study. This first of three theory chapters begins by delineating the intention-behaviour gap and links this recurrent chasm to value of marketing research. The second chapter then sets forth the associated theory with regard to the Theory of Planned Behaviour. The remainder of the second chapter then synthesises preceding literature examining potential avenues to address the intention-behaviour gap. This discussion is separated into two parts; methodological considerations and respondent-level moderators of the intention-behaviour gap.

Chapter III of this dissertation then defines and set forth associated theory relating to the time-perspective construct. The economic and psychological origins of the construct are discussed in the introductory sections of this chapter. Following this, the chapter then lays out in detail the theoretical justifications supporting the proposed a moderating effect of time-perspective on the intention-behaviour relationship. Evidence in support of this potential interactive effect is structured by drawing parallels between and highlighting empirical linkages between time-perspective and three of the established respondent-level moderators of the intention-behaviour gap discussed in Chapter II.

Chapter IV of this dissertation then formally demarcates the context of this research as the often faced retirement savings decision of pension-preservation. This final theory chapter begins by highlighting the paradox which emerges when one juxtaposes low observed savings rates with optimistic savings intentions, and notes this to be an example of intention-behaviour inconsistency. This chapter then sets forth a discussion highlighting the importance of the research context to industry by highlighting the negative effects on both individual retirees and retirement savings institutions of unrealised savings intentions. After clearly demarcating the context within which this research undertaken, this fourth chapter then closes by offering the final theoretical model for this research effort.

Chapter V of this dissertation then sets forth the methodological considerations made and steps followed in the execution of this study. This methodology chapter sets forth the salient sampling, measurement, data collection, data preparation and data analysis considerations in successive sections. This chapter concludes with a thorough discussion as to this study's use of PLS-SEM to test the final theoretical model. Explicit focus is given to evaluation of the measurement model, the structural model and to the testing of the proposed moderating effect.

Chapter VI of this dissertation is the penultimate chapter and reports the results of the descriptive and inferential statistical analysis conducted so as to test the final theoretical model. This chapter reports the results of the PLS-SEM model estimation and in so doing speaks to whether the proposed hypotheses are supported or not by the data. The findings reported in this chapter thereby directly address the primary and secondary objectives of this research effort.

Chapter VII of this dissertation is the final chapter and elaborates upon the findings outlined in the sixth chapter. The results of the inferential statistical analysis conducted are related to the primary and secondary objectives of the research. A thorough discussion as to the extent to which the final theoretical model was supported is then forwarded. Following this, the final chapter offers several recommendations emanating from the findings which may potentially inform both marketing academics and practitioners. Finally this dissertation concludes with a discussion as to the limitations of this research as well as to possible future research opportunities.

1.7. CONCLUSION

Despite intentions to the contrary, many individuals fail to save what they need for retirement (Benartzi & Thaler, 2007). Between their stated intentions to financially secure their twilight years and the cogent behaviour of saving towards it, many individuals act paradoxically. Such intention-behaviour inconsistency is a recurrent observation not just in marketing, but also in the literature of the broader social sciences (LaPiere, 1934; Rabinovich & Webley, 2007; Van Ittersum, 2012; Wicker, 1969). Given marketers' pursuance and reliance upon self-report measures of attitudes and/or intentions, this "word-deed gap" certainly diminishes the explanatory and predictive accuracy of much marketing research. Accordingly, this introductory chapter argued that research into variables that may potentially explain additional variance in the intention-behaviour relationship is thus theoretically and practically important.

Despite offering significant insight, the current state of the literature leaves much of the discord unexplained. In an attempt to further elucidate the intention-behaviour relationship, a fledgling body of research suggests that time-perspective may be a potentially fruitful individual difference variable to explain additional variance (Conner et al., 2000; Rabinovich et al., 2010; Van Ittersum, 2012)(Conner et al., 2000; Rabinovich et al., 2010; Van Ittersum, 2012). This research aimed to empirically test this hypothesis within a retirement savings context. This introductory chapter set out to introduce the relevant theoretical groundings for

this study and in so doing laid the foundation for the research to follow. This chapter began by setting forth and discussing the backdrop against which this research effort was undertaken. The research question guiding this study was then stated along with its associated primary and secondary objectives. Following this, a brief summary of the methodology was offered. The penultimate section of this first chapter then charted the potential importance of this research to academia and industry. The chapter then closed by detailing the structure of the dissertation to follow. The next three theory chapters to follow expand upon and fully set forth the theoretical groundings of this study which were only briefly introduced in this opening chapter.

CHAPTER II
INTENTION-BEHAVIOUR GAP IN MARKETING RESEARCH AND THEOERTICAL PARADIGM

2.1. INTRODUCTION

Marketing practitioners and researchers have for long pursed the measurement of attitudes and intentions based on the assumption that they are indicative of consumer behaviour. However, a recurring observation in the literature of the social sciences (particularly with regard to future-orientated behaviours) is that actual behaviour does not necessarily flow coherently from self-reported attitudes (LaPiere, 1934; Rabinovich et al., 2010; Wicker, 1969) nor from self-reported intentions (Albarracin et al., 2001; Armitage & Conner, 2001; Sheppard et al., 1988). The contradiction between an individual's stated intentions and their ensuing behaviour creates an intention-behaviour gap. This "word-deed divide" (Carrington et al., 2010) impinges on marketing academics' and practitioners' capacity to explain and predict consumer behaviour. Therefore studies into factors which enhance such predictive accuracy by narrowing the intention-behaviour gap are theoretically and practically important.

Given the highly complex nature of such consumer decision making, this research adopted the widely cited Theory of Planned Behaviour (TPB) (Ajzen, 1991) as the theoretical lens through which the constituent psychological antecedents of intention and behaviour can be understood. The three antecedents of intention are namely; attitudes, social norms, and perceived behavioural control. Despite widespread use and support, the predictive accuracy of the TPB is far from perfect as it often leaves substantial variance unaccounted for (Conner & Godin, 2007; Conner et al., 2000). Efforts to arrive at more precise intention based explanations and predictions of consumer behaviour require a research focus on improving the external validity of intention measures (Chandon et al., 2005). Such efforts can be separated into considerations at either a measurement or respondent level.

Firstly, at the methodological level taking cognisance of and accounting for the possible biasing effects of intention measurement may assist marketers to narrow the intention-behaviour gap. Such method considerations may include Self-Generated Validity Theory (Feldman & Lynch, 1988) and Common Method Variance (Buckley et al., 1990). Secondly at the respondent-level, accounting for the general dispositional tendencies of individuals may further elucidate the intention-behaviour gap. Such individual-difference variables may include but are not limited to confidence, conscientiousness, planning and/or willpower. A

myriad of such variables have been suggested in literature, but can they can be broadly classified into four summative types, namely; past-behaviour, the stability with which an intention is held, self-regulatory capacity and planning and intention implementation. The relative importance of each of the above, as well as their associations with time-perspective is elaborated upon in the forthcoming chapters of this dissertation. This chapter now formally sets forth the associated theory with regard to the TPB, measurement-level considerations, and respondent-level moderators of the intention-behaviour gap.

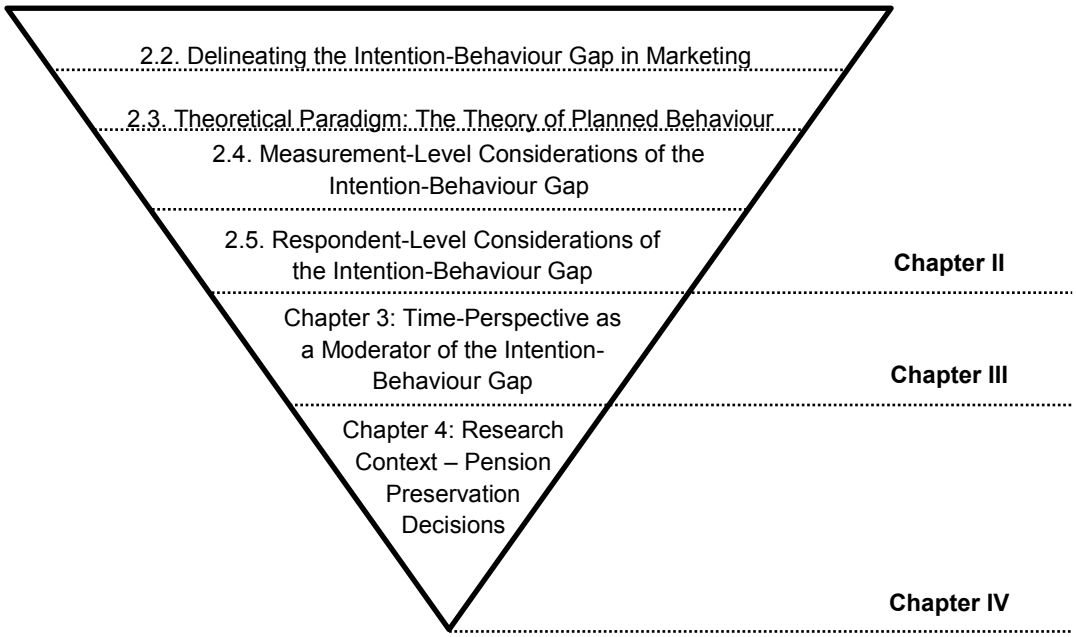

Figure 2. 1. Outline of Theory Chapters

This chapter is structured in the following way (See Figure 2.1). A delineation of the intention-behaviour gap is first offered, highlighting its importance to both marketing theory and practice. Hereafter the Theory of Planned Behaviour (Azjen, 1991) is identified and elaborated upon as the theoretical paradigm adopted. The final two sections of this chapter then discus the prevailing approaches to narrowing the intention-behaviour gap either from a measurement-level perspective or from a respondent-level perspective. The latter is be elaborated upon in the second theory chapter to follow where each will be related to the novel time-perspective construct in support of its hypothesised moderating effect on the intention-behaviour relationship. Given that the relative effect of each discussed moderator of intention-behaviour gap is dependent upon the nature and context of the decision being faced, the final theory chapter will narrow the context within which this research was conducted. The specific context of this research will be that of the often faced retirement savings decision of pension-preservation which is often held as the epitome of future-

orientated behaviour that displays intention-behaviour inconsistency (Thaler & Shefrin, 1981).

2.2. DELINEATING THE INTENTION-BEHAVIOUR GAP IN MARKETING

Marketing research is commonly defined a set of processes and activities that serve to link the organisation to the customer through information, which in-turn is a crucial input into managerial decision making (Aaker et al., 2008; Malhotra, 2010; Shiu et al., 2009). Furthermore, such information often forms basis upon which much consumer behaviour explanations and predictions are erected (G. R. Foxall, Oliveira-Castro, James, & Schrezenmaier, 2011; Rabinovich et al., 2010; Van Ittersum & Feinberg, 2010). It is clear from this conception of the discipline that the generation of accurate information for industry practitioners is the principal undertaking of marketing research (Kotler et al., 2010).

Information has its origin in and is inferred from data (Kotler et al., 2010). Marketing academics and practitioners collect such quantitative and/or qualitative data by typically asking a battery of questions to a set of chosen respondents in the form of surveys. Survey methods are indeed so prominent that 30% of published *Journal of Marketing* and *Journal of Marketing Research* articles between 1996 and 2005 made exclusive use of survey data collection methods (Rindfleisch et al., 2008). Central to this thesis is the prevailing assumption on the part of marketers that these easy-to-collect proxies for intentions and/or actual behaviour are valid and reliable indicators. Furthermore, when one considers the less than perfect relationship between intention and behaviour often highlighted in literature (LaPiere, 1934; Rabinovich & Webley, 2007; Van Ittersum, 2012; Wicker, 1969), assumed researcher confidence in these self-report measures of intention may be misplaced. Inaccurate and/or misleading information emanating from this flawed assumption diminishes marketing research's importance. The value of marketing research is inextricably linked to its explanatory and predictive accuracy.

Marketing literature generally decomposes the discord between self-report measures and actual behaviour into an *attitude-behaviour gap* and *intention-behaviour gap*. Each is now defined and discussed in turn. The latter will thereafter be the explicit focus of this research effort. Following this, the Theory of Planned Behaviour (Ajzen & Fishbein, 1980, p. 198; Ajzen, 1985, 1991; Fishbein & Ajzen, 2011) will be forwarded as the theoretical paradigm through which this study will approach the intention-behaviour gap.

2.2.1. Attitude-Behaviour Gap

An attitude can be defined as a favourable or unfavourable general appraisal of the target behaviour (Ajzen, 1991, 2011; Conner et al., 2000; Eagly & Chaiken, 1993). Rabinovich et al. (2010) note that attitude-behaviour consistency is one of the most important areas in attitude research. Across the social sciences academics and practitioners have long noted that actual behaviour does not necessarily flow coherently from measured attitudes (LaPiere, 1934; Wicker, 1969). The stated relationship is actually much weaker than widely assumed (Foxall et al., 2011). Furthermore, the inconsistency with which attitudes are predictive of behaviour is evidenced by preceding literature which has found correlations between attitudes and behaviour ranging from as low as -0.20 (Leippe & Elkin, 1987) to as strong as 0.73 (Fazio & Williams, 1986).

The inconsistency appears to be more prevalent in behaviours that are future orientated; that is those behaviours which involve the decision between benefits that occur in the present versus delayed rewards in the future (Ersner-Hershfield, Wimmer, & Knutson, 2009). An example of such behaviour would be physical exercise which is associated with immediate exertion in anticipation of long-term health benefits. Individuals generally harbour positive attitudes towards such prudent behaviours. When confronted with the actual decision to act however, particularly in the face of temptation, preferences change and behaviour may seemingly contradict the stated “good” intention. A partial explanation for such incongruity between what is *said* and what is *done* may be that attitudes are *not* theorised to be the sole driver of behaviour (Ajzen & Fishbein, 1980; Ajzen, 1991). Along this vein, Fisher and Montalto (2010) note that behaviours are often highly complex phenomena to understand as they are driven by a range of psychological, social and/or other economic factors. Therefore, rather than focusing solely on attitudes in attempts to explain and predict behaviour, it is alternatively theorised that behaviour is rather driven by the more proximal and all-encompassing antecedent, namely *intention* (Azjen & Fishbein, 1980; Ajzen, 1991). Pieters and Zeelenberg (2005) argue that intention-behaviour consistency may be the central aspect of decision making. Despite this more expanded conception of the precursors of behaviour, a discord between stated intentions and actual behaviour continues to prevail in academia and industry.

2.2.2. Intention-Behaviour Gap

Theories of human behaviour posit *intention* as highly predictive of behaviour based on the assumption that people do what they intend to do and do not do what they do not intend (Sheeran, 2011). Intention captures the motivational factors that influences behaviour and is defined as self-instructions to perform particular actions in pursuit of a defined outcomes (Ajzen, 1991; Conner et al., 2000; Webb & Sheeran, 2006). A review of the extant literature on intention-behaviour relations shows support for the assumed correlation between intention and behaviour. Upon reviewing eighty-seven different behaviours Sheppard, Hartwick and Warshaw (1988) arrive at a frequency weighted average correlation of 0.53 between stated intentions and behaviour. Albarracin et al. (2001) similarly found intentions are positively related to behaviour. Armitage & Conner (2001) additionally found a sample-weighted correlation of 0.47. Based on these empirical findings marketers may seem justified in their pursuit of self-reported intentions to explain and predict behaviour and ultimately to extrapolate these into information for sales forecasts (Alexander, Lynch Jr, & Wang, 2008; Armstrong, Morwitz, & Kumar, 2000; Van Ittersum & Feinberg, 2010; Van Ittersum, 2012).

However, with correlation coefficients falling far short of levels that would be considered "strong" (Malhotra, 2010), Chandon et al. (2005) observes that self-reported intentions do not perfectly predict purchase behaviour. In reality, intention-behaviour consistency is often modest at best (Fennis et al., 2011; V. Morwitz, 1997; Van Ittersum, 2012). For example a recent study by Futerra (2005) in the domain of ethical consumer behaviour found that of the 30% of respondents who communicated an intention to purchase ethically, only 3% actually did so. A comprehensive review of ten meta-analyses of some 422 studies involving 82 107 participants demonstrated that intentions accounted for , on average, a mere 28% of the variance in behaviour (Webb & Sheeran, 2006). It is evident however that the degree of observed intention-behaviour consistency is related to the type of behaviour studied. For an example, Sheeran and Suttons' (1999) review found correlations as weak as 0.03 for cancer screening (Montano & Taplin, 1991) and as strong as 0.84 for drug use (Conner & McMillan, 1999). Given these findings, marketers' pursuance and reliance on intention measures as proxies for behaviour should be brought under closer scrutiny.

Sheeran and Trafimow (1999) accordingly question whether cognitive variables such as intention are sufficient to explain behaviour. Perhaps one explanation may be that the evidence referred to above has been based largely on cross-sectional correlational analysis which does not afford causal inferences (Webb & Sheeran, 2006). The observed correlations

may be spurious whereby an unmeasured third variable is the potential cause of both intention and behaviour thereby confounding the relationship (Kenny, 1979). To empirically challenge this suggestion, Webb and Sheeran (2006) conducted experimental studies wherein intention was manipulated and the resultant impact on behaviour measured. The findings of this research indicated that intention does indeed have a significant causal effect on behaviour; however the effect size was found to be considerably smaller than suggested in the preceding correlational research. It is clear that, in the words of Carrington et al. (2010), a "word-deed" gap certainly exists and its size is not negligible. The gap between intentions and behaviour renders academic and commercial intention measures imperfect, fragile and prone to error. Gaining insight into this discord is therefore of crucial importance to guard and enhance the value of marketing research (Bagozzi, 1993). This research will hereafter specifically focus on the intention-behaviour gap.

As behaviour is a highly complex phenomenon to explain and predict given its myriad of antecedents (Fisher & Montalto, 2010), the adoption of a theoretical lens that conceptually links the individual constituents is necessitated. The Theory of Planned Behaviour (TPB) (Ajzen, 1985, 1991, 2011; Fishbein & Ajzen, 2011) is one such useful framework and one which has emerged as the most cited social-cognitive model of human behaviour (Hall & Fong, 2007; Sheeran et al., 1999).

2.3. THEORETICAL PARADIGM: THE THEORY OF PLANNED BEHAVIOUR

The Theory of Planned Behaviour (TPB) (Figure 2.2) is the seminal theory used to illustrate the intention-behaviour gap (Ajzen, 1991; Albarracin et al., 2001; Conner et al., 2000; Fennis et al., 2011; Sheeran, 2011; Sniehotta et al., 2005). The TPB is suggested to be suitable for dealing with the complexities of human behaviour and is designed to be predictive of behaviour under specific contexts (Ajzen, 1991). The TPB was first discussed in 1985 and is an extension of the Theory of Reasoned Action (Ajzen & Fishbein, 1980). It is distinguished from its predecessor by the inclusion of perceived behavioural control (PBC) as a determinant both of intention and of behaviour. The TPB has

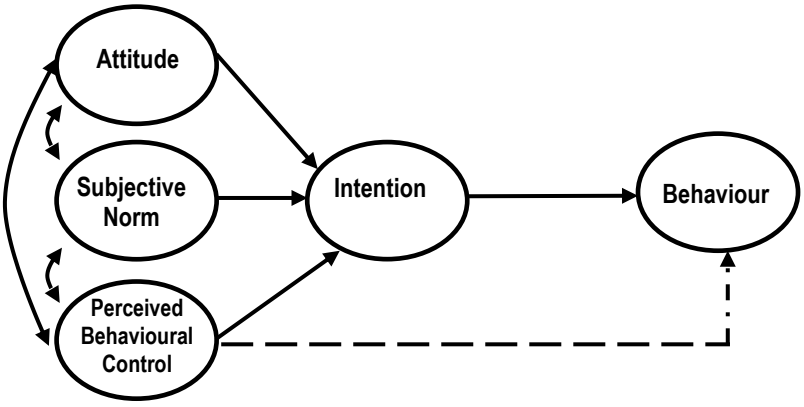

Figure 2. 2. Theory of Planned Behaviour (Azjen, 1991)

received considerable academic support which has substantiated its predictive validity across numerous behaviours, most notably within the field of health (Armitage & Conner, 2001; Conner & Sparks, 2005; Godin & Kok, 1996; Hall, Fong, Epp, & Elias, 2008). Indeed the longevity and resilience of the model over the intervening period since its conception is a mark of its success and contribution (Bagozzi, 1992).

The TPB suggests that the best way to predict an individual's behaviour is by examining how that individual plans to behave – that is by probing their proximal behavioural intent (Conner et al., 2000; Falk, Berkman, Mann, Harrison, & Lieberman, 2010; Foltz et al., 2008; Hall et al., 2008). Godin and Kok (1996) reported that intentions and PBC accounted for some 34% of the variance in behaviour across 35 applications of the TPB reviewed. With comparable findings, Sheeran et al. (1999) showed that intentions and PBC explain an average of +/- 40% of the variance in behaviour. Recent work by Conner and Sparks (2005), however, suggests that these prior meta-analyses may overstate the hypothesised relationship between intention and behaviour. Their work showed that intentions and PBC explained just 25.6% of the variance in behaviour across 200 studies with a combined sample size in excess of n=50 000. Additionally, the TPB may explain significantly more of the variation in intentions as opposed to behaviour. The meta-analyses cited above are unified in this conclusion. Conner and Sparks (2005) showed that the antecedents of intention explained 33.7% of the variance in intention. Godin and Kok (1996) similarly found that the TPB accounted for an average of 41% of the variance in intention. In their discussion of a similar finding, Armitage and Conner (2001) referred to this chasm as quantitative evidence of the "intention-behaviour gap".

Although the magnitude of the variance explained and the size relationship between the intention and behaviour may be unclear, a significant relationship between the constructs is widely supported in literature (Albarracin et al., 2001). Founded on this, the following hypothesis is forwarded for later empirical testing.

H_1: There is a positive correlation between stated intentions and actual behaviour.

The TPB proposes three antecedents of intention each of whose relative importance may vary depending on the particular behaviour being predicted (Ajzen, 2011). The three constitutes of behavioural intent are namely: attitudes, subjective norms, and perceived behavioural control. The arrows adjoining these three antecedents (see Figure 2.2) suggests that there is often interaction and feedback between the constructs. Each antecedent is now

discussed in turn. For illustration purposes, the effect of each on intention is discussed with within a retirement savings context. This setting will later be formally introduced and elaborated upon as the specified context within which this research effort is conducted (see Chapter III).

Following the outlining of each respective antecedent of intention, this chapter will conclude with a review of prior research examining both measurement- and respondent-level considerations which are suggested to potentially narrow the intention-behaviour gap and thereby enhance the accuracy of intention-based behavioural inferences.

2.3.1. Attitude

An attitude was previously defined as a generally favourable or unfavourable appraisal of an object or target behaviour (Ajzen, 1991; Eagly & Chaiken, 1993; Conner, 2000: Ajzen, 2011). Within the TPB, attitudes are theorised to flow out of an individual's behavioural beliefs and the valence (positive or negative) associated with the likely consequence of that behaviour (Ajzen, 1991). Behavioural beliefs can be understood as the individual's subjective estimation as to the probability that a particular behaviour will lead to a particular outcome. Within a retirement savings context, Shim et al. (2012) similarly defined an individual's attitude towards saving as an internal psychological state influenced by his or her positive or negative evaluations regarding savings behaviour. For example, an individual may believe (their subjective probability) that contribution to a monthly retirement savings scheme (the behaviour) will improve their financial security in their later retirement years (a positive outcome). Given the positive valance associated with this behavioural belief, one can infer that the individual will consequently have a positive attitude towards retirement savings. This positive attitude will in turn positively influence behavioural intent to save. Shim, Xiao, Barber, and Lyons (2009) supported this hypothesised relationship by showing that young adults' attitude toward various financial behaviours is significantly related to their intention to perform them. Guided by this finding it is hypothesised that there is a significant positive correlation between attitudes and intentions. Formally;

H_2: There is a positive correlation between attitudes and intention.

The degree to which attitudes will influence an individual's intention to perform a specific behaviour will also depend, in part, on the prevailing subjective norms to which the individual is motivated to adhere.

2.3.2. Social Norms

Social norms (sometimes referred to as subjective norms) can be defined as the factor of perceived social pressure to perform or not the particular behaviour in question (Ajzen, 1991; Conner, 2000). Foltz et al. (2008) suggests that the construct is analogous to peer-pressure. Within the TPB such peer-pressure has roots in the individual's perceived normative beliefs which are subjective estimations that a given referent individual or group (friend, family, community, society etc.) would approve or disapprove of the chosen behaviour (Ajzen, 1991). The individual's motivation to comply with referents' perspective determines the influence of subjective norms on their intention to perform the behaviour (Ajzen, 2011). For example, if a savings culture is not espoused by the society surrounding an individual, and that individual wishes to adhere to the norms of that society, their intention to save for retirement may be accordingly diminished. Ensuing from this, the following expectation is forwarded;

H_3: There is a positive correlation between subjective norms and intention.

In addition to the influence of attitudes and social norms, the TPB posits an individual's *perceived behavioural control* over their ability to perform the behaviour (distinct from their *actual* ability) as the final antecedent leading to behavioural intent.

2.3.3. Perceived Behavioural Control

As noted previously, the TPB is distinguished from the earlier Theory of Reasoned Action (TRA) by the inclusion of perceived behavioural control. This final antecedent captures the notion that an individual's perception of volitional control (more so than actual control) is an antecedent of intention (Ajzen, 1991). The addition of perceived behavioural control to the TRA has origins in the work of distinguished psychologist Alfred Bandura (1977) who noted that an individual's confidence in their ability to perform a particular behaviour, their "self-efficacy" as he referred to it, influences their subsequent actions. Within the TPB, an individual's self-efficacy stems from their control beliefs, which are subjective estimations as to the difficulty or ease with which a particular behaviour can be performed (Ajzen, 1991).

Control beliefs themselves are largely determined by the perceived availability of the opportunities and resources (time, money, skills, cooperation of others, etc.) required for the performance of the behaviour. Given that particular behaviours may be individually more or less difficult to perform (i.e.: requiring more or less resources) the influence of perceived behavioural control can and does vary across behaviours. For example, the observed

income inequality in South Africa and associated poverty for many may largely inhibit engagement with financial intermediaries as the cost of doing so may be perceived as prohibitive. Therefore individuals may have a lower intention to purchase a retirement savings plans (or to save generally) as doing so may simply be perceived as being beyond their financial means. A study by Shim et al. (2009) found that perceived behavioural control is a key predictor of financial behaviour among a sample of young adults. A supplement to this work later highlighted the effect of PBC by showing that financial behaviours of young people can be dramatically altered by unanticipated macroeconomic occurrences such as the recent global economic recession (Shim et al., 2012). In conclusion, the stronger an individual's intention to perform a particular behaviour, the more likely is its performance provided the individual has requisite perceived behavioural control (Ajzen, 1991). Against this backdrop the following is formally hypothesised;

H_4: There is a positive correlation between perceived behavioural control and intention.

Although widely cited and used, the predictive power of the TPB is far from perfect (Conner & Godin, 2007). The meta-analyses discussed previously underlined that as much as two thirds of the variance in behaviour is left unaccounted for (Godin & Kok, 1996; Sheeran et al., 1999; Conner and Sparks, 2005). Offering a partial explanation for this, Chandon et al. (2005) note the possibility that measurement error may potentially be contaminating intention measures and thus biasing structural relationships observed thus far in literature. A parallel stream of research suggests that limiting intention-behaviour gap inquiries to methodological considerations alone is ill-advised. For example, Hall and Fong (2007) conclude that many popular social cognitive models of behaviour – such as the TPB – are devalued by the absence of respondent-level insights from psychology, behavioural economics and other neurocognitive sciences. This chapter now concludes with a discussion as to both measurement- and respondent- level considerations cited in preceding literature which have been shown to potentially narrow the intention-behaviour gap.

2.4. MEASUREMENT-LEVEL CONSIDERATIONS OF THE INTENTION-BEHAVIOUR GAP

A stream empirical research has observed that behaviour may in-part be a function of intention measurement (Buckley et al., 1990; Feldman & Lynch, 1988; Verhoef, 2003). This may diminish the validity of research results as such *measurement bias* may provide alternative explanations for findings thereby confounding study results (Sheeran, 2011). In line with this Carrington et al. (2010) note that the intention-behaviour relation may, as a consequence, be amplified by biased intention measures. Such methodological missteps obscure the true magnitude of the relationship, thus widening the intention-behaviour gap. Morwitz, Johnson, and Schmittlein (1993) for example demonstrated that measuring intentions for a product category actually increases the probability of first-time purchasing within that category. The study also showed that repeated intention measurement actually strengthened intention's association with behaviour. Later Fitzsimmons and Morwitz (1996) would also demonstrate that the mere act of purchase intention measurement actually influenced brand choice by increasing the accessibility of brands in the mind of consumers at the moment of purchase.

Given the above findings, efforts to narrow the intention-behaviour gap may benefit from incorporating methodological considerations that explicitly control for the so-called "reactive" or "mere effects of measurement" (Chandon, Morwitz, & Reinartz, 2004; Chandon et al., 2005). Reviewed literature largely distinguishes between two distinct causes of such bias. Firstly, *Self-Generated Validity Theory* suggests that the mere act of measurement may create and/or trigger absent and/or dormant cognitive processes in the mind of the respondent which may in-turn influence later behaviour (Feldman & Lynch, 1988). Secondly, *Common Method Variance* suggests that commonly used single-scale measures of intention may result in measurement error which may cause spurious covariance among constructs (Buckley et al., 1990). Each potential source of bias is now discussed in turn.

2.4.1. Self-Generated Validity Theory

Feldman and Lynch's (1988) *Self-Generated Validity Theory* proposes that the sheer process of intention measurement leads survey respondents to form judgements and intentions that they would not otherwise have formed in the absence of measurement. In addition, the theory posits that measurement may alternatively make manifest or "bring to the surface" pre-existing but dormant judgements that were not previously accessible in the mind of the respondent. This distinction between cognitions that are "retrieved" from memory as opposed to "computed" during the measurement process is central to the theory. Indeed,

this distinction is argued to be one of the most fundamental in cognitive psychology (Lingle, Altom, & Medin, 1984). Self-Generated Validity theory may attribute much of its origins to the seminal work of Fazio, Lenn, and Effrein (1984) who were among the first authors to demonstrate the effect that the sheer act of questioning can prompt respondents to create or retrieve the construct being measured. This, in due course, may then produce the thought process and/or behaviour predicted by the theory. In essence, whether created by or reignited by process of measurement, these now accessible judgements may go on to exert considerable influence over and even disproportionately drive subsequent behaviour (Feldman & Lynch, 1988).

Spangenberg et al. (2003) and Chandon et al. (2005) note that such a state of affairs results in something resembling a “self-fulfilling prophecy” or “self-erasing error”. This phenomenon serves to amplify the intention-behaviour relationship thereby obscuring its true magnitude. Additionally such research results lack external validity and thus inference to the broader population is limited. Even if care is taken so as to ensure the measurement process does not prompt such cognitions, valid and reliable survey results are not necessarily assured. Marketing researchers must also consider the data collection instrument employed as this may also cloud the observed association between intention and behaviour. When considering the research instrument, Common Method Variance is the key determinant that may induce bias.

2.4.2. Common Method Variance

Verhoef (2003) notes that survey measures for self-reported dependent variables may be correlated as a result of the measurement process employed. Essentially, Common Method Variance (CMV) theory posits that the typical process of subjecting respondents to a single questionnaire at single point in time may result in measurements prone to method bias (Lindell & Whitney, 2001). Accordingly, CMV is formally defined as the spurious covariance among variables as a result of the shared method used in the measurement of the constructs (Buckley et al., 1990). CMV is a chief concern for researchers across the social sciences as such method error severely limits causal inference and creates rival explanations for the research findings (Malhotra, 2010; Rindfleisch et al., 2008).

Although there is consensus among researchers regarding the biasing effects of CMV, there is some debate as to its severity (Malhotra et al., 2006). Cote and Buckley (1987) found that the amount of method variance may be equivalent to the amount of trait variance in some studies. Williams et al. (1989) showed that as much as one quarter of variance in measures

examined in literature may be attributable CMV. Malhotra et al. (2006) on the other hand suggests that the effect of CMV may be more severe than initially suggested. Although its true severity may be unclear, what has been established is that the extent of bias resulting from CMV may depend, in part at least, on the relative abstract versus concrete nature of the constructs being measured. Abstract constructs are suggested to be more prone to the biasing effects of CMV (Feldman & Lynch, 1988). This may be of particular concern as marketing (particularly consumer behaviour) continues to incorporate more nonconcrete constructs from the fields of psychology and behavioural economics. Marketing overtime may find itself more and more prone to the biasing effects of CMV.

In order to explicitly control for the CMV, Ostroff et al. (2002) suggests that one conceptualises CMV to be a by-product of the research process in its entirety; the measurement process, the respondent and the context within which the measurement occurred. Accordingly, Podsakoff et al. (2003) suggests that to reduce CMV researchers must employ multiple respondents, multiple types of data scales, and attempt to gather data over multiple time periods. Addressing CMV through the incorporation of such recommendations may potentially narrow the intention-behaviour gap.

Limiting intention-behaviour gap considerations to methodological considerations alone however may impede marketing researchers' overarching aim of accurate explanations and predictions of consumer behaviour. In line with this, Sheeran et al. (1999) states that it is implausible to attribute more than 60% of the intention-behaviour gap to measurement error alone. Accordingly, considerations as to the factors that may potentially narrow the intention-behaviour gap must be expanded to include those individual difference variables that drive much consumer behaviour in reality. Four such respondent-level moderators are now discussed in turn; namely past-behaviour, temporal-stability of intentions, self-regulation and planning and intention implementation. The remainder of this dissertation thereafter expands upon these by proposing and testing for the moderating effect of time-perspective on intention-behaviour consistency. The commonality and empirical links between time-perspective and several of these moderators is offered as justification for its proposed interactive effect. A thorough delineation of time-perspective is offered along with these justifications in Chapter IV.

2.5. RESPONDENT-LEVEL MODERATORS OF THE INTENTION-BEHAVIOUR GAP

As with economic theory, much marketing literature has for long been dominated by a paradigm founded on suppositions of consumer rationality. That is much marketing theory often assumes consumers to be dispassionate information processors who are cold and calculative in their evaluation of costs and benefits in order to maximise utility (Bettman, 1979). Despite widespread acceptance of such a notion, most would agree that real-world consumer behaviour often deviates substantially from such notions of rationality (Hall & Fong, 2007). For example, the ubiquity of self-defeating behaviours - characterised by over indulgence in immediately gratifying hedonic consumption - may leave one concluding that rational decision making is very much the exception rather than the rule. A more comprehensive and ultimately accurate understanding of consumer behaviour is attainable if the prevailing paradigm is expanded to appreciate that consumer behaviour is influenced by *both* long-term rational considerations and short-term emotional factors (Hoch & Loewenstein, 1991). Hirschman (1977) and Abelson and Clarke (1963) referred to such discrete considerations as "interests vs. passions" and "hot vs. cold" cognitions. In line with this, Sheeran (2011) noted that individual respondents have certain generally definable tendencies to think and behave in predictable ways which, if incorporated into theoretical models, may enhance their predictive accuracy.

Thaler and Sheferin's (1981) seminal work, *"An Economic Theory of Self Control",* for example argued that a more complete understanding of consumer saving decisions is possible through the incorporation of both rational and emotional factors. This theory posited that an individual is at any point in time both a farsighted "planner" and a myopic "doer" with opposing preferences. The relative dominance of either of the two conflicting "selves" at the moment of decision making is pivotal as to whether the action taken is in the individual's long-term self-interest or not. The prudent "planners" lack of control over the impetuous "doers" actions is offered as the primary root of unimplemented plans and unattained goals (Thaler & Sheferin, 1981). When viewed from through the lens of this theory, self-defeating and paradoxical behaviour may be more explicable.

The incorporation of additional factors such as this can be conceptualised as exerting either a direct or moderating effect on the behaviour under investigation (Baggozi, 1992). Unlike direct effects, moderator variables influence the relationship between other variables and in so doing offer additional explained variance (Conner, 2000). As the relationship between intention and behaviour is far from straightforward, Gillholm et al. (2000) suggests that research emphasis should shift to focus on constructs whose moderating effects may

potentially narrow the intention-behaviour gap. Webb and Sheeran (2006) label such variables as “conceptual factors” and define them as theoretically specified variables that are independent of measurement error. This research will refer to such variables as respondent-level moderators to clearly distinguish them from the measurement-level considerations discussed in the preceding section of this chapter. Numerous such moderators have been examined in preceding literature and include confidence (Pieters & Verplanken, 1995), intention uncertainty (Chandrashekaran et al., 2000), conscientiousness (Conner et al., 2007), purchase involvement (Morwitz, 1997), amount of planning (Gollwitzer, 1999) and behavioural control and willpower (Fitch & Ravlin, 2005).

The inclusion of such supplementary direct and indirect effects, if supported, increases variance accounted for and strengthens the predictive accuracy of theoretical models. However, the list of possible additional moderators is potentially unlimited and therefore care must be taken not to reduce the parsimony of concise models such as the TPB. Given the large number of potential moderators, this review now distils them into four summative groups; namely past behaviour, intention stability, self-regulation and planning and intention implementation.

2.5.1. Past-Behaviour

Of all the variables which have been offered as explanatory of intention-behaviour gap, the strongest evidence amassed is in support of the role of past behaviour (Conner, 2000). It is argued in psychology literature that future behaviour is most strongly determined by one’s own past behaviour rather than a series of lockstep cognitions as suggested by the TPB (Sutton, 1994). Indeed, the predictive power of past behaviour has been shown to oftentimes exceed that of behavioural intention (Ouellette & Wood, 1998; Verplanken & Orbell, 2003). This finding is especially robust for behaviours which are well practiced and occur within stable contexts – presumably facilitated by the automaticity of responses to environmental cues (Bargh, Chen, & Burrows, 1996). A tendency to act as before in response known situations is suggestive of habits which too have been offered as a potential moderator on the intention-behaviour gap. Verplanken, Aarts, van Knippenberg and Moonen (1998) examined the moderating effect of habit strength on the intention-behaviour relationship and found that the predictive power of intentions decreases as habit strength increases. The stability of one’s intentions over time, may possibly aid individuals to overcome entrenched behavioural propensities and thereby align their intentions with subsequent behaviour.

2.5.2. Temporal Stability of Intentions

Ajzen (1991) advised that to facilitate as accurate as possible behavioural predications, measures of intention should be taken as close in time to the target behaviour as possible. Later research would substantiate this suggestion by showing that measured intentions are subject to change in light of new information (Conner & Godin, 2007). Failure to account for this shifting of intentions over time potentially widens the intention-behaviour gap. Accordingly, the extent to which an individual's intentions are stable over time has been afforded fervent interest by researchers. The temporal stability of an intention is formally defined as the extent to which the intention remains unchanged despite the challenge of new information or the incidence of unforeseen obstacles (Sheeran et al., 1999). Principally temporal stability speaks to the resilience of an intention to withstand such an attack (Sheeran et al., 1999). The degree to which an intention is stable is most often operationalized as the difference between repeated measures of intention taken at successive points in time (Conner & Godin, 2007).

Temporal stability considerations have been shown to improve the predictive accuracy of the TPB (Conner & Godin, 2007). For example in a three-wave longitudinal study, Sheeran et al. (1999) showed that temporal stability of behavioural intentions moderates the relationship between intention and behaviour within the domain of health. These results reinforced the formative findings of Bagozzi and Yi (1989) and Doll and Ajzen (1992) who similarly found support for this hypothesised moderating effect. In a recent broad ranging meta-analysis of numerous variables within the TPB, Cooke and Sheeran (2004) show that temporal stability of intentions is the strongest moderator of the intention-behaviour relationship with medium effect sizes (r^{+}=0.25). In conclusion, stable intentions are significantly more accurate predictors of behaviour than are unstable intentions.

Sheeran and Abraham (2003) go further to argue that temporal stability of intentions may in actual fact underlie many other proposed moderators of the intention-behaviour via mediation. That is to say other proposed moderators of the intention-behaviour gap may have their effect by changing prior stated intentions. The second to last established moderator offered for discussion here is the extent to which an individual has the self-regulatory capacity to inhibit prepotent behavioural impulses.

2.5.3. Self-Regulation and the Executive Function

The ability to suspend and/or override behavioural impulses is argued to be a necessary precondition for goal attainment as it aids consumers to resist selecting options with short-term benefits but accompanying long-term consequences (Hall & Fong, 2007; Howlett et al., 2008). Hoch and Loewnstein (1991) similarly posit such efforts on the part of consumers as being central to avoiding inconsistent behaviour. Formally, self-regulation can be defined as the wilful psychological process of exerting control over thoughts, feelings and behavioural impulses (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister, Sparks, Stillman, & Vohs, 2008). Such efforts ultimately assist consumers to subvert undesirable actions and substitute them with more appropriate conduct which ultimately may be instrumental in achieving objectives – thereby making manifest prior stated intentions (Howlett et al., 2008). Perhaps the strongest evidence in support of the role of self-regulation comes from studies within the domain of health. For example self-regulatory capacity has been credited with a primary role in the avoidance of excessive alcohol consumption, drug abuse, and overeating (Mullan, Wong, Allom, & Pack, 2011). Hall et al. (2008) conclude that the moderating role of this "novel psychological construct" over and above the proximal TPB constructs is a noteworthy addition to the literature on intention-behaviour discord.

Expanding on the logic that self-regulatory ability is a necessary requirement of goal attainment, Hall and Fong (2007) found support for the inclusion of this construct in their multifaceted *Temporal Self-Regulatory Theory*. Later empirically work would support this inclusion and conclude that self-regulatory factors do indeed explain a significant proportion of the intention-behaviour gap (Webb & Sheeran, 2010). Current academic focus within this domain has thus far focused on understanding the underlying mechanisms at play within self-regulatory processes either from abstract psychological perspective or from a concrete biological basis.

2.5.3.1. Self-Regulation from an Abstract Psychological Perspective

Conceptually the two opposing forces of desire and willpower are theorised to be at the core of psychological endeavours to self-regulate conduct – this is the so called "two-factor model" of behaviour (Hoch & Loewenstein, 1991). In discussing their seminal work Thaler and Sheferin (1981), expanding on the *principle agent theory* in economics, argue that self-control is conceptually paradoxical unless one adopts a multi-self-model wherein the two selves have discrete and opposing preferences. This intrapersonal antagonism has been a central theme in numerous historic accounts of self-regulation. Mostly famously Freud's (1911) enduring (although much maligned) psychoanalytic theory represented this conflict as

the oscillation between the sensation seeking and impulse driven primary process thinking on the ID (or pleasure principle) and the patient, logical, and prudent secondary thinking of the EGO (or reality principle).

Several authors have suggested recommendations that may enhance consumers' self-regulatory ability. See for example Elster (1977) who was perhaps the first theorist to summarise such practices. Among these early suggestions were self-binding pre-commitment strategies, the imposition of general rules of thumb, and the avoidance of tempting and/or risky circumstances. The more contemporary twofold considerations of Hoch and Loewenstein (1991) however appears to be the most complete such set of recommendations yet offered in literature. The authors present two distinct forms that attempts at self-regulation could take. First, consumers could attempt to directly *reduce desire* by distancing and/or removing themselves either physically or psychologically from the stimulus object. Examples of such actions would be to consciously avoid tempting situations, to distract oneself at the moment, and/or to grant oneself a small immediate incentive in substitution of and reward for resisting the larger temptation. Second, consumers can attempt to subdue and ultimately supersede desire by means of sheer *willpower*. Such tactics are distinct in that they operate to override, rather than reduce, impatience brought upon by temptation. Willpower approaches are characterised by the elimination of consumption options or the imposition of severe consequences on impulsivity which results in costs of consumption exceeding benefits. Pre-commitment strategies whereby consumers impose constraints on, or alter incentives, for future behaviour is perhaps the most cited of such will-power approaches (Elster, 1977). Wiring one's mouth shut in an attempt to lose weight, placing an alarm clock on the other side of the room, or lacing alcohol with Antabuse to negatively reinforce drinking are common examples such willpower strategies (Schelling, 1978). An alternative avenue of investigation pursued by researchers studying self-regulatory ability has been to explain and link such behaviour to concrete biological bases and particularly to cognitions associated within the executive function of the brain.

2.5.3.2. Self-Regulation from a Biological Perspective

Self-regulatory capacity is made possible by the operation of the executive function (Fuster, 1989; Hall et al., 2008; Hall & Fong, 2007; Norman & Shallice, 1980). Functional neuroimaging studies suggest that the executive function is housed within the frontal lobe of the brain; with the prefrontal cortex (PFC) and the anterior cingulate cortex (ACC) being most strongly implicated (Nolte, 2009; Paus, 2001). Associated with these regions of the brain are instrumental behaviours associated with goal-attainment such as the suspension of proponent responses, planning, error detection, and the execution of novel behaviour in unfamiliar contexts (Hall et al., 2008). Accordingly, clinical research has shown that impairment to these areas is linked to heightened impulsivity and general failures in goal-directed behaviour (Hall & Fong, 2007; Lhermitte, 1983).

Executive functioning may be an individual difference variable – that is certain individuals may have different biological imbued self-regulatory capacities (Hall et al., 2008; Hall & Fong, 2003, 2007; Strathman et al., 1994; Zimbardo & Boyd, 1999). Levels of executive functioning are usually measured by either the application of the Wisconsin Card Sorting Task (Grant & Berg, 1948), the Stroop Task (Stroop, 1935) or the Go/No Go Task. Hall et al. (2008) found a significant interaction between individual performance on the Go/No Go task and behavioural intention in the prediction of physical activity (β=-0.28, p=0.004). Further research supports the inclusion of executive function considerations as a direct determinant of behaviour and as a moderator of the intention behaviour gap (Hall et al., 2008; Wong & Mullan, 2009). In the most recent reviewed work, Mullen et al. (2011) found that executive functioning (as measured by the Stroop Task) moderated the intention-behaviour gap ($F_{1,145}$=4.76, p=0.03). In summary, behavioural intention is less predictive of behaviour among low executive functioning participants relative to participants with high levels of executive functioning.

Levels of executive functioning may further differ not only between respondents but also within respondents over time. That much self-defeating behaviour occurs when individuals are under strain, are fatigued or are enduring some other form of physiological or psychological stress gives credence to this assertion. This recurrent observation has led some authors to propose that executive functioning may be a limited resource that is subject to energy depletion (Muraven & Baumeister, 2000). That is individual capacity to self-regulate behaviour may rather ebb and flow in relation to an individual's energy level rather than be a stable personality trait (Hall & Fong, 2007). In essence, momentary depletion of energy brought about by emotional strain or physiological deprivation may result in lapses in

self-regulatory capacity. Additionally, Baumeister et al. (1998) showed that the mere act of self-regulation itself may further deplete energy resources and consequently reduce self-regulatory capacity in subsequent tasks. It would appear then that the process of wilful self-regulation may come with a cost.

These findings have been examined within marketing. For example, Vohs and Faber (2007) showed that consumers in energy depleted conditions were more prone to impulse buying and actually spent more in unanticipated buying situations than did control subjects. Within the domain of financial decision making, Howlett et al. (2008) showed that levels of self-regulatory capacity influenced long-term financial decisions. Individuals within an energy-depleted state were shown in this research to have stronger preferences for immediate rewards. In order to overcome this so called "self-regulatory fatigue", planning and the formation of intention implementations are widely reasoned moderate the intention-behaviour relationship.

2.5.4. Planning and Intention Implementation

Heckhausen and Gollwitzer (1987) state that the pursuit of goal attainment may be governed by two distinct types of intentions; namely goal and implementation intentions. The authors explain that simply harbouring an intention to achieve a goal is insufficient in isolation. Rather an individual must decide upon the routes to be taken (the how, when, and where) to implement actions that will result in the achievement of the goal. This *implementation intention framework* posits that goal attainment therefore is largely dependent upon the development of context-specific plans – that is desired instrumental behaviour is linked to situational triggers resulting in behaviour being automatically triggered at the crucial moment of decision making (Fennis et al., 2011; Rabinovich & Webley, 2007). The theory underlying implementation intentions' effectiveness is that the delegation of control over goal-directed behaviour to situational cues reduces the reliance on an individual self-regulatory capacity which (as discussed above) may be both limited and transitory.

Numerous studies have underscored the effectiveness of planning on increasing intention realisation across a number of contexts such as studying over vacation periods (Gollwitzer & Brandstätter, 1997), maintaining healthy dietary behaviours (Sheeran & Orbell, 1998) and conducting unpleasant health tasks such as self-examinations for breast cancer (Orbeil, Hodgldns, & Sheeran, 1997). For example, research by Azjen et al. (2009) showed that the formation of implementation intentions was found to increase performance of the intended behaviour from 37.1% in the control condition to 58.8% (for general plans) and 60.6% (for

specific plans) in the experimental conditions. This research suggests that detailed specificity may not be a crucial factor in forming effective plans. Further research by Wong and Mullen (2011) too showed that planning ability had a similar main effect on behaviour in the case of breakfast consumption. In addition, this research further showed planning to be a significant moderator of the association between intention and behaviour ($F_{1,146}$=4.70, p=0.03). Lastly, a recent meta-analysis with a combined sample size in excess of n=8000 by Gollwittzer and Sheeran (2006) demonstrated that inducing plans regarding implementation intentions substantially increased goal attainment thereby narrowing the intention-behaviour gap.

The remainder of this dissertation now expands upon these established moderators by proposing the moderating effect of time-perspective on intention-behaviour consistency. Empirical linkages between the time-perspective construct and several of the respondent-level moderators discussed here is offered as justification for this proposed moderation. A through discussion regarding time-perspective is offered along with these justifications in the forthcoming third chapter. Following this, this study's specific retirement savings context is demarcated in Chapter IV.

2.6. CONCLUSION

Based on the assumption that attitudes and intentions are proxies for ensuing consumer behaviour, marketers have for long pursued the measurement of such constructs both within industry and academia. This chapter highlighted that researcher reliance upon such self-report measures may be ill-advised given the recurring finding that actual behaviour does not necessarily flow coherently from measured attitudes (LaPiere, 1934; Rabinovich et al., 2010; Wicker, 1969) nor from measured intentions (Albarracin et al., 2001; Armitage & Conner, 2001; Sheppard et al., 1988). This chapter argued that the presence of such an intention-behaviour gap diminishes the value of much marketing research. In light of this, it was argued that the pursuance of insights that may potentially narrow this "word-deed gap" is both theoretically and practically important.

The Theory of Planned Behaviour (Ajzen, 1991) and its constituent constructs (attitude, social norms, perceived behavioural control, intention, and behaviour) were hereafter identified and delineated as the theoretical lens through which this research would approach the intention-behaviour gap. The remainder of this chapter then set forth and synthesised preceding literature with regard to addressing this discord. Such considerations were separated into two types; either measurement-level or respondent-level considerations.

Method considerations were first elaborated upon with particular focus being placed upon the potentially biasing effects of intention measurement as articulated in Self-Generated Validity Theory (Feldman & Lynch, 1988) and/or Common Method Variance Theory (Buckley et al., 1990). From a respondent-level perspective, past-behaviour, the stability with which an intention is held, self-regulatory capacity, and planning and intention implementation where then highlighted as four salient individual difference variables which have been shown in literature to moderate the intention-behaviour relationship.

This chapter then closed by alluding to the coming second theory chapter by noting that the respondent-level moderators discussed herein would be expanded on and form the basis upon which the possible moderating effect of time-perspective on the intention-behaviour relationship will be based.

CHAPTER III

TIME-PERSPECTIVE AS MODERATOR OF INTENTION-BEHAVIOUR GAP

3.1. INTRODUCTION

The preceding discussions regarding methodological and respondent-level considerations offer considerable insight into the drivers of the intention-behaviour gap. However, the current state of the literature still leaves much of the discord unexplained. The variance between intentions and behaviour continues to be pervasive with detrimental effects for the value of much marketing research. A contemporary stream of investigation has offered the novel psychological construct of time-perspective as a potentially fruitful individual-difference variable ripe for investigation to explain additional variance (Rabinovich et al., 2010; Van Ittersum, 2012). From a psychological viewpoint, time-perspective is defined as a temporal bias induced by a chronic overemphasis of one particular temporal-orientation in decision making (Zimbardo & Boyd, 1999). Resultant dispositional tendencies emanating from this bias leads individuals to act in accordance with either short- or long-term rewards in predictable ways. Considerable prior research has demonstrated that time-perspective exerts a profound influence over a wide range of behaviours (de Bilde, Vansteenkiste, & Lens, 2011; Henson, Carey, Carey, & Maisto, 2006; Milfont & Gouveia, 2006; Zimbardo & Boyd, 1999). This chapter sets out to formally posit time-perspective as exerting both a direct and moderating effect on consumer behaviour.

This chapter will begin by contrasting time-perspective with the theoretically equivalent economic concept of temporal or delay discounting (Samuelson, 1937) which likewise speaks to an individual's preference for smaller sooner rather than larger later rewards. Adopting a psychological interpretation, the three theoretically posited time-perspectives (past, present, and future) are hereafter described in turn and specific references are made to characteristic consumer behaviour associated with each. The remainder of this chapter then sets forth evidence in support of a moderating effect of time-perspective on the intention-behaviour relationship. Supporting evidence is structured into three parts highlighting clear and empirically supported linkages between time-perspective and several of the established respondent-level moderators of the intention-behaviour gap which were discussed in the preceding chapter. Parallels are drawn between time-perspective and the following established moderators; temporal stability of intentions, self-regulation, and planning and intention-implementation. Based upon these three discrete (yet mutually reinforcing) pillars of evidence, this chapter concludes by formally hypothesising that time-perspective moderates the intention-behaviour relationship.

3.2. TIME-PERSPECTIVE

A distinguishing characteristic of the human form is our mental capacity to momentarily disengage from the concrete immediate present to oscillate between abstract recollections of the past and contemplations of imagined futures (D'Argembeau, Ortoleva, Jumentier, & Van der Linden, 2010). This partitioning of life experiences into distinct time frames is argued to be a central aspect of the human experience and one that gives order, coherence and meaning to life events (Zimbardo & Boyd, 1999). Across the academic disciplines, from psychology to economics, time-perspective has been argued to exert a profound influence on decision making and therefore to be a fruitful construct in endeavours to explain additional variance in the intention-behaviour gap, particularly for those behaviours that require inter-temporal trade-offs (Rabinovich et al., 2010). Hall and Fong (2007) forward that pursuing and embracing such an understanding of the temporal dimensions of human behaviour may afford researchers considerably enhanced explanatory power. Such improved predictive ability is founded on time-perspective's demonstrated capacity to identify those individuals who may be relatively more or less prone to the biasing effects of temporal distance (Van Ittersum, 2012).

Time-perspective can be defined as an individual's chronic dispositional tendency to overemphasise and behave in accordance with short- vs. long-term contingencies (Hall & Fong, 2003; Holman & Silver, 1998; Martin, Gnoth, & Strong, 2009; Strathman et al., 1994; Zimbardo & Boyd, 1999). Conceptually, time-perspective theory posits that three theoretically distinct temporal emphases (past, present, and future orientations) are predictive of the relative attractiveness that the individual would ascribe to an immediately gratifying reward in the present relative to a potentially larger reward in the distant future (Beenstock et al., 2011). Ultimately time-perspective speaks to the subtle, even imperceptible internal conflict inherent in mental representations of rewards separated by time (Klapproth, 2011). The seminal authors in the field, Zimbardo and Boyd (1999), go as far as affirming that few psychological variables are capable of exerting such a powerful and pervasive impact on behaviour as time-perspective. Indeed the authors argue that time-perspective may come to shape much of our thoughts, feelings, actions, and dispositional tendencies.

The effect of time-perspective on decision making has been demonstrated in the domain of health decisions (Orbell & Hagger, 2006), risky driving behaviour (Zimbardo et al., 1997) and smoking behaviour (Fong & Hall, 2003). For example; Zimbardo and Boyd (1999) found that woman seeking breast cancer screening scored higher on measures of future orientation

than those who did not seek the preventative screening. This latter group too were found to score higher on measures of present-hedonism. Furthermore, it has been shown that time-perspective is correlated to the long established psychological constructs captured by the Big Five Personality Questionnaire (Goldberg & Maslach, 1996). Although this research approaches the time-perspective construct from a distinctly psychological perspective, it is clear that time-perspective bears much resemblance to the economic concept of temporal or delay discounting which likewise speaks to an individual's preference for immediate versus delayed rewards.

3.2.1. Economic Origins

Time-perspective is by no means a new construct; indeed its underlying conception has clear origins in the early works of some of economics' most respected formative theorists. Writing in the late nineteenth century, Austrian Eugen von Böhm-Bawerk (1959) noted that "humans suffer from a systematic tendency to underestimate future wants". This was suggested to bias individuals towards an inability to exercise self-restraint and overcome the lure of immediate consumption. This, as Rae and Mixter (1905) theorized, limited individuals' ability to "effectively accumulate" for their future. The battle between self-restraint on the one hand and desire on the other is eloquently captured in the words of N.W. Senior (1836) in his seminal work; An Outline of the Science of Political Economy:

> *"…to abstain from the enjoyment that is in our power, or to seek distant rather than immediate results are among the most painful exertions of the human will"*
> *(Senior, 1836:60)*

Some one hundred years later Paul Samuelson (1937) encapsulated many of the assertions of the preceding economic theorists into the discounted-utility model which would become entrenched as the dominant economic framework for inter-temporal choice (Frederick et al., 2002). The theory of delay discounting has since been used to explain the seemingly time-inconsistent behaviour of individuals often choosing smaller immediate rewards in favour of lager later rewards (Teuscher & Mitchell, 2011). Theoretically, it is posited that individuals systematically devalue outcomes that are to occur in the future and assign disproportionate attractiveness to immediate rewards. Such present-bias and seemingly irrational behaviour has long been of interest to economists because of its significance for macroeconomic policy and saving behaviour (Thaler & Shefrin, 1981).

Despite the theoretical similarities between temporal/delay discounting and time-perspective, very few studies have measured both, let alone compared or contrasted the constructs within the same study (Teuscher & Mitchell, 2001). One research output however by Joireman, Balliet, Sprott, Spangenberg and Schultz (2008) did find a significant correlation between measures of time-perspective and performance on temporal discounting tasks. Specifically this research indicated that respondents with a shorter time-perspective (more presented orientated individuals) tended to display higher levels of impatience; that is they showed preference for smaller immediate rewards relative to larger later ones. Clearly the fields of economics and psychology have approached this topic in parallel and have largely found mutually reinforcing findings. This study however will approach time-perspective from a psychological standpoint.

3.2.2. Psychological Perspective

The perception of time and the influence thereof on human behaviour has similarly been discussed (often under different guises) within the field of psychology for more than one hundred years. Indeed William James, often regarded as one of the founding fathers of psychology, considered time so central to human behaviour that he devoted an entire chapter to it in his text *The Principles of Psychology* (1890). Later, the famed psychologist Kurt Lewin (1942) would offer one of the first definitions of time-perspective as being the totality of the individual's views of his or her psychological future and psychological past at a given point in time. Lewin (1951) would later incorporate time's influence on behaviour into his *Life Space Model* which would become one of the primary and most enduring psychological models of human behaviour. More recently, the seminal work of Zimbardo and Boyd (1999) would formalise much of the preceding research efforts into a single coherent theory of time-perspective's influence on behaviour. Time-perspective has since been almost unanimously conceptualised as an overarching and unconscious process that includes social, personality, affective and cognitive influences. Despite the contribution of this work to distal and formalise much of the preceding findings, fervent debate persists within academic circles as to whether time-perspective should be treated as a fixed personality trait which is stable across situations or as a variable mental state which is subject to situational and environmental determinants (Klapproth, 2011).

Giving credence to the situational and environmentally determined perspective is research findings which indicate that time-perspective may be systematically related to gender, age, education and even social economic status. Zimbardo et al. (1997) for instance found that men tended to be much more orientated towards the present whereas women were found to

be more focused on and motivated by future contingencies. Teuscher and Mitchell (2011) argued that time-perspective may be correlated with age; that is that as individuals age they become more future-orientated and less inclined to behave impulsively. Several researchers too have found that higher educational levels (and more generally higher levels of intelligence) are associated with greater emphasis on the future in decision making and behaviour (Harrison, Lau, & Williams, 2002; Prenda & Lachman, 2001). Lastly, research by Loewenstein (1996) further indicates that time-perspective may be subject to environmental and situational determinants by showing that primitive feelings such as hunger, thirst and sexual desire may bias individuals towards a present-orientation and therefore increase their impulsivity. In line with these findings, researchers too have found that negative emotions such fear and stress generally give rise to an acute focus on the present at the expense of long-term objectives (Alison & Silver, 1998; Gray, 1999; Klapproth, 2011; Spiegel, 1997).

Much of the time-perspective literature within the field of psychology has been conducted within the context of self-defeating addictive health behaviours such as substance abuse and overeating. Research too has often focused on other instances of self-regulatory failure such as pathological gambling (Hoch and Loewenstein, 1991). Elaboration on such findings is deferred until each of the theoretically posited time-perspectives is defined in the forthcoming section. Additionally, an insight into the effect of each time-perspective on consumer behaviour is briefly presented. As per Zimbardo and Boyd (1999) the three time-perspectives namely are past, present, and/or future orientations.

3.2.2.1. Past Orientation

An individual whose daily thoughts and preoccupations are primarily centred on recollections of the past can be said to harbour a past-orientation which can be further classified into two subdivisions. An individual may harbour either positive or negative feelings towards their past which accordingly gives rise to either a *past-positive* or *past-negative* temporal orientation. Past-negative individuals can be characterised as having a generally aversive view of their past and have been found to be relatively more susceptible to depression, anxiety, general unhappiness, low self-esteem and even heightened aggression (Lyubomirsky & Nolen-Hoeksema, 1995; Zimbardo & Boyd, 1999; Zimbardo et al., 1997). In contrast a past-positive individual can be characterised as having a generally warm and sentimental attitude towards their past and consequently are less prone to negative mood states and generally display a healthier outlook on life.

In terms of consumer behaviour, Holbrook (1993) found that consumers who were highly nostalgic (that is emphasised a past time-perspective) demonstrated a preference for products and services that are reminiscent of their past. Later research would indicate that such consumers may consciously avoid new or unfamiliar stimuli and accordingly are less sensation-seeking, less spontaneous and less impulsive in their consumption decisions (Karande & Merchant, 2012).

3.2.2.2. Present Orientation

An individual whose cognitions are chiefly centred on the present and immediate consequences of behaviour can be defined as having a *present-orientation* which similarly can be subdivided into two distinct types. A *present-hedonist* can be characterised as having risk-taking, "devil may care" attitude towards life. Such individuals have been shown to score higher on measures of impulsivity, sensation-seeking, risk-taking, and to display a clear preference present pleasure (Zimbardo & Boyd, 1999). Additionally, present-hedonists have been shown to have little concern for the future consequences of their behaviour. Such individuals accordingly have been found to use alcohol more liberally, to have less clearly defined future goals, to be less religious and to be more prone to losing track of time.

A *present-fatalist* on the other hand can be characterised as having defeatist, helpless and hopeless attitude towards the future. Such individuals are of the opinion that the passage of time is largely predetermined and that their life is at the mercy of fate. Consequently such individuals believe that their current actions are inconsequential and thus unnecessary in given their preordained existence. As with past-negative individuals, such cognitions are associated negative mood states, mental health problems, risky driving behaviour, criminal activity and addictive behaviours (Zimbardo et al., 1997).

In terms of consumer behaviour, research has indicated that present-orientated individuals are generally more likely to be keen on immediately gratifying consumption, have greater levels of impulsivity, have higher sensation-seeking propensities and ultimately are less prudent in their consumption decisions (Karande & Merchant, 2012).

3.2.2.3. Future Orientation

The final theoretically posited time-perspective is that of a general temporal emphasis on the future and specifically on the long-term repercussions of present behaviours. This ability to foresee future consequences and broader contingencies is argued to be of significant adaptive value for human beings as it may facilitate our capacity to consider the potential

consequences of behaviour prior to performance (D'Argembeau et al., 2010). The ability to "think ahead" is clearly a necessary requirement for functions such as planning, decision making, and even emotional regulation (D'Argembeau & Van der Linden, 2012). In turn, these cognitive processes may in large part facilitate the human capacity to override current needs in favour of long-term objectives (Boyer, 2008; D'Argembeau et al., 2010).

Future-orientated individuals are generally characterised as being highly organised, conscientious, and as having clearly defined and ambitious goals which drives much of their behaviour (Jones, 1994; Mendoza & Pracejus, 1997; Strathman et al., 1994; Zimbardo & Boyd, 1999). Such individuals are highly reward dependant and regularly must consider trade-offs between immediately pleasurable activities and those behaviours which, although disagreeable in the moment, are instrumental in the attainment of their stated objectives. With such persistent and determined pursuit of goals, future orientated individuals may often feel pressed for time and may endure higher levels of stress (Zimbardo & Boyd, 1999). Generally however, an orientation towards the future is associated with significant positive life consequences for individuals within Western societies. Future-orientation has been shown to be related to higher socio-economic status, higher educational attainment and lower propensity to engage in sensation seeking and risky behaviours (Lennings & Burns, 1998; Raju, 1980; Zimbardo & Boyd, 1999).

Although presented here as three discrete time-orientations, our preceding discussion of the situational and environmentally determined conception of time-perspective suggests rather that individuals regularly vacillate between the time-orientations depending on such triggers as emotional and/or physiological strain. Indeed Zimbardo and Boyd (1999) argue that the optimal situation may be to achieve a "balanced time-orientation" in which an individual has the ability to flexibly shift between time-perspectives depending on demands, resources and social or personal appraisals. For example, an idealistic orientation for a student would perhaps be to adopt a present-orientation over vacation periods and adopt a more studious and outcome oriented future-orientation during the semester months.

In relation to this research effort, the most salient insight offered by the time-perspective literature is that individuals are prone to and often develop a general tendency to habitually overemphasize one particular time-orientation in their decision making resulting in a so called "temporal bias" towards either the past, present or future. An overreliance on a particular temporal orientation may be learned or influenced by a multitude of potentially interacting factors including but not limited to culture, education, religion, social class, family,

friends and other reference individuals (Zimbardo & Boyd, 1999). Such a chronic focus on one particular time-orientation and the associated temporal bias it manifests may be a highly explanatory and predicative individual difference variable with significant potential to explain the intention-behaviour gap (Zimbardo & Boyd, 1999).

It is the proposition of this research that time-perspective exerts a similarly significant influence on individual consumer behaviour. Such a postulate has already found support in literature through the work of authors such as Hoch and Loewenstein (1991), Hodgins and Engel (2002), and Karande and Merchant (2012) as highlighted above. Indeed the latter authors ultimately conclude from their research that a substantial proportion of the variance in retail shopper behaviour can be explained by time-perspective (Karande & Merchant, 2012).

The penultimate section of this chapter formally posits and provides theoretical support for the hypothesised moderating effect of time-perspective on the intention-behaviour relationship within the domain of financial consumer behaviour. Specifically the moderating effect is posited within the context of the intention-behaviour gap often observed in retirement savings decisions. This context is formally introduced and elaborated upon in the forthcoming chapter but is introduced here for completeness sake and so as to demonstrate the applicability of the time-perspective construct to financial decision making. Justification for this moderation hypothesis is hereafter offered by relating time-perspective to three of the established respondent-level moderators of the intention-behaviour gap discussed in the preceding chapter; namely intention stability, self-regulation and intention-implementation.

3.2.3. Direct and Moderating Effect of Time-Perspective on the Intention-Behaviour Relationship

Academics have for long touted savings as the epitome of future-oriented behaviour that displays high levels of intention-behaviour inconsistency (Thaler & Shefrin, 1981). Between an intention to financially secure one's retirement and the cogent behaviour of saving towards it,

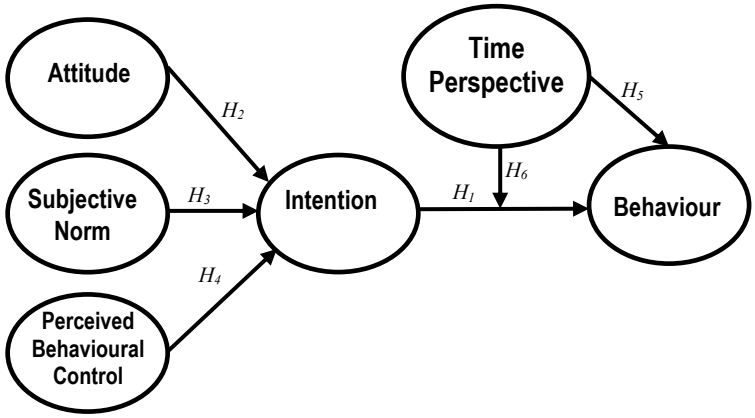

Figure 3. 1. Direct and moderating effect of time-perspective on the intention-behaviour relationship

many individuals act paradoxically by engaging in immediately gratifying consumption in the present. Such hedonic indulgence clearly has detrimental effects on an individual's long-term retirement prospects. The separation in time and attractiveness of the immediate reward (present consumption) versus the delayed reward (accumulated savings) is a quintessential illustration of the dilemma inherent in inter-temporal choice. Upon close consideration, retirement savings decisions clearly bear much resemblance to other choices which are inter-temporal in nature such as exercise, over eating, and substance abuse. This separation of rewards by time is the central defining characteristic which is common to many (if not all) self-defeating behaviours. The preceding section of this review provided strong-evidence that the temporal bias induced by a chronic focus on one particular time-perspective is significantly associated with an individual's propensity succumb to the temptations which prompt self-defeating behaviour. More succinctly, an individual's time-perspective has been shown to be a significant determinant of their behaviour – either affecting it directly or indirectly. The direct effect will be elaborated upon first and is graphically represented in Figure 3.1. by the line adjoining the Time-perspective and Behaviour constructs. The indirect or moderating effect will hereafter be discussed and is graphically illustrated in Figure 3.1. by the line emerging from the Time-perspective construct and terminating on the line joining the Intention and Behaviour constructs.

3.2.3.1. The Direct Effect of Time-Perspective on Behaviour

There is growing evidence that time-perspective is likely to have a significant influence on individual financial planning, savings behaviour, and even choice of financial products (Fisher & Montalto, 2010; Howlett et al., 2008; Jacobs-Lawson & Hershey, 2005; Lusardi, 1999; Rabinovich & Webley, 2007; Thaler & Shefrin, 1981; Usunier & Valette-Florence, 1994). For instance, it has been shown that individual time-perspective is positively associated with self-reported preparedness for retirement (Hershey & Mowen, 2000; Howlett et al., 2008). Furthermore, time-perspective (specifically a bias towards the present) is associated with increased credit card debt as such present-orientated individuals are argued to lack the necessary foresight into the long-term consequences of their current credit-fuelled spending behaviour (Mendoza & Pracejus, 1997). Lastly, a recent study by Hershfeild et al. (2011) further highlighted the role of time-perspective in savings behaviour by demonstrating that decisions to save can be influenced by exposing individuals to age-progressed renderings of their own likeness – which was assumed to manipulate individual time-perspective towards future considerations. This research showed that influencing individuals in such a way resulted in them allocating more than twice as much money ($\bar{x} = \$172$) toward their retirement as opposed to controls who were exposed to present-day photos of

themselves ($\bar{x} = \$80$). Following these findings, the researchers posited the so called "self-continuity" hypothesis – that is those individuals who cannot envisage their future selves (perhaps due to a chronic focus on the present or past) are less likely to save for their future and are also more likely to be biased towards smaller sooner rewards rather than lager later rewards (Hershfeild et al., 2011). In closing, the authors concluded that individuals often make unwise inter-temporal choices because they erroneously allocate disproportionate weight to the feelings of the present-self and not enough to the needs of the future-self.

The application of time-perspective considerations in the analysis of financial decision making clearly has precedence in the literature. Despite this, an explicit incorporation of the construct into contemporary consumer decision making models however is evidently lacking. Hall and Fong (2007) regard such an exclusion of time-perspective considerations in the Theory of Planned Behaviour as being highly problematic as such an omission disregards the varying temporal weightings individuals place on immediate versus delayed rewards. In its current articulation the TPB assumes equivalence between proximal versus delayed rewards and hence is incomplete and potentially misrepresentative of the true nature of the consumer decision making process. Founded on this observation, several authors call for a critical re-thinking of the TPB and specifically for the inclusion of time-perspective and other contemporary insights from behavioural economics and psychology, especially when the model is applied to future-orientated behaviours. Shim et al. (2012) accordingly argued that the TPB should incorporate time-perspective considerations specifically based on the argument that financial decision making clearly requires a distant planning horizon. More generally, Frederick et al. (2002) contends that the incorporation of such psychological variables will help to better understand and explain the inter-temporal choices we observe in the real world. This research proposes to heed to this call.

Firstly, based on the reviewed literature above it is hypothesised that time-perspective will have a significant positive correlation with an individual's future orientated-behaviour. More precisely, a future-orientated individual is posited to display a greater preference for acting in their own long-term self-interest relative to present-orientated individuals. Formally,

H_5: There is a positive correlation between time-perspective and the extent to which an individual acts in their own long-term self-interest.

Secondly, in line with the primary objective of this research, a possible moderating effect of time-perspective on the intention-behaviour relationship is also hypothesised. Evidence for this moderation hypothesis is now set forth in the penultimate section of this chapter.

3.2.3.2. The Moderating Effect of Time-Perspective on Intention-Behaviour Consistency

An extensive review of the time literature across academic disciplines returned only a single published research output that explicitly posited and tested the moderating effect of time-perspective on the intention-behaviour relationship. Examining the discord between intention to adopt GPS cell-phone technology and subsequent actual purchase behaviour, Van Ittersum (2012) found that accounting for time-perspective significantly improved the predictive accuracy of self-reported intentions. The results of this research showed that intentions accurately predicted an average of 60.2% of subsequent purchase behaviour across the entire sample. When considering only the subset of respondents classified as future-orientated however, intentions accurately predicted 84.2% of subsequent purchasing.

In explanation for this observed moderating effect, the author suggests that time-perspective systematically biases individual's self-reported intentions. Specifically the research found that present-hedonistic individuals tended to overstate their intentions and present-fatalistic individuals tended to understate their intentions thereby reducing their accuracy in predicting ensuing purchase behaviour. In contrast, future-orientated individuals were found to be less likely to overstate their intentions thereby resulting in relatively more accurate indicators of later purchase behaviour. Past time-perspective however was found not influence the intention-behaviour gap. In light of these findings, Van Ittersum (2012) closed with the suggestion that time-perspective is a critical and often overlooked individual difference variable that warrants further attention in endeavours to explain the intention-behaviour gap. It was also suggested in closing that time-perspective may actually underlay and/or be an antecedent of many of the explanations of the intention-behaviour discord offered in the prior research. Such a suggestion is reminiscent of that of Zimbardo and Boyd (1999) who likewise posit that time-perspective may be related to, integrate and/or even be the foundation upon which a diverse array of psychological constructs are erected. In keeping with this paradigm, this research now provides evidence for the hypothesized moderating effect of time-perspective on intention-behaviour consistency by relating it to several of the previously discussed respondent-level moderators of the intention-behaviour gap.

- ***Time-Perspective and Intention Stability***

The extent to which an intention remains unchanged over time regardless of whether or not it is challenged by new information speaks to the temporal stability of an intention (Sheeran et al., 1999). As discussed previously, the stability with which an intention is held is significantly associated with its accuracy in predicating the ensuing behaviour. In summary, intentions held with greater stability are significantly more predictive of subsequent behaviour than are unstable intentions (Conner et al., 2000; Doll & Ajzen, 1992; Sheeran et al., 1999). It is broadly accepted that an individual's intention to pursue a specific goal or perform a particular behaviour is dependent in large part on the mental representation of the resultant future. An intriguing stream of research has posed the question as to whether such mental representations of the future are subject to change as the time lapses between the stating of an intention and the actual performance of the behaviour. Specifically, such research has investigated whether the mere passage of time (a narrowing of the temporal distance) can in and of itself change or even reverse previously stated intentions.

An emerging body of research in psychology and marketing has drawn of *Temporal Construal Theory* (TCT) (Trope & Liberman, 2003) to explain how such changes in temporal distance may serve to influence individual appraisals of the future and thereby sway previously stated intentions. According to TCT, the time separating an intention and behaviour principally governs what information will be superordinate in the mental representation of the outcome resulting from the behaviour. From a distance, individuals are theorised to construe the future in terms of abstract, high-level considerations related to desirability concerns. As the performance of the behaviour approaches however, the mental representation of the future begins to incorporate more concrete, low-level considerations related to the feasibility concerns. In the simplest possible terms, high-level considerations refer to the "why" an action is to be performed, and low-level considerations capture the "how" the action is to be performed. For example, the goal to improve one's physical health by committing to a healthy eating plan and daily gym-routine starting in one week may initially be motivated by the high-level considerations such as improved physical appearance and increased self-confidence. However, as time passes and the first day of the health regime approaches, lower-level considerations may begin to emerge and become overriding. The unpleasantness of rising early for a morning workout and the agony of foregoing one's favourite sugary treat may reduce the attractiveness of pursuing a healthy lifestyle thereby decreasing or even altogether reversing the previously stated healthy intentions. Similarly, an intention to preserve one's retirement savings when made from a distance may initially be driven by imaginings of an idealistically carefree and well-funded retirement. As the decision

point approaches however, such factors as the ability to use the financial windfall to pay-down existing debt or perhaps even to fund some longed for indulgence (such as overseas vacation) may emerge and begin to exert influence over the decision. TCT suggests that intention-behaviour discord may largely be a result of a failure on the part of individuals to incorporate such concrete feasibility considerations such as time and resource availability into their mental representations of the future (Sherman, 1980; Trope & Liberman, 2003).

Research by Simons et al. (2004) showed that temporal-orientation may be related to an individual's ability to construe distant-future events. Specifically the research showed that future-orientated individuals demonstrated an enhanced capacity to more completely envision the future as compared to those present- and past-orientated. This heightened ability to construe more complete, realistic and ultimately accurate mental representations of the future may render future-orientated individual's intentions more stable as their intentions have already factored in potentially dissuading feasibility considerations. Such factors would otherwise only have become salient as behavioural performance neared and may potentially have changed the previously stated intention. In summary, future-orientated individuals may be less likely to overstate their intentions and present- and past- orientated individuals conversely may be more inclined to overstate their intentions. TCT therefore offers a coherent explanation as to one particular mechanism that may in part underlie time-perspective's hypothesised moderating effect on the intention-behaviour relationship.

- ***Time-Perspective and Self-Regulation***

The ability to self-regulate one's behaviour was previously argued to be a necessary precondition for goal attainment as it enables individuals to subvert undesirable actions and substitute them with more appropriate conduct which may ultimately be instrumental in achieving stated objectives (Howlett et al., 2008). Although largely a psychological construct, this review set forth literature that showed self-regulatory capacity in actual fact has concrete biological bases; namely executive functioning localised in the prefrontal cortex of the brain (Fuster, 1989; Hall et al., 2008; Hall & Fong, 2007; Norman & Shallice, 1980). Furthermore, this chapter noted that such executive functioning (and therefore self-regulatory capacity) may be subject to energy depletion and thus may be fluid depending on environmental and situational determinants. Contemporary literature intriguingly suggests that both levels of executive functioning and energy may be significantly correlated with time-perspective.

Hall and Fong (2007) in their *Temporal Self-Regulatory Theory* (TST) find support for the proposition that individual self-regulatory capacity largely corresponds with measures of time-perspective. TST suggests that future-orientated individuals may have a stronger biologically-imbued self-regulatory capacity compared to their present- and past-orientated contemporaries. Thus future-orientated individuals are accordingly argued to be more likely to follow through on stated intentions. Prior to this Gonzalez and Zimbardo (1985) similarly contended that future-orientated individuals are less impulsive and display greater self-control. As explanation for this, reviewed literature suggests that the positive association between future-orientation and self-regulatory capacity may be partially explained by the finding that both capacities may share common biological bases. These shared origins are now elaborated upon.

Research by Okuda et al. (2003) indicates that self-regulatory capacity and cognitions about the future (and the past for that matter) result in activations in like areas of the prefrontal cortex. Additionally, this research output indicated that individuals with deficits resulting from injury to the prefrontal cortex were often found to be insensitive to the future consequences of their behaviour. Fellows and Farah (2005) likewise indicated that damage to such areas of the brain often resulted in patients exhibiting markedly shorter time-perspectives. Lastly, an earlier study by Bechara et al., (1996) too showed that such cognitively impaired patients often preferred options with immediate versus delayed rewards. These findings are aligned to laboratory studies which have similarly shown in rats that selective lesioning of equivalent areas of the brain resulted in significantly increased preference for smaller sooner rather than larger later rewards (Mobini et al., 2002). In conclusion, neuroimaging studies appear to be reaching general consensus that future-thinking ability may be associated with heightened executive brain function which in turn is associated with goal attainment via increased self-regulatory capacity (D'Argembeau et al., 2010).

In addition to highlighting the biological base of self-regulation, it was also noted in this review that the limited resource of dispositional energy is a crucial facet for engaging in behavioural self-regulation (Rabinovich & Webley 2007; Hall & Fong, 2007). A critical insight offered by Zimbardo and Boyd (1999) is that individual differences in time-perspective are strongly and positively correlated to self-reported energy levels. Therefore it follows that more future-orientated individuals may have further enhanced self-regulatory capacity as they may generally have higher energy stores available to fuel self-control as and when required. The reviewed associations between time-perspective, self-regulatory capacity, and

intention realisation discussed here provides additional support for hypothesised moderating effect of time-perspective on the intention-behaviour relationship.

- ***Time-Perspective, Planning and Intention Implementation***

The deliberate formulation of plans to achieve stated objectives has been shown to increase goal attainment across a broad array of contexts. Specifically, the formulation of if-then plans (so called implementation intentions) was highlighted as being particularly effective through its linking of actions to situational cues thereby partially automating and/or initiating the requisite instrumental behaviour at the crucial moment (Bargh et al., 1996; Fishbein & Ajzen, 2011; Gollwitzer, 1999). The beneficial effect of forming implementation intentions has been demonstrated in everyday behaviours such as completing an assignment over a vacation periods (Gollwitzer & Branstatter, 1997), taking daily vitamin C tablets (Sheeran & Orbell, 1998) and adopting a healthy diet (Verplanken & Faes, 1999). Implementation intentions too have been shown to be successful in facilitating the completion of disagreeable tasks such as self-examinations for breast cancer (Orbeil et al., 1997). Formative and contemporary time-perspective literature suggests that propensity to engage in planning behaviour such as this may be significantly related to an individual's temporal orientation.

Early work by Bergadaa (1990) showed that future-orientated individuals plan more than do those who have more truncated temporal horizons. Accordingly, future-orientated individuals were found to be more considered and prudent in their consumption decisions. Conversely present-orientated individuals' consumption decisions were characterised as being markedly more impulsive and reactive in nature. With regard to planning one's financial future, contemporary research by Howlett et al. (2008) reinforced these formative findings by also concluding that future-orientated individuals have a significantly greater propensity to engage in planning. Rabinovich and Webley (2007) likewise showed that successful savers tended to score higher of measures of future-orientation and also to plan their finances further ahead. Unsuccessful savers on the other hand were found to be significantly more present-orientated. The proposition that time-perspective is positively and significantly associated with planning behaviour, which in turn is related to intention realisation has evident support in the literature. This argument serves as the final evidence offered in support of time-perspective's hypothesised moderating effect on the intention-behaviour relationship.

Founded upon and supported by these three discrete (yet mutually reinforcing) arguments, it is posited that as individual temporal orientation becomes more orientated towards the

future, the association between stated intentions and ensuing behaviour is strengthened. Formally;

H_6: Time-Perspective moderates the relationship between intention and behaviour.

The relative effect of time-perspective along with the other established moderators of the intention-behaviour gap discussed in the preceding theory chapter may vary depending on the nature and context of the decision being faced. The forthcoming chapter now demarcates and justifies this study's specific retirement savings context.

3.3. CONCLUSION

Although offering significant insight into the drivers of the intention-behaviour gap, the methodological and respondent-level considerations discussed in the preceding theory chapter leaves much of the discord unexplained. Based on reviewed literature, this chapter introduced the novel psychological construct of time-perspective as a potentially fruitful individual-difference variable to explain additional variance (Rabinovich et al., 2010). In addition to its possible moderating effect on intention-behaviour consistency, time-perspective was too shown to exert influence over a multitude of behaviours (de Bilde et al., 2011; Henson et al., 2006; Milfont & Gouveia, 2006; Zimbardo & Boyd, 1999). Indeed, the seminal authors in the domain conclude that there are few more powerful influencers of human actions than time-perspective (Zimbardo & Boyd, 1999). Time-perspective was formally defined within this chapter as the temporal bias induced by a chronic overemphasis of one particular temporal-orientation in decision making (Zimbardo & Boyd, 1999). Such biases towards either present, past, or future considerations was argued to manifest in predictable dispositional tendencies. It was the contention of this chapter, that understanding such predispositions on the part of individuals may potentially narrow the intention-behaviour gap.

This chapter began by contrasting time-perspective with the theoretically equivalent economic concept of temporal or delay discounting (Samuelson, 1937). Hereafter a more psychological interpretation was adopted and each of the respective temporal orientations was delineated in turn, highlighting characteristic consumer behaviour associated with each. A direct effect of time-perspective on consumer behaviour was then supported by preceding literature and formally posited. This chapter then set forth justifications for the hypothesised moderating effect of time-perspective on the intention-behaviour relationship. This justification was structured by highlighting empirical linkages between time-perspective and

three of the respondent-level moderators of the intention-behaviour gap discussed in the preceding chapter. These established moderators were namely; temporal stability of intentions, self-regulation, and planning and intention-implementation.

This chapter then concluded by noting that the effect of time-perspective on intention-behaviour consistency, as with other moderators, is expected to differ depending on the nature and context of the decision being faced. Therefore it was noted in closing that an explicit research context was required. Accordingly, the final theory chapter to follow demarcates and rationalises this research effort's specific context as the often faced retirement savings decision of pension preservation.

CHAPTER IV
RESEARCH CONTEXT: PENSION PRESERVATION DECISIONS

4.1. INTRODUCTION

A recent survey by Old Mutual (2011) found that as much as 46% of the respondents who were ten years or less away from retirement were not saving towards that retirement. Indeed, prior research has shown that sub-Saharan Africa saves significantly less of gross national disposable income (GNDI) than any other region in the world (Loayza et al., 2000). An interesting paradox emerges however when one notes that when probed about attitudes toward and intentions to save, repeated measurements have shown that individuals tend to harbour generally favourable attitudes towards saving. Furthermore, such annual measures generally report optimistic savings intentions on the part of respondents (Old Mutual, 2011, 2013). Between an intention to financially secure one's retirement and the cogent behaviour of saving towards it, many individuals act paradoxically by engaging in immediately gratifying consumption. The observation that "warm intentions" to save are all too often followed by "cold feet" is emblematic of the intention-behaviour gap. Unrealised savings intentions are indeed so ubiquitous that academics often tout them as the epitome of future-orientated behaviour that displays high-levels of intention-behaviour inconsistency (Thaler & Shefrin, 1981).

General retirement savings decisions however, such as what percentage of income to save on a monthly basis, are generally made once and rarely if ever revisited (Benartzi & Thaler, 2007). This research therefore focuses upon a much more frequently faced retirement savings decision, namely what to do with accumulated savings at the point that employment with an organisation is concluded. These are so called *pension preservation* decisions and will form the context within which this research is conducted. Exploring the intention-behaviour gap within this domain is potentially of value not just to literature but also to industry as such insights may benefit both individual retirees and retirement savings institutions. From an individual perspective, unrealised savings intentions will understandably have negative impacts on retirement prospects. From an industry perspective, unrealised savings intentions may too have negative consequences as intention-behaviour discord may lead to the overstating of individual members' savings intentions, thereby overestimating their continued fund participation. Providing insights that potentially narrow the intention-behaviour gap is thus of both theoretical and practical importance.

This chapter begins by offering retirement savings as an example of behaviour characterised by intention-behaviour inconsistency. Hereafter, this chapter narrows the context of this research further by focusing on individual pension preservation decisions. The penultimate section of this review then illustrates the impact of unrealised savings intentions on both individual retirees and organizations to illustrate the applicability and importance of such a retirement savings context. In closing, the hypotheses posited in the preceding two chapters are restated in terms of this refined context to arrive at the final theoretical model which will be subjected to empirical testing.

4.2. INTENTION-BEHAVIOUR GAP IN RETIREMENT SAVINGS

The carefree and slow-paced serenity of a well-funded retirement is a life's end many individuals aspire to achieve. The lure of ultimately taking up comfort in the fruits of one's working life is motivation to forego the many temptations of immediate gratifying consumption in order to financially provide for those idyllic sunset years. Unfortunately for many individuals, this aspiration often turns out to be a dream unfulfilled. When individuals succumb to the temptation of spending on the impulsive pleasures of the now and worry about retirement later, they might not save enough (Thaler & Benartzi, 2007). Many people, despite their aspirations and intentions to the contrary, fail to save what they need for retirement (Old Mutual, 2011, 2013). For those individuals who fail to accumulate sufficient savings during their working careers, retirement may be associated with a sudden decrease in quality of life and a precarious and worrisome financial solvency (Hershfield et al., 2011; Jacobs-Lawson & Hershey, 2005).

One of the easiest ways to save for one's post-working life is to enrol in savings plans such as retirement annuities, provident funds and/or other such tax qualified savings vehicles. Contributions to funds such as these are common in the formal employment sector in many countries around the world including South Africa. A predetermined percentage of monthly earnings is deducted automatically from an employee's pay cheque and invested on their behalf by financial institutions. Such investments (hopefully) earn compounding returns overtime thereby growing ahead of inflation and mitigating the time value of money. Such prudent savings behaviour however appears very much to be the exception rather than the norm.

An accumulating body of international and local research is presenting ever more troubling savings statistics. It has been suggested that individuals are saving at rate of just one-third of what is required to adequately fund their later years (Glass & Kilpatrick, 1998). In a review

of the *2004 Retirement Health Survey*, Lusardi and Mitchell (2006) highlight that as little as 18% of elderly persons actually succeeded in developing a savings plan. In an earlier study by the same authors, it was similarly found that a third of individuals over the age of 50, those nearest to retirement, had failed to develop any kind savings plan whatsoever. Munnel, Webb, and Goloub (2009) suggest that more than half of all American households will fail to reach their intended retirement goals. More broadly, the Bureau of Economic Analysis (2010) notes that the average savings rate for American households declined over the preceding two decades from 11.9% (1982) to a rate less than 1% as of 2008. It certainly comes as no surprise that only a small minority of American households feel "confident" about their retirement savings sufficiency into the future (Lusardi & Mitchelli, 2007).

Chronic under-provision for retirement does not appear to be confined to the first world economies. A failure to adequately provide for retirement also prevails within sub-Saharan Africa, and more pertinently in South Africa. Indeed, sub-Saharan Africa saves significantly less of gross national disposable income (GNDI) than any other region in the world (Loayza et al., 2000). South Africa's gross national saving rate has declined by half over the preceding three decades, and it is currently estimated that South Africans save only 15.4% of GDP (World Bank, 2012). A recent survey by Old Mutual (2011) found that as little as 54% of respondents who were ten years or less away from retirement were actually saving towards that retirement. Furthermore, the survey found that 58% of respondents expected to have to work for pay after they reached retirement age, an expectation based on financial necessity rather than volitional choice (Old Mutual, 2011).

The preceding discussion makes it clear that observed savings rates are far below what is required. However an interesting paradox emerges. It would appear that intentions to save are generally positive, perhaps even healthy. Repeated measurements have consistently shown that individuals are generally optimistic when probed about their attitudes towards and intentions to save for retirement (Old Mutual, 2011, 2013). These "warm intentions" - as Alexander et al. (2008) so eloquently put - are all too often followed by "cold feet" and savings intentions are left unrealised. Additionally, Lusardi and Mitchell (2011) found that only 38% of those who had "serious plans" to save actually succeeded. Similarly the same research showed that little more than half of those who intended to develop a savings plan actually did so. An intention-behaviour gap in provision for retirement certainly exists. Between stated intentions to secure one's retirement and the cogent behaviour of saving towards it many individuals act paradoxically. This exemplar of the intention-behaviour gap will henceforth be the focus of this research effort. The selection of a retirement savings

context is supported by preceding literature where researchers have for long touted it as the archetype of intention-behaviour discord (Ainslie & Haslam, 1992; Rabinovich et al., 2010; Thaler & Shefrin, 1981; Van Ittersum, 2012). More specifically this research will focus on a singular retirement savings decision often faced by individuals, namely pension preservation decisions at the time retrenchment or dismissal.

4.3. RESEARCH CONTEXT: INDIVIDUAL PENSION PRESERVATIONS DECISIONS

The critical decision as to what percentage of income on a monthly basis to save is generally a decision made once only and rarely, if ever, revisited (Benartzi & Thaler, 2007). A retirement savings decision faced much more frequently by employed individuals is what to do with accumulated retirement savings at the point that their employment with an organisation is concluded – be it by voluntary resignation, unforeseen retrenchment or even dismissal. The choice often is between a withdrawal of the accumulated savings as a lump sum (importantly with severe tax implications) *or* prudent reinvestment of the accumulated funds in similar retirement savings plans either through a new employer or in a personal capacity. A choice to "take the money", especially when one considers the foregoing of years of compounding interest, certainly has adverse implications for the value of one's retirement savings and (if no other provision is made) the quality of one's retirement years.

This self-defeating behaviour of forgoing a greater future benefit (a well-funded retirement) in exchange for some short-term gain (such as the purchase of that long-desired overseas vacation) bears the hallmark of other behaviours that are characterized by intention-behaviour discord. This distinguishing characteristic is the discontinuity between the valence of immediate and non-immediate benefits driven by the temporal distance between them (Hall & Fong, 2007). Indeed Howlett et al. (2008) showed that consumers have a general tendency to opt for immediate gratification. In this case such a tendency would manifest as the withdrawal of accumulated savings as opposed to saving for the future. Despite intentions to the contrary, individuals – reminiscent of Aesop's renowned fable *"The Ant and the Grasshopper"* – often succumb to the seduction of present consumption.

Retirement savings decisions such as pension preservation are clearly not straightforward – but rather represent a complicated task requiring conscious deliberation, planning and effortful self-regulation (Thaler & Shefrin, 1981). Prior research has explored and established a myriad of such psychological factors which covary with savings behaviour (see for example Nyhuys (2002) and Warneryd (1999). Such factors may partially explain why prudent intentions are sometimes overwhelmed by a stronger impulse, which is to say they

may in part elucidate the intention-behaviour gap (Howlett et al., 2008). This research aims to contribute to this stream of research by expanding upon the respondent-level moderators discussed in the preceding chapter by proposing a moderating effect of the time-perspective on intention-behaviour consistency within this specified context.

Addressing this specific example of the intention-behaviour gap results in this research effort yielding two discreet contributions to literature. First, findings emanating from this study may generate insights which, within reason, could be extended to other occasions of intention-behaviour discord. Second, offering insights as to how individuals may more fully realise retirement savings intentions has the potential to improve individual preparedness for retirement. In addition to this effect on the individual, continued fund loyalty on the part of members has the potential to benefit the financial intermediaries who exist to service such needs. In closing, the effect on the individual and organisation is now briefly elaborated upon.

4.3.1. The Effect on the Individual

Economic theory of wealth accumulation posits that consumption decisions are made in accordance with a life-cycle framework wherein consumers derive utility from consumption *across* their lifespan (Ando & Modigliani, 1963). Such smooth consumption however requires saving during working years so as to fund consumption in retirement. As highlighted above, this is all too often not the case. Outliving one's accumulated savings impinges on the ability to spend as desired, and more painfully, as required. This shortfall impedes both an individual's psychological as well as physical well-being (Brown, Taylor, & Wheatley Price, 2005; Johnson & Krueger, 2006). Further empirical evidence has shown that those who save report higher levels of *present* subjective wellbeing demonstrating that saving today has benefits that precedes the more obvious ones that manifest later in retirement (Soyeon et al., 2012). More generally Cohen, Ben-Zur, and Rosenfield (2008) have shown a correlation between such proactive "coping" behaviours (action taken in the present to attain future goals) and subjective well-being. Given these findings, Soyeon et al. (2012) concludes that saving may be an important adaptive life skill for young adults. Research efforts that potentially offer tangible considerations to enable individuals to realise their retirement goals are thus of practical importance. It is the contention of this author that time-perspective is one such consideration. As noted above, unrealised savings intentions too may have negative consequences on those organisations that exist to service retirement savings needs.

4.3.2. The Effect on the Organisation

It is the nature of formal retirement savings that individuals enter into long-term relationships with financial services firms over the course of their working careers. The intention-behaviour discord outlined above raises the possibility that current marketing intelligence may be deceptive in that it reports biased and therefore misleadingly high intentions to save (or continuing to save as the case may be). In essence, continued fund membership may be overstated. This is clearly problematic to financial services marketers as the ability of such organisations to retain customers facing pension preservation decisions is a core competency (Tuominen & Kettunen, 2003). This recommendation is supported by research findings that existing customers not only spend more but are also less costly to serve (Ganesh, Arnold, & Reynolds, 2000). Furthermore, existing customer bases have been shown to be less sensitive to competitive marketing activities (Colgate, Stewart, & Kinsella, 1996). In line with this, Van den Poel and Larivière (2004) conclude that firms need to be cognisant of the value of their existing customers, especially in mature and/or increasingly competitive markets such as retirement. It is the contention of this research that the time-perspective construct may potentially offer a tangible consideration for marketers of such financial products to identify those consumers whose stated intentions are relatively more or less predictive of their ensuing behaviour. Incorporating such a consideration and adjusting self-reported intention measures accordingly may increase customer retention rates by highlighting those fund members upon whom to focus interventions. This chapter now concludes by restating the hypotheses offered in the two preceding theory chapters in terms of this specific pension-preservation context.

4.4. RESTATEMENT OF HYPOTHESES WITHIN SPECIFIED CONTEXT

The following section formally presents the final theoretical model of this research effort which is to be subjected to empirical testing. The final theoretical model is graphically illustrated in Figure 4.1. The hypotheses offered in the two preceding theory chapters are now restated in terms of the specific pension-preservation context;

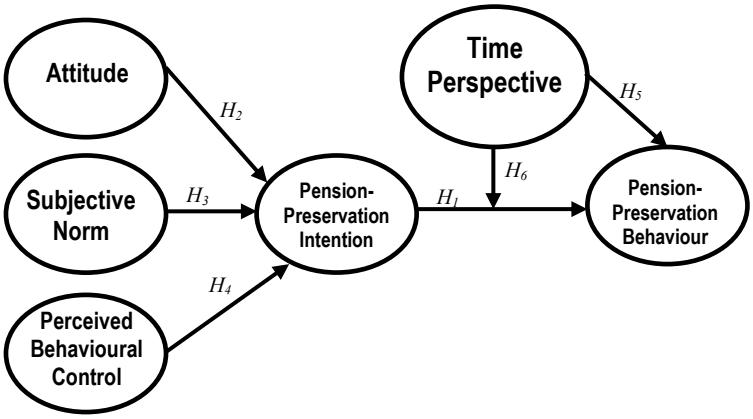

Figure 4. 1. Final Theoretical Model

H_1: There is a positive correlation between intentions to preserve accumulated retirement savings and subsequent actual pension preservation behaviour.

H_2: There is an association between attitude towards pension preservation decisions and intention to withdraw or not the accumulated retirement savings.

H_3: There is an association between subjective norms regarding pension preservation decisions and intention to withdraw or not accumulated retirement savings.

H_4: There is an association between perceived behavioural control regarding pension preservation decisions and intention to withdraw or not accumulated retirement savings.

H_5: There is a negative association between Time-Perspective and actual pension preservation behaviour.

H_6: Time-Perspective interacts with intention to moderate the intention-behaviour relationship within the context of pension preservation decisions.

With the establishment of a clearly demarcated context within which to empirically test the hypothesised relationships and the moderating effect of time-perspective on intention-behaviour consistency, the next chapter now sets forth and justifies the methodology followed in this research effort.

4.5. CONCLUSION

This final theory chapter set out to outline a specific context within which to empirically assess the proposed hypothesises based on the insight that the effect of the aforementioned moderators is contingent upon the context and nature of the decision being faced. This chapter began by noting that when juxtaposing measurements of individual attitudes and intentions regarding retirement savings with observed savings rates, it was clear that despite intentions to the contrary many individuals fail to save what they need for retirement. This chapter argued that such a phenomenon is emblematic of the intention-behaviour gap. Indeed unrealised savings intentions such as this were noted to be so pervasive that it is often touted by academics as the epitome of future-orientated behaviour that displays high levels of intention-behaviour inconsistency (Thaler & Shefrin, 1981).

This chapter then noted that general retirement savings decisions, such as what percentage of salary to save on a monthly basis, are often once-off and rarely revisited (Benartzi & Thaler, 2007). This chapter then further narrowed the context of this research to a much more frequently faced retirement savings decision, namely what to do with accumulated savings at the point that employment with an organisation is concluded; so called *pension preservation* decisions. This retirement savings context was argued in the penultimate section of this chapter to be applicable and of importance to literature as insights gained may potentially benefit the marketing discipline, individual retirees and retirement savings institutions. This chapter then closed by offering the final theoretical model to be subjected to empirical testing by restating all hypotheses in accordance with this specific retirement savings context. With a clearly demarcated context, the forthcoming chapter delineates the methodology followed in this research.

CHAPTER V
METHODOLOGY

5.1. INTRODUCTION

The three preceding theory chapters proposed and discussed this study's theoretical model, constructs and associated hypotheses. Furthermore, the preceding fourth chapter specified the often faced retirement savings decision of pension-preservation as the specific context within which this research is undertaken. This chapter now sets forth the methodological considerations made and steps followed in the execution of this study and offers justifications for their use. Hair, Sarstedt, Ringle, and Mena (2012) note that methodological transparency often leaves much to be desired across the academic disciplines. In response to this and in keeping with the Stewart's (2009) appeal, this chapter will set forth this study's methodology in sufficient detail so as to enable future researchers to replicate this study and/or to assess the quality of its subsequent findings.

This chapter will begin by reiterating the purpose of this research and by detailing the research approach adopted. Specific considerations regarding sampling, measurement, data collection and preparation, and statistical analysis are then presented in the remaining sections. Specifically, the second to last section in this chapter provides thorough discussion of and justification for the use of Partial Least Squares Structural Equation Modelling (PLS-SEM) as the primary statistical approach employed in this research effort. Lastly a summary of this chapter is provided.

5.2. RESEARCH PURPOSE AND APPROACH

As noted by Malhotra (2010) and Churchill and Iacobucci (2009) research efforts can be broadly classified as either being exploratory or conclusive in their nature. These two broad approaches serve different purposes but are not necessarily mutually exclusive. In certain circumstances the two approaches may indeed be interleading. Exploratory research may lead to further conclusive research to substantiate its preliminary findings or, in another situation, further exploratory research may be warranted post the outcome of conclusive research to shed light on a research issue that is insufficiently comprehended. As suggested above, exploratory research has as its primary objective the provision of insights into and the comprehension of the research problem being faced. Such research is appropriate when little is known of the problem, the information required is loosely defined, the sample is small and non-representative and/or the analysis of the data is envisioned to be largely qualitative (Malhotra, 2010). Such research results in findings that are tentative as they are by definition

without statistical certainty. Exploratory research can however play a fundamental role in the early conceptualisation of a conclusive research study.

Conclusive research designs on the other hand have as their primary objective the testing of prior specified hypotheses leading to the description of relationships between constructs of interest and their generalizability to the population (Malhotra, 2010). Such research is characterised by a formal and structured research process, representative samples and quantitative analysis of data leading to the support or failure to support the proposed hypotheses (Malhotra, 2010). The yield of such research is often used as an input to assist managerial decision making within industry. This research undertaking can be classified as being conclusive in nature, and more specifically as descriptive research. Descriptive research is a subset (along with causal research) of conclusive research designs (Malhotra, 2010). The primary objective of causal research is to find sufficient support to infer causal relations between constructs by providing evidence of concomitant variation, causes preceding effects and the controlling of alternative explanations or extraneous variables (Churchill Jr & Iacobucci, 2009). Descriptive research by contrast has as its purpose the description of phenomenon of interest.

A survey is the most common method of primary data collection in descriptive research and was adopted for this study. More specifically this study made use of electronic survey methods which is noted to be advantageous in so far as it is a low cost method to quickly obtain survey responses (Aaker, Kumar & Day, 2007). Additionally, electronic surveying was pursued as it is assumed to be more appropriate to obtain sensitive information from respondents given its high perceived anonymity (Malhotra, 2010). Ensuring privacy of responses was a crucial consideration given the sensitive nature of the retirement savings context of this research. As discussed by Dillma (2007), electronic survey methods do however have some limitations which warrant consideration. First, in contexts where access to internet and/or internet literacy is low large sections of the population may be excluded from sampling. Second, the absence of the researcher at the moment of survey means that respondents experiencing difficulties with the questionnaire cannot solicit clarification. Given the employed nature of the sample it was presumed that the target population had a high probability of internet access and literacy. In response to the second concern, detailed instructions were provided to respondents in the introductory paragraphs of the questionnaires to mitigate consequences of researcher absence.

The research approach adopted can further be classified as being longitudinal as opposed to cross-sectional in nature. Within cross-sectional research designs, investigators compare groups of subjects who are observed at a single point in time (Weiten, 2010). Such a "snap-shot" approach is the most popular in marketing research but is inappropriate for the purposes of this research given the focus on intention-behaviour discord (Malhotra, 2010). In contrast, longitudinal research sees investigators observe one group of subjects repeatedly over a period of time (Weiten, 2010). Accordingly, respondents in this study will be subjected to two measurements at two different points in time; an initial measure of intention and a behavioural follow-up measure after a period of two weeks. The most salient advantage of the longitudinal approach in the case of this research is the ability to detect changes at the individual level and to ascribe such changes to the individual difference variable, namely time-perspective (Malhotra, 2010). Given that several other studies within this domain have also approached intention-behaviour gap investigations with longitudinal designs, this research approach is somewhat justified (Rabinovich & Webley, 2007; Sniehotta et al., 2005; Van Ittersum, 2012).

With the research approach outlined, the researcher's next primary concern is that of sampling. Ensuring the representativeness of a sample is crucial to all studies so as to ensure generalizability of the research findings. Longitudinal research design's samples may be subject to high levels of refusal to cooperate and/or mortality, thus resulting in a final sample that may, or at least, may become unrepresentative of the target population (Malhotra, 2010). A further concern relates to the sample's appropriateness given the specific inferential statistical approach employed. For instance, this study makes use of PLS-SEM which mandates certain sample characteristics and sizes which need to be considered. Failure to address such concerns may reduce the quality of the research findings and subsequently decrease the value of this study's contribution to literature. Given this, careful sampling considerations were made in the design of this study and these are discussed in the forthcoming section.

5.3. SAMPLING

In a utopia of unconstrained time and research budgets near perfect population parameters (those free of any sampling and/or measurement error) could be achieved by measuring all members within in a population of interest - that is by conducting a census. However the reality faced by researchers almost always precludes such exhaustive measurement of the target population. As such, researchers alternatively must select from within their target population a sub-group of elements (a sample) from which they can infer to the target

population. Such inference from sample statistics to estimated population parameters is contingent upon the representativeness of the sample. The following sub-sections will set forth the definition of this study's target population, discuss the sampling procedures followed and delineate the considerations made in the determination of the final sample size pursued.

5.3.1. Target Population

A target population can be defined as the collection of elements or objects that possess the information sort by the researcher (Malhotra, 2010). It is of this collection of individuals that conclusions are to be drawn as the final stage of the research effort. The target population for this study can be broadly defined as employed individuals (both in the private and public sector) between the ages of eighteen and sixty-five who are currently contributing on a monthly basis towards some sort of retirement savings (be it a pension plan and/or provident fund) either in their personal capacity or via their employer. Such a sample is appropriate given the retirement savings context of this research. The procedure adopted to arrive at the final sample is now discussed.

5.3.2. Sampling Procedure

The procedure adopted to arrive at the final sample of respondents will affect the researcher's ability to generalise findings to the broader population (Malhotra, 2010). Probability and non-probability sampling techniques result in generalizable and non-generalizable findings respectively (Malhotra, 2010). Although inferable findings are preferred, given the budgetary and time constraints associated with this research the pursuance of a large and representative sample is not feasible. Therefore this research adopts a nonprobability sampling technique, specifically snowball sampling with quota controls. Preceding an elaboration on this however, a contrast of probability and nonprobability sampling is offered.

A probability sampling technique is one in which each element of the target population has a known and fixed probabilistic chance of being included in the sample (Malhotra, 2010). Examples of such techniques include: simple random sampling, stratified sampling and cluster sampling (Hair, 2013). As sample elements are selected by chance (that is with a degree of randomness) it is plausible that the resultant sample will be representative of the target population. Furthermore, with such sampling techniques the precise determination of sample estimates and confidence intervals is possible (Malhotra, 2010). Therefore the

researcher is justified in making inferences or projections about the target population. That is, the researcher may extend her discussion of results *beyond* her sample.

On the other hand, a nonprobability sampling technique does *not* employ chance selection criteria to select units to be included in the sample. Rather sample elements are chosen for inclusion based on the researcher's (or even individual fieldworker's) personal judgement and/or convenience. Such procedures may result in good estimates of population parameters; however this is not assured (Malhotra, 2010). Additionally it must be noted that sampling error cannot be assessed for such samples and thus precise bounds cannot be placed on the parameter estimates (Churchill Jr & Iacobucci, 2009). Therefore nonprobability samples should be treated with some caution. Projection to the population of the findings is problematic in light of this. The researcher is confined in her discussion of the results to her sample of respondents only. As indicated previously, due to time and budgetary constraints in addition to the highly-defined nature of the proposed sample, this study employed the nonprobability technique of snowball sampling with quota controls.

Snowball sampling is a judgement based technique that relies on the researcher's ability to locate an initial set of respondents with the desired characteristics; these individuals are then used as informants who identify others with the desired characteristics and refer them for inclusion in the sample (Churchill & Iacobucci, 2010). In an attempt to ensure that the sample composition adequately mirrored that of the population, quota controls were established with respect to age, gender, education and employment status. Although this does not guarantee the representativeness of the sample, such quotas can under certain conditions obtain results close to those of conventional probability sampling (Malhotra, 2010). Given the highly specified nature of the target population pursued in this study and the associated difficulty of identifying suitable respondents, snowball sampling is appropriate as it has been shown to be effective when dealing with hard-to-reach and/or hidden populations (Heckathorn, 2002). Comparable studies (e.g.: Rabinovich et al., 2010) have similarly made use of snowball sampling and therefore its use here is somewhat justified. The initial sampling frame for this study was in the form of email address lists (with verified sampling units) which were solicited from three participating medium-to-large firms operating within the marketing sector in Cape Town. The final sampling consideration made was to deliberate the appropriate sample size required by the chosen research design.

5.3.3. Sample Size

The process of determining the number of elements to be included in a sample is often complex and involves several qualitative and quantitative considerations. Deliberations may include but are not limited to: the complexity of the model, sample size used in similar studies, low communality and departures from normality which may all necessitate increased sample sizes (Malhotra, 2010). The salient sample size considerations for this research were twofold. First, sample characteristics needed to be appropriate for the application of Partial Least Squares Structural Equation Modelling (PLS-SEM) which, as will be discussed later, is the primary inferential statistical technique adopted. Secondly, the longitudinal nature of this research design precipitated certain sample size characteristics.

With regard to Structural Equation Modelling (SEM), Durbach (2010) notes that sample size considerations are paramount as they provide the basis for the estimation of sampling error. The same author suggests that sample sizes in the region of 150-200 are appropriate for SEM applications. More specific to this research effort, Hair et al. (2012) similarly note that sample size considerations are a particular concern in PLS-SEM. In an extensive review of PLS-SEM applications within marketing literature, Hair et al. (2012) found an average sample size aligned with Durbach (2010)'s recommendation (n=211.29). It is noted however that PLS-SEM is notably robust to small sample sizes (Hubona, 2010). Indeed, PLS-SEM has been shown to achieve high levels of statistical power even with sample sizes less than n=100 (Reinartz et al., 2009). This is an often noted advantage of PLS-SEM (Hubona, 2010).

With regard to the longitudinal nature of this research, there was the distinct possibility of sampling units not completing the follow-up measure. The potential for so-called "*sample mortality"* was a primary concern for this researcher. To mitigate this concern, the initial sample size is accordingly larger than the final target sample size. Given these two discreet considerations, and balancing them with budgetary and time constraints, this research pursued an initial sample size of n=150 so as to ensure the final sample size was in the region of n=100. Such a final realised sample size would be in keeping with that achieved in the seminal work by Van Ittersum (2012) who achieved a final sample size of n=73 (from an initial response set of n=173). With sample size considerations outlined, the forthcoming section sets forth the measurement of this study's key constructs.

5.4. MEASUREMENT

Measurement is the process whereby numbers are assigned to constructs via indicators which permits statistical analysis of the resulting data (Malhotra, 2010). Operational definition of this study's key constructs is (and always must be) primarily based on theoretical grounds to strengthen the credibility of the research output as it relies upon previously validated and reliable scales (Hair et al., 2012). This study will adopt such an established scale for the time-perspective construct. The measures related to the TPB (attitude, social norms, perceived behavioural control, intention, and behaviour) will however require the construction of a context specific scale items as no research has been previously conducted in a sufficiently similar context.

Ajzen (2011) notes that measurement of the constituent constructs within the TPB must adhere to the principle of compatibility to ensure that they correspond and therefore can be assessed in relation to the particular behaviour and context of interest. This means that all measured constructs must be defined in terms of the same action, the same target at which the action is directed, the same context within which it is performed and the same time of occurrence. For the purposes of this study the behaviour and context of interest is explicitly stated as the respondent's decision to withdraw or not one's accumulated retirement savings two weeks following an unexpected hypothetical retrenchment. All subsequent measures must thus conform to this contextual specification and were developed in accordance with the guidelines provided by Fishbein and Ajzen (2010). Prior to the delineating the measurement of this study's key constructs, the hypothetical pension-preservation scenario used is first discussed.

5.4.1. Hypothetical Pension-Preservation Scenario

As noted above, this study explicitly focuses upon the specific retirement savings decision of pension preservation. This often faced decision involves the important choice of whether or not to withdraw one's accumulated retirement savings at the moment that employment with an organisation is concluded. To ensure that each and every respondent is exposed to the same context, thereby controlling for alternative explanations, a scenario based approach was adopted. The use of such a standardised scenario facilitates the comparison of survey responses which is a distinct advantage of the approach. Scenario methodology does however have the noteworthy limitation in that there is no guarantee that all respondents would interpret the scenario in the same way, let alone in the way intended by the researcher (Sirdeshmukh, Singh, & Sabol, 2002). Despite this concern, similar studies have previously adopted such scenario methodology and thus this approach is somewhat

substantiated (Carrington et al., 2010; Conner, Graham, & Moore, 1999; Evans & Norman, 1998; Pieters & Zeelenberg, 2005). The hypothetical scenario to which all respondents were exposed and asked to indicate their intentions and, after a period of two weeks, their final decision was presented in the initial (Appendix A) and follow-up (Appendix B) measurement instruments. The scenario specifically stated that employment is concluded due to unavoidable retrenchment to ensure the viability of the organisation during challenging economic times. The importance of the respondent projecting themselves into the scenario and answering the subsequent questions as if it were they who were facing the decision given their current circumstances was stressed in the introductory paragraphs. The complete scenario is offered in italics below;

Scenario

You have just celebrated your birthday with your friends over the preceding weekend; you arrive at your work on Monday morning only to be directed immediately your boss's office. Unfortunately your company has been struggling as of late and management have decided that there is no alternative but to retrench staff in order to save the company. Unfortunately for you, and to your great surprise, ***you are one of the employees who have been retrenched (let go) and your last working day is two weeks from today.***

You too are advised that you have ***built up sizable retirement savings (pension fund or provident fund) with the company****. You have been contributing on a monthly basis since you began working for the company. You are advised that you may* ***withdraw this money in cash or transfer the money to your new employer's pension fund.***

NOTE: You only have to make this decision two weeks from today.

With the scenario approach charted, the specifically developed measures for intention and the antecedents thereof are now discussed in the forthcoming sections. Following this, the operational definition of time-perspective is outlined followed by that of the longitudinal measurement of actual pension-preservation behaviour.

5.4.2. Intention

The individual's prevailing intention as to whether they decide to withdraw the accumulated retirement savings or not following their hypothetical retrenchment was measured via scale items 2 through 6 which were Likert-type scales resulting in interval data. The first four of these items probed intention repeatedly via the posing of the same question with subtly different phrasing. Scale item seven attempted to ascertain more precisely the extent to which or the amount of retirement savings the respondent wished to withdraw if they

intended to do so. This item is measured on a seven-point semantic differential scale ranging from “None of it” (1) to “All of it” (7). A summated scale score across this set of indicators close to one would therefore equate to a low intention to preserve their retirement. Conversely, a summated scale score close to seven would indicate an intention to withdraw the accumulated savings.

5.4.3. Antecedents of Intention

Attitudes, subjective norms, and perceived behavioural control are assumed to be based on a corresponding set of salient beliefs (Fishbein & Ajzen, 2010). Pilot work was necessary to identify such accessible beliefs in the mind of respondents. To achieve this, a small sample of individuals who were representative of the target population participated in an informal discussion to elicit their readily accessible behavioural beliefs, normative beliefs and control factor beliefs. The results of this formative research were incorporated into the construction of the initial measurement instrument which is attached as Appendix A. The measurement of each respective antecedent of intention is now discussed in turn.

Attitude towards the decision to withdraw or not the accumulated retirement savings is measured using four indicators derived from the salient behavioural beliefs and the individual’s evaluations about the accompanying behavioural outcomes. The salient beliefs identified in preliminary research were “comfort in retirement”, “financial independence in retirement” and “happiness in retirement”. Items 10.1, 10.2 and 10.3 measure attitudinal evaluations using a seven point Likert-type scale anchored by strongly disagree (1) and strongly agree (7). Item 9.1 is a seven-point bipolar adjective scale measuring a general attitude towards the decision with 1=Bad and 7=Good. Attitudinal scores on the resulting summated scale approaching seven (7) are then indicative of an unfavourable attitude towards retirement savings and scale scores nearer to one (1) indicate a more favourable attitude towards preserving retirement.

Subjective norms are based on the respondent’s beliefs about the normative expectations of others and their motivation to comply with these expectations (Fishbein & Ajzen, 2010). The referents most readily accessible in the mind participants were: friends, family, and society. Scale items 11.1 to 14.3 collectively measure the individuals’ perceived subjective norms and their motivations to comply therewith. These items are grouped into three sets of three items, one for each of the identified referents. Similarly to the attitudinal scale discussed previously, these items are measured using a seven point Likert-type response format anchored by polar opposites. Summated scale scores approaching one (1) would be

indicative of high motivation to comply with the expectations of referents. Conversely scores nearer to seven (7) would be indicative of low motivation to comply

Perceived behavioural control is the final antecedent of intention and is assumed to be given rise to by the respondent's level of control beliefs – that is beliefs about the factors that may facilitate or impede their performance of the behaviour (Fishbein & Ajzen, 2010). Two salient control beliefs emerged from the preliminary research. Firstly, the respondent's financial position at the time of retrenchment may necessitate the withdrawal of the accumulated retirement savings to ensure their current survival. Secondly, the confidence (or lack thereof) the respondent has in their ability to find alternative employment may dictate whether they withdraw the accumulated savings or not. Items 15.1 to 15.4 measure such control beliefs and their power to influence forthcoming intentions. Again these items are measured on a seven point Likert-type scale anchored by Agree (1) at one extreme and Disagree (7) at the other. Therefore summated scale scores approaching one (1) are suggestive that the respondent believes they do not have much volitional control over the decision to withdraw the accumulated savings; their current circumstance dictates withdrawal. Conversely summated scale scores closer to seven (7) would indicate a stronger level of perceived behavioural control on the part of the respondent – that is the respondent feels a greater sense of volitional control over their forthcoming behaviour.

5.4.4. Time-perspective

Several suggested measures of time-perspective have been forwarded by researchers in reviewed literature. The Zimbardo Time Perspective Inventory (ZTPI) is one such highly empirical scale and consists of fifty-six Likert-type scale items (Zimbardo & Boyd, 1999). Following administration, the individual ZTPI scores are subjected to a process of factor analysis and the results thereof define a respondent as being of a particular time-orientation; past (positive or negative), present (hedonistic or fatalistic), or future. In spite of its academic validation and commercial success, the length of the ZTPI is of concern to the researcher and hence a more succinct, but equally valid and reliable scale is proposed to measure the time-perspective construct.

The Consideration for Future Consequences Scale (CFC) developed by Strathman et al. (1994) is a twelve item scale measuring the extent to which individual's consider distant versus immediate consequences of their behaviour. In this way the scale serves as a proxy for time-perspective and measures it along a single continuum from present- to future-mindedness. The scale has been shown to correlate well with other markers of time-

perspective including the previously discussed ZTPI (Ferguson, 2007). Furthermore this scale has demonstrated acceptable internal consistency reliability with reported Cronbach alphas ranging from α=0.76 to α=0.86 in previous applications (Daugherty & Brase, 2010). The scale was too adopted by Beenstock et al. (2010) in a comparable study and similarly performed well. Given its use in prior studies and considering its brevity the CFC will be adopted as the operational definition of time-perspective in this study. The scale is presented verbatim as items 7.1 to 7.12 in the initial questionnaire.

The twelve scale items are all assessed on a seven-point Likert-type scale in which respondents are asked to indicate the extent to which they believe the statements are extremely uncharacteristic (1) or extremely characteristic of them (7). The scale will therefore result in data that is assumed to be interval in nature and therefore parametric statistical analysis thereof is permitted (Malhotra, 2010). The scale items 7.3, 7.4, 7.5, 7.9, 7.10, 7.11 and 7.12 are negatively worded and therefore must be reverse scored prior to data analysis. Individual respondent scores for the summated scale closer to a value of one (1) would indicate that an individual has less consideration for the future consequences of their behaviour – that is they are more present orientated. An individual respondent whose summated scale score approaches seven (7) would have a higher consideration for the future consequences of their behaviour – that is they are more future orientated.

5.4.5. Behaviour

The longitudinal design of this study and its primary occupation of explaining variation in behaviour following stated intentions logically necessitates a follow-up measure of the actual decision taken by the respondent regarding their accumulated retirement savings post their hypothetical retrenchment. This study will assess the individual respondent's actual decision two-weeks following the administration of the initial questionnaire with a short follow-up questionnaire which is attached as Appendix B. The reader will note that the two items which constitute this follow-up measurement instrument are similar to the measures of intention in the initial questionnaire. These previously administered items are slightly modified in such a way that where items previously referred to "intentions" or "willingness" on the part of the respondent, they are now more declarative with phrasing such as "want to" and "it is my decision to". This similar phrasing facilitates compatibility considerations (Azjen, 2011). These indicators of longitudinal behaviour are presented as items one and two of the follow-up questionnaire and are too measured on a seven-point Likert-type scale and a semantic differential scale resulting in data that is assumed to be interval in nature (Malhotra, 2010). Item two attempts to determine more specifically the extent to which the respondent wishes

to withdraw their accumulated retirement savings if they indeed decided to do so. Accordingly item two asks respondents to indicate this amount on a seven-point continuum from “none of it” (1) to “all of it” (7). Summated scales scores for the behaviour construct can thus be interpreted as follows; scale item scores approach one (1) would be indicative of preserving retirement savings and scale item scores approaching seven (7) would be suggestive of withdrawing retirement savings.

5.5. DATA COLLECTION AND PREPARATION

Permission to survey external respondents was obtained from the UCT Faculty Ethics Committee prior to the commencement of data collection (see Appendix F). Data for this study was collected via electronic survey methods facilitated by surveymonkey.com. The use of electronic surveying was discussed above in Section 5.2. The first wave of data collection commenced on the 19th May 2013. An invitation to participate in the study and an accompanying URL link to the initial questionnaire was sent to the initial study participants as per the sampling procedure discussed above. Respondents were then asked to complete the questionnaire at a time that was convenient for them and to respond to the hypothetical scenario as if it were them who were actually facing the decision given the current circumstances in their life. The importance of the respondent projecting themselves into the scenario was stressed in the introductory paragraph. Furthermore, respondents were informed that the questionnaire should take no longer than 10-15 minutes to complete and that their responses will be treated with the highest confidentiality. Respondents were finally asked to provide their email address to facilitate the longitudinal behavioural follow-up measure which was automatically emailed to them two weeks from the moment they submitted the initial questionnaire. This second wave of data collection commenced on the 2nd June 2013. Respondents who failed to complete the follow-up questionnaire within a predetermined period of time were sent periodic reminder emails to encourage them to complete their participation. This process was conducted to diminish the potential sample mortality. To further mitigate such potential loss of sample elements, participants were incentivised to fully participate (that is to complete both in the initial and longitudinal follow-up) via a lottery offering a potential R500 prize. Prior to this process of data collection, the measurement instrument was pretested to highlight and correct for potential problems.

5.5.1. Measurement Instrument Pre-test

A pilot questionnaire was subjected to a pre-test on a convenience sample of n=20 respondents in the final weeks of February 2013. Preliminary analysis as to the reliability and validity of the scale items in the form of internal consistency analysis (Cronbach Alpha) and confirmatory factor analysis was conducted as per the recommendations of Azjen (2011). Changes to the initial and follow-up measure were made as required. The results of this analysis served to provide preliminary evidence of the quality of the scales.

5.5.2. Data preparation

Malhotra (2010) notes that inadequate attention to data preparation can seriously compromise the subsequent statistical analysis and findings. Therefore this study took great care to ensure that the final data set was suitable for statistical analysis by attempting to maximise its accuracy and precision through a process of data preparation. The data preparation process consisted of reviewing the completeness of the survey responses and editing where necessary to handle missing values, logical inconsistency and out of range responses. Due to the fixed-alternative nature of the measurement instrument and the electronic survey method used it was not expected that the data have many such quality issues. The data preparation process was conducted using a combination of Microsoft's Excel and IMB's SPSS 20. With confidence as to the quality of the raw data assured, the researcher's effort then turned to the statistical analysis of the proposed theoretical model and its associated hypotheses.

5.6. STATISTICAL ANALYSIS

Statistical analysis for this research effort was conducted in two parts; namely descriptive statistics and later inferential statistics. The former was conducted so as to assess the appropriateness of the final realised sample relative to the target population outlined previously. Additionally, descriptive statistics for each of this study's key constructs was examined. Following this, inferential statistics via the application of PLS-SEM was undertaken to support and/or reject the hypotheses posited in the preceding theory chapters. Each aspect of the statistical analysis conducted is now discussed in turn. Specific reporting of the results of these analyses is deferred to the forthcoming results chapter.

5.6.1. Descriptive Statistics

Descriptive statistics serve to summarise and describe a set of known data in a clear and concise manner (Malhotra, 2010). This study examined descriptive statistics at two levels. Firstly, the sample was assessed in terms of the relative frequencies of respondents falling within certain categories such age, gender and educational attainment so as to assess the appropriateness of the final realised sample. Second, each of the key constructs of this study were examined according to their mean and standard deviation (given their parametric nature) so as to understand both the central tendency and spread evident in the resultant data.

5.6.2. Inferential Statistics

In contrast to descriptive statistics, inferential statistical analysis is concerned with drawing conclusions and inferences about a population from the observed sample (Asadoorian & Kantarelis, 2009). Central to inferential statistics is the process of hypothesis testing wherein proposed expectations are either supported or rejected by the data at a specified level of confidence (or statistical significance as it is known). Hypotheses are generally phrased so as to address one of four types of statistical problems (Malhotra, 2010). Firstly, a hypothesis can posit an expected difference between groups of respondents on a particular variable of interest. Second, hypotheses can posit expected differences on two or more measures within the same group of respondents. Thirdly, hypotheses can postulate a value of particular measure. Lastly, hypotheses can posit specified associations or interactions between constructs. The final theoretical model proposed in this research is most aligned with the fourth type of hypothesis given its set of proposed interrelated relationships between constructs. Furthermore, as the model considers several variables simultaneously a multivariate statistical analysis technique was required. Multiple-linear regression was considered for this purpose, however due to the complexity of the proposed model it was deemed inadequate. Alternatively, Structural Equation Modelling (SEM) was concluded to be the most appropriate for the purposes of this research and was adopted.

SEM examines the structure of the hypothesised interrelationships by expressing them as series structural equations and combines elements of both multiple-linear regression and factor analysis (Malhorta, 2010). SEM is primarily used in a confirmatory rather than exploratory role to test whether a proposed model is valid or not. SEM has been increasingly gaining popularity within the marketing research discipline since it was first applied in the early 1980s (Hair, Ringle, & Sarstedt, 2011). Hair et al. (2012) go so far as to claim SEM is now a “quasi-standard” in marketing research as it allows researchers to test complicated

theory and concepts (Rigdon, 1998). Indeed, the ability to test such comprehensive theories so completely is one of the major reasons authors has embraced SEM (Hair, Ringle, & Sarstedt, 2011). A particular benefit of SEM is that it allows the researcher to simultaneously assess the relationships between unobserved constructs whilst also accounting for measurement error in the process (Freeze & Raschke, 2007).

There are two primary types of SEM: Covariance-based techniques (CB-SEM) proposed by Jöreskog and Sörbom (1993) and variance based partial least squares techniques (PLS-SEM) proposed by Löhmoller (1989) and Wold (1985). Marketing research has primary focused on CB-SEM (Hair et al., 2012), but in recent times PLS-SEM's features have made it an attractive alternative (Henseler, Ringle, & Sinkovics, 2009). Hair and Mena (2012) note that the two approaches to SEM are complementary and neither is necessarily better than the other as one's strengths are the other's weaknesses and vice versa. Both approaches are equally sound given appropriate application thereof and the choice between the two is most often determined by the researcher's objectives (Hair, Ringle & Sarstedt, 2011). The following section will set forth the justifications for this study's use of PLS-SEM as opposed to the CB-SEM.

5.6.3. PLS-SEM

A through discussion as to the considerations made in the adoption of PLS-SEM is offered in the following section, however Table 5.1 below summarises the salient differences between CB-SEM and PLS-SEM. The technical difference between CB-SEM and PLS-SEM is that the former estimates model parameters by minimising the difference between estimated and sample covariance matrices resulting in it being aligned with the task of theory testing and confirmation (Hair, Ringle & Sarstedt, 2011). In contrast, the PLS-SEM algorithm attempts to maximize the explained variance of the endogenous latent variables by estimating partial model relationships in an iterative sequence of ordinary least squares (OLS) regressions (Malhotra, 2010). This technical difference results in PLS-SEM being more predication orientated (as it attempts to explain variation) and having less rigorous sample size demands without compromising statistical power (Reinartz et al., 2009). Therefore in situations where CB-SEM's assumptions (e.g.: multivariate normality of data and minimum sample size) are not fulfilled and the research objective is more concerned with prediction rather than confirmation then PLS-SEM's variance based approach is more appropriate and results in robust estimations of the structural model (Ringle, Götz, Wetzels, & Wilson, 2009).

Table 5. 1. Summary Comparison of PLS-SEM and CB-SEM

Basis of Comparison	PLS-SEM	CB-SEM
Objective:	Prediction-oriented	Theory-oriented: Parameter oriented
Approach:	Variance-based	Covariance-based
Assumptions:	Predictor-specific (non-parametric)	Multivariate normal distribution and independent observations (parametric)
Relationship between a latent variable and its measures:	Can be modelled in either formative or reflective mode	Typically only reflective indicators
Implications:	Optimal for prediction accuracy	Optimal for parameter accuracy
Model complexity:	Large complexity (e.g. 100 constructs, 1000 indicators)	Small to moderate complexity (e.g. <100 indicators)
Sample size:	Power analysis based on the portion of the model with largest number of predictors. Recommendations for minimum observations range from 30 to 100 cases.	Ideally based on power analysis of specific model. Recommendations for the minimum number of observations range from 200 to 800.

(Source: Hubona, 2010)

Despite its increased use in academic marketing literature, PLS-SEM is not without its disadvantages and detractors. Firstly, the absence of a global goodness-of-fit measures limit PLS-SEM's use in theory testing and in the comparison of competing model structures (Reinartz et al. 2009). For this reason, some scholars have viewed the approach as less rigorous. Hair, Ringle & Sarstedt (2011) however argue that such perceptions are unfortunate and short-sighted. The detractors' argument may be strengthened by inappropriate application of the method by misinformed researchers. Hair et al. (2012) note this and highlight that PLS-SEM has been repeatedly misapplied even in top tier marketing journal in recent times.

Given that this research is primarily concerned with explaining additional variance in behaviour attributed to the moderating effect of Time-perspective, this research is more aligned with the prediction objective. Furthermore given the longitudinal nature of this research design and the potential for sample mortality, there is the distinct possibility that the final realised sample size may not be as large as initially targeted and a small sample size may eventuate. Based on these considerations PLS-SEM is the most appropriate SEM technique for application in this study. With an appropriate SEM technique identified, focus can now turn to the specification of the PLS-SEM model for statistical testing.

PLS-SEM is composed of two parts: a measurement model and a structural model based on measurement theory and structural theory respectively. Underlying theory as the conceptual foundation for the proposed model is paramount as all relationships must be specified before PLS-SEM models can be estimated (Durbach, 2010; Malhotra, 2010). The theoretical grounding for the constructs of this study was outlined in the preceding theory chapters. Additionally, measurement of the key constructs within this study was discussed in the preceding sections of this methodology. The proposed interrelationships can be portrayed in graphical form known as a path diagram where circles represent constructs and squares represent indicators. Dependence relationships are indicated by straight arrows and covariance relationships are indicated by curved arrows. The two discreet parts of the SEM model each play a distinct role in the overall analysis (Durbach, 2010). Each of these is now discussed in turn and followed by a discussion of their respective evaluations.

5.5.2. The Structural Model

The structural model (also known as the “inner model” or “path model”) specifies the set of one or more dependence relationships linking the hypothesised model’s constructs. A construct can be defined as a latent or unobservable concept that can be defined conceptually (in abstract terms) but cannot be measured directly (Malhotra, 2010). Such constructs can either be endogenous or exogenous depending on whether its value is determined from within or outside the model. An advantage of SEM is that endogenous constructs may predict other endogenous constructs in what Durbach (2010) calls a “chain of models”. Such analysis of “higher-order models” is not facilitated by other multivariate techniques (Durbach, 2010). The structural model presented here for study is an example of such a “higher-order model”.

The latent constructs have been defined and the hypothesised relationships between them have been supported in the preceding theory chapters. These hypothesised relationships

are indicated by the solid lines (and their respective terminating arrows) flowing from antecedent to subsequent effect. These graphical lines are unambiguously equivalent to and serve only to graphically translate the hypotheses previously offered in writing. The structural model specifies the following set of relationships; Attitude → Intention, Subjective Norms → Intention, Perceived Behavioural Control → Intention, Intention → Behaviour. Additionally, a direct effect of time-perspective on behaviour is theorised along with its expected moderating effect on the intention-behaviour relationship. This proposed interaction is graphically portrayed by the inclusion the interactive term time-perspective*intention. Note that in accordance with the limitations of PLS-SEM, no recursive relationships (two-way relationships or causal loops) are hypothesised and as such all arrows are unidirectional.

5.6.4. The Measurement Model

The second component of a PLS-SEM comprises the measurement model (or "outer model") which graphically presents the unidirectional predictive relationships between each latent construct and its associated observed indicators (Hair, Ringle & Sarstedt, 2011). In continuation of a preceding discussion on the abstract, unobservable and therefore unmeasurable nature of latent variables, these indicator items (or "manifest variables") serve collectively as surrogates for and are assumed to be representative of the construct with which they are associated. These individual indicator variables can be further understood as "observed scores obtained through self-report, interview, observation, or some other means" (Edwards & Bagozzi, 2000). The final measurement model for this study is provided below in Figure 5.1 which graphically translates the measurement of this study's constructs as discussed in the preceding section of this methodology chapter.

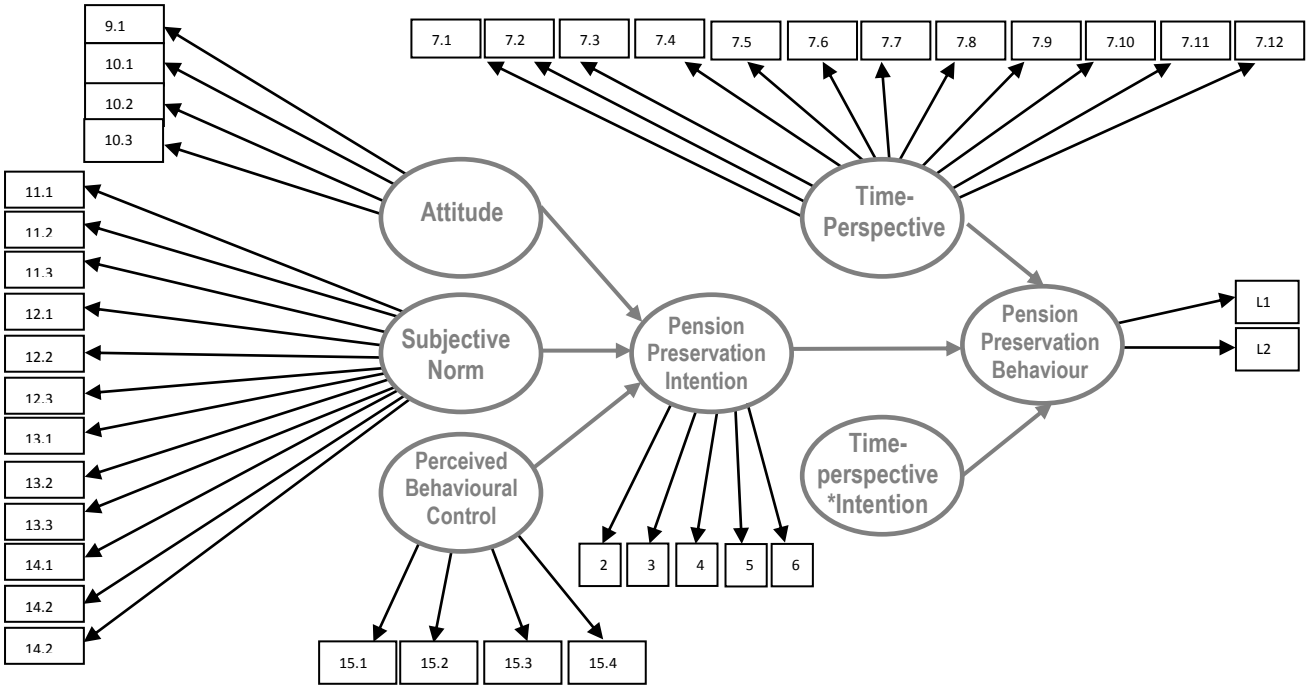

Figure 5. 1. Proposed Measurement Model

Indicators of latent variables can either be reflective or formative in nature. This is an important issue in SEM (Jarvis, MacKenzie, & Podsakoff, 2003). Freeze and Raschke (2007) note that a disparaging number of published articles do not specifically state whether constructs are formative or reflective in nature and this places an undue burden on readers to assume what the researcher is doing. Even more concerning, Jarvis et al. (2003) showed evidence of widespread measurement model misspecification (incorrectly specifying reflective as opposed to formative constructs and vice versa). Considering this finding, the author suggested that much of the empirical findings in extensively reviewed marketing literature may consequently be misleading. Echoing this, Cohen et al. (1990) and Chin (1998) have discussed how this “common mistake” leads to serious questions concerning the validity of results and ensuing conclusions. It is clear that inattention to directional causality of indicators can have serious consequences (Freeze & Raschke, 2007). There is clear onus on researchers to clearly describe construct development unambiguously.

A formative indicator is assumed to cause the latent construct and therefore changes in indicators determine changes in the value of the latent construct (Hair, Ringle, & Sarstedt, 2011). Such indicators are often called “causal indicators” and they are collectively assumed to measure the construct in its entirety (Freeze & Raschke, 2007). Therefore, the removal of an indicator from a scale is akin to removing a part of the construct and this must be carefully considered and cautiously done. Furthermore, there is no requirement that the various individual causal indicators necessarily correlate with one another, as by definition they are not assumed to reflect a single underlying cause. Therefore Chin (1998) notes that such constructs therefore need not have high internal consistency reliability. Validity for such formative constructs is demonstrated by the strength and significance of the path from the indicator to the construct. All measurement within the final proposed model is however reflective in nature.

Reflective indicators on the other hand are seen as functions of the latent variable. That is to say changes in the level of the latent variable are reflected in changes in the levels of the associated indicators (Hair, Ringle & Sarstedt, 2007). As such indicators are in effect caused by the underlying latent factor; they are often referred to as “effects” indicators (Freeze & Raschke, 2007). Given their common genesis high correlations between reflective indicators should be expected. This implies that indicators are interchangeable and the dropping of an individual indicator should not alter the conceptual meaning of the construct (Jarvis et al. 2003). Given this nature of reflective indicators, researchers can make use of ‘classical test theory’ such as confirmatory factor analysis (i.e.: convergent and discriminant validity) and reliability testing (i.e.: Cronbach’s Alpha) to assess the appropriateness of a set of indicators (Jarvis et al. 2003). In accordance with previous similar studies examining the key constructs in the final proposed model, all construct measurement is assumed to be reflective in nature. This reflective measurement is graphically shown in Figure 5.1 above by solid lines with arrows originating from the latent constructs and terminating into their respective indicators. With the structural and measurement model clearly presented, the process to be followed to evaluate the final proposed model (both at the measurement and structural level) is now discussed.

5.6.5. Model Evaluation and Hypothesis Testing

As with all multivariate statistical analysis, an application PLS-SEM requires thorough assessment of final results (Hair, Ringle & Sarstedt, 2011). This research will specifically make use of the graphical path modelling software SmartPLS 2.0 which was developed by Ringle, Wende and Will (2005) for model evaluation and eventual hypothesis testing. This data analysis software is available for free download from www.smartpls.de and has received considerable academic support. The assessment of PLS-SEM is typically comprised of separate evaluation of the measurement and structural models, with measurement model evaluation logically preceding structural model evaluation (i.e.: hypothesis testing).

5.6.5.1. Measurement Model Evaluation

There is little reason to examine structural relationships if one has no confidence in the measures that represent the construct (Hair, Ringle & Sarstedt, 2011). This logic is the justification for measurement model evaluation preceding structural model evaluation. Assessment of the measurement model is comprised of assessing the reliability and validity of the set of indicator variables associated with each latent construct. Although Chin (1998) notes that PLS-SEM can handle both reflective and formative constructs, the distinction between the two becomes important here as measurement model evaluation for each is unalike. Although this study made exclusive use of reflective measurement, discussion as to formative measurement model evaluation is too offered, where appropriate, for completeness.

Reliability can be defined as the extent to which a scale produces consistent results if repeated measures are made thereof (Malhotra, 2010). Reliability is the researcher's first point of investigation regarding the measurement model as an unreliable measure cannot be valid (Malhotra, 2010). For reflective measurement models, reliability is assessed by examining both coefficient alpha ($\alpha > 0.7$) and the more strict (as it does not assume tau equivalence) composite reliability ($cr > 0.6$). As noted above, formative indicators are not necessarily expected to covary and thus such internal consistency reliability analysis is inappropriate (Diamantopouls et al. 2001). As yet, as Coltman et al. (2008) note, no universally accepted criteria exist for assessing the reliability of formative indicators.

Validity refers to the extent to which a set of indicators measures what it purports to measure and that there is no significant measurement error (Hair, 2013). In this way validity refers to the extent that differences in observed scale scores reflect true differences among

respondents on the characteristic being measured (Malhotra, 2010). Validity of set of reflective indicators is assessed by demonstrating both convergent and discriminant validity. Convergent validity can be described as the extent to which the scale correlates positively with other measures of the same construct (Durbach, 2010). Convergent validity is assessed in two ways: 1) factor loadings (the simple correlation between the indicator and the construct) should be statistically significant and >0.7 and 2) the Average Variance Explained (AVE) must be >0.5 which indicates that the latent factor explains (on average) more than 50% of the variance in the individual indicators. Convergent validity for formative indicators is not relevant as such indicators are again not assumed to covary (Freeze & Raschke, 2007).

Discriminant validity by contrast attempts to establish that the constuct is truly distinct from other constructs in the model and thus makes a unique contribution (Malhotra, 2010). Cross-loadings would be indicative of problematic discriminant validity (Malhotra, 2010). Discrimant validity will be assessed by examing the Fornell and Larker (1981) criterion in which discriminant validity is demonstrated if the AVE for a construct is greater than the square of the constructs's correlations with all other factors. Simply put, a construct should explain more of the variation in its own indicators than of any other construct in the model. Discriminant validity for the formative indicators can be demonstrated in a similar manner (MacKenzie, Podsakoff, & Jarvis, 2005). If the measurment model is shown to be sufficiently reliable and valid, focus can then proceed to evaluation of the structural model.

5.6.5.2. Structural Model Evaluation and Hypothesis Testing

Structural model evaluation in SEM generally involves the assessment of absolute fit measures, incremental fit measures, and parsimony fit indices. However, as cited above a shortcoming of PLS-SEM is that there is no generally accepted measure of Goodness-of-Fit (Hair et al., 2012). Instead the evaluation of the inner model is primarily accomplished through interpretation of the coefficient of determination (R^2) for the relevant endogenous latent variables as well as through assessment of the magnitude and significance of the estimated path coefficients (Hair, Ringle & Sarstedt, 2011).

The coefficient of determination is an index of the relative proportion of the variation in a latent construct that is explained by or accounted for by its antecedents (Churchill & Iacobucci, 2010). The general research objective is to achieve high R^2 for the study's key constructs. The definition of what threshold level may be regarded as "high" differs by the area of study. An R^2=0.2 may be considered "high" in disciplines such as consumer behaviour whereas R^2=0.75 may be the minimum requirement in other sub-disciplines of

marketing (Hair, Ringle, and Sarstedt, 2011). Given that this study can be most accurately classified as an investigation into consumer behaviour, a lower R^2 would accordingly be expected and the forthcoming interpretation of the results will bear this in mind.

The level and significance of estimated path coefficients is a further assessment of the structural model. These path coefficients are estimated via the resampling procedure known as bootstrapping and facilitate the hypothesis testing process (Hair et al., 2012). Paths that are nonsignificant or show signs contrary to the hypothesized direction do not support prior theory and are therefore evidence in favour of the null hypothesis. The structural model is considered valid only to the extent that the proposed hypotheses are supported (Malhotra, 2010). The dependence relationships hypothesized in this study will be assessed in this manner. Special focus must be given to the hypothesised moderating effect as the statistical analysis thereof requires additional considerations.

5.6.5.3. Assessing Moderation in PLS-SEM

The strength and/or direction of the dependence relationship between two latent variables may change or be contingent upon the presence of a third variable. In such cases, the changing of the relationship is a function of a so called “moderating variable” (Little, Bovaird, & Card, 2007). This study posits time-perspective as one such moderator of the relationship between intention and behaviour. Finding statistical support for such proposed interactive effects can be troublesome with much of the difficulty attributed to measurement error resulting from use of surveys and other observational methods. Indeed only 21% of moderators tested in the field of Information Systems (IS) research were found to be significant (Chin et al., 2003). Furthermore, if such moderators were detected they generally made negligible contributions to theory development as measured by their slight increases in explained variance (R^2) (Chin et al., 2003).

The recurring lack of empirical support for hypothesised moderator variables is suggested by Chin et al. (2003) to be a by-product of the analytic method used as opposed to flawed theoretical development. The same authors conclude on this matter that the explanation for perpetual null results may be that the moderating effect was just not detected by the analytical method used. Researchers have primarily relied upon ANOVA and/or Multiple-Linear Regression analyses to assess such moderating effects. As noted however, the technical assumption of infallible measures results in measurement error being a primary problem in such approaches (Chin et al, 2003). SEM however represents an important

advance in the study of moderating effects as it directly addresses the presence of measurement error within the statistical model (Little et al., 2007).

Most approaches to modelling interactive effects within SEM models are based on Kenny and Judd's (1984) product-indicator approach which is burdened with complex constraints (Little et al., 2007). Such approaches generally call for the creation of a new variable that is the product of the variable being moderated (say X) and the variable that is moderating (say W). This latent interaction term (the multiplicative XW) is then included in the model and its significance and effect size is assessed along with every other latent variable in the model. If this interactive term is shown to be significant, it is a statistically significant moderator of the relationship between X and the dependent variable Y. Although a workable solution, Chin et al. (2003) notes that this approach is technically demanding and developed an approach that overcomes the problems with this traditional analytical technique.

As an alternative, Chin et al. (2003) conceptualised using the product indictor approach within the easy-to-use PLS context. This one-step product indicator technique has less restrictive assumptions and has been shown to produce more accurate estimations allowing researchers to better detect moderating effects. Accordingly, Akter et al. (2011) notes that this approach improves researchers' ability to validate their theoretical models. The hypothesised moderating effect in this study will be assessed in accordance with the guidelines charted by Chin et al. (2003). The proposed moderator will be represented as the multiplicative time-perspective*intention construct with respective indicators defined as the exhaustive product of the constituent construct's respective indicators. This multiplicative indicator will then be standardized so as to avoid computational errors by lowering collinearity (Smith & Sasaki, 1979). The resultant interactive term will then subjected to the PLS algorithm along with the other relationships hypothesised in the final conceptual model.

5.7. CONCLUSION

The foregoing theory chapters culminated in the presentation of the final theoretical model and its associated hypotheses. In addition to this, the preceding fourth chapter demarcated this study's specific pension preservation context on the assumption that it is a ubiquitous exemplar of intention-behaviour inconsistency. With a sound theoretical foundation laid and a specific context demarcated, this chapter then set forth the methodology adopted to test the aforementioned final model. Methodological considerations were discussed in sufficient detail so as to enable an experienced researcher to replicate this study and/or to assess the quality of the research output.

This chapter began by restating the purpose of this research and by detailing the descriptive and longitudinal research approach adopted. Particular focus was given to the scenario approach employed. Following this, specific considerations regarding sampling, measurement, data collection and preparation, and statistical analysis were presented in the subsequent sections. Specifically, the second to last section in this chapter provided a thorough discussion of and justification for the use of Partial Least Squares Structural Equation Modelling (PLS-SEM) as the primary statistical approach employed in this research effort. The sixth chapter to follow now reports the findings emanating from the application of this methodology by presenting relevant descriptive statistics in addition to the results of the PLS-SEM model estimation. The latter facilitating the central task of hypothesis testing whose results will speak to this study's primary and secondary objectives.

CHAPTER VI
RESULTS

6.1. INTRODUCTION

The preceding chapter set forth the methodology of this study. Included in this methodology chapter was a discussion regarding the convenience sampling approach adopted. In addition, a clear articulation of this study's target population was forwarded. Furthermore, the scenario approach used along with the data collection procedures followed was outlined. Hereafter the measurement of each key construct was detailed. In closing, the preceding methodology identified and justified the data analysis technique of PLS-SEM using SmartPLS (Ringle et al., 2005) as the inferential statistical approach used to empirically test the final theoretical model.

In this chapter, the results of the descriptive and inferential statistical analyses conducted is reported. First, a brief summary of this study's hypotheses is offered for ease of reference. Following this the final resultant sample size and its characteristics are discussed so as to assess its suitability relative to the target population and sample size outlined in the preceding chapter. The penultimate section of this results chapter then reports relevant descriptive statistics associated with each of this study's key constructs. This chapter then closes by reporting the results of the PLS-SEM testing of the final theoretical model.

6.2. SUMMARY OF HYPOTHESES

The final conceptual model offered for statistical analysis was introduced and discussed in the foregoing theory chapters. Within these chapters, theoretical grounding for each of the hypothesised relationships, including that of the moderating effect of time-perspective on the intention-behaviour relationship was offered. This final theoretical model is reproduced here as Figure 6.1 for ease of reference. The hypotheses offered for statistical testing are first summarised.

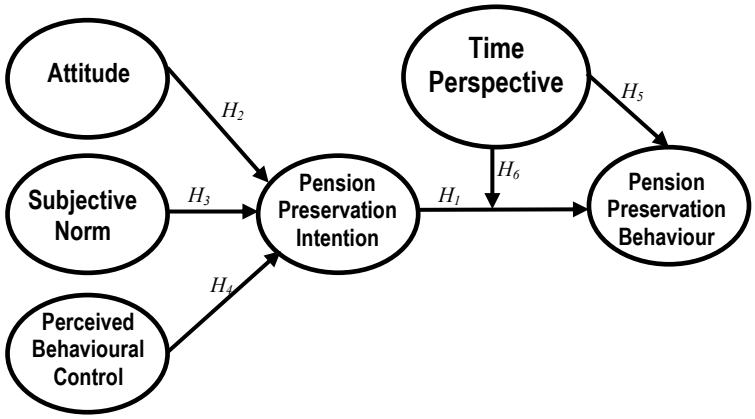

Figure 6. 1. Final Conceptual Model

The final conceptual model sets forth the following chain of relationships in explanation of individual pension preservation decisions. Central to this proposed model is the notion that intentions are positively correlated with behaviour. Intentions were theorised in the preceding chapters to be a function of three discreet antecedents. Firstly, the positive or negative general appraisal an individual has regarding pension preservation decisions will positively or negatively influence their intention to save the accumulated retirement savings. A positive attitude towards savings behaviour was theorised to result in reduced intentions to withdraw and spend the money. Conversely, a generally negative attitude towards savings was theorised to increase an individual's intention to withdraw and spend the money. Secondly, the extent to which an individual is motivated to act in accordance with the prevailing subjective norms of referent individuals (such as family, friends and/or society) was theorised to positively influence their intentions to preserve retirement savings. Conversely, individuals who were disinclined to adhere to the norms and conventions of reference groups were suggested to report lower intentions to preserve their retirement savings. Lastly, the degree to which an individual believes they had genuine volitional control over their capacity to save was suggested to influence their intentions to preserve their retirement savings. For example, individuals who believe that their current financial, employment and/or life circumstance necessitates the current withdrawal and spend of the retirement savings are conjectured to report lower intentions to preserve retirement savings following the unexpected hypothetical retrenchment. The final conceptual model formally posited that;

H_1: There is a positive correlation between intentions to preserve accumulated retirement savings and subsequent actual pension preservation behaviour.

H_2: There is an association between attitude towards pension preservation decisions and intention to withdraw or not the accumulated retirement savings.

H_3: There is an association between subjective norms regarding pension preservation decisions and intention to withdraw or not accumulated retirement savings.

H_4: There is an association between perceived behavioural control regarding pension preservation decisions and intention to withdraw or not accumulated retirement savings.

The final conceptual model then proposed both a main and interactive effect of individual time-perspective. Firstly, the extent to which an individual is motivated by present as opposed to future considerations was theorised to influence their actual retirement savings

behaviour. Individuals who are more present-orientated were theorised to be more inclined to withdraw the accumulated savings. On the other hand, future-orientated individuals were theorised to be less inclined to withdraw the money. Finally, individual time-perspective was furthermore suggested to moderate the relationship between stated intentions and ultimate behaviour. This proposed moderating effect was offered as the primary objective of this research effort in Chapter I. Stronger intention-behaviour consistency is to be expected for future-orientated individuals whereas a weaker association is to be expected for present-orientated individuals. Formally;

H_5: There is a negative association between Time-Perspective and actual pension preservation behaviour.

H_6: Time-Perspective interacts with intention to moderate the intention-behaviour relationship within the context of pension preservation decisions.

The remainder of this chapter now sets forth the results of the statistical analysis to which the final theoretical model was subjected in order to support or reject the hypothesised relationships restated above. Preceding the reporting of relevant descriptive and inferential statistics, a discussion as to the field work conducted and final realised sample is first offered.

6.3. FIELDWORK

Prior to the commencement of data collection, necessary permission was obtained from the UCT Commerce Faculty Ethics Committee to proceed with data collection (see Appendix F). With all necessary permission to proceed secured, fieldwork was conducted as per the procedures set forth in the foregoing methodology chapter. Data collection was facilitated through the use of www.surveymonkey.com online tool and was divided into two waves separated by a two week period; an initial survey and a longitudinal follow-up.

In accordance with the quota controlled snowball sampling technique pursued, an email was sent to a selection of initial respondents from 19 May 2013 to 03 June 2013 inviting their participation. This email contained a URL link to the initial survey (see Appendix A). Additionally this invitation communicated the following:

- Participants were informed that the initial survey would take a maximum of fifteen minutes to complete. Furthermore, participants were informed that a one minute

follow-up survey will be emailed to them exactly two weeks following their completion of the first survey.

- Complete confidentiality of responses was assured.
- The R500 potential prize for complete participation (submitting both the initial and longitudinal follow-up) was explained.
- In order to facilitate the snowball sampling technique participants were in closing asked to forward this invitation on to respondents they too believed matched the target population.

Using the time-stamp recorded along with the initial survey responses submitted, the researcher then emailed respondents exactly two weeks after their submission of the first survey to invite their participation in the longitudinal follow-up (see Appendix B). This email similarly contained a URL link to the measurement instrument as well as affirmed the confidentiality of responses. This second wave of data collection commenced on the 02 June 2013 and concluded on the 17 June 2013. Using the email addresses provided by respondents in both surveys, the initial and follow-up measurements for each respondent was matched to arrive at single complete dataset. The final sample size and response rates resulting from this fieldwork is now discussed.

6.4. SAMPLE SIZE AND RESPONSE RATE

Due to the use of snowball sampling an exact calculation as to the response rate achieved is unattainable (Malhotra, 2010). This is as the researcher has no ability to accurately quantify the extent to which the survey invitation was forwarded on by the initial set of respondents. The ratio of respondents partaking in both the initial and longitudinal follow-up however was quantifiable and is now discussed. The total number of respondents to complete the initial survey was n=123. Of these respondents, some 75.61% (n=93) completed the longitudinal follow-up. Following data preparation, ten sample units' responses were deemed incomplete and/or inconsistent and were thus excluded from the final dataset. A final sample size of n=83 was ultimately realised.

Although small, the final sample size was deemed sufficient to proceed with statistical analysis. This decision on the part of the researcher was motivated by the following three considerations. Firstly, given this research is exploratory in nature and also pursued a longitudinal follow-up measure, smaller sample sizes are both justified and to be expected (Malhotra, 2010). Secondly, the final realised sample size is in keeping (indeed exceeds) that achieved in the seminal work of Van Ittersum (2012) who achieved a final sample size of

n=73 (from an initial response set of n=173). The final consideration as to the appropriateness of the realised sample size was the previously highlighted robustness of PLS-SEM to small sample sizes (Hubona, 2010).

6.5. DESCRIPTIVE STATISTICS

To assess sample appropriateness the descriptive statistics summarising its broad characteristics is now presented and discussed. Hereafter appropriate descriptive statistics for each of this study's key constructs is offered. The final section of this chapter then presents the results of the inferential statistical analysis.

6.5.1. Sample Descriptive Statistics

The preceding methodology chapter (see section 5.3.1) broadly defined the target population for this study as employed individuals (both in private and public sector) between the ages of eighteen and sixty-five. To gauge the extent to which the final realised sample is reflective of this, the sample's broad characteristics are examined and presented here. The relevant sample descriptive statistics are summarised in Table. 6.1 which highlights the total number of responses (n) along with corresponding frequencies.

Table 6. 1. Sample Characteristics

	N	%
Employment		
Employed	80	96%
Pref. Not to Answer	3	4%
Education		
Primary Completed	0	0%
Secondary Completed	8	10%
Tertiary Completed	72	87%
Pref. Not to Answer	3	4%
Gender		
Male	33	40%
Female	46	55%
Pref. Not to Answer	4	5%
Age		
18-25	18	22%
26-49	51	61%
50-65	10	12%
Older than 65	1	1%
Pref. Not to Answer	3	4%
Time-Perspective		
Present Orientated	41	49%
Future Orientated	42	51%

In terms of demographics, the final sample consisted of 40% (n=33) male respondents and 55% (n=46) female respondents. A total of 5% (n=4) respondents preferred not to disclose their gender. In terms of age, 61% (n=51) indicated that they were between the ages of twenty-six and forty-nine, 22% (n=18) indicated that they were between the ages of eighteen and twenty-five, 12% (n=10) indicated that they were between the ages of fifty and sixty-five, and only one respondent (1%, n=1) indicated that they were over the age of sixty five. Three respondents (4%, n=3) preferred not to disclose their age.

In terms of employment status, 96% (n=80) of respondents indicated that they were currently employed and 4% (n=3) indicated that they preferred not disclose their current employment status. In terms of level of education achieved, 87% (n=72) indicated that they had completed tertiary level education, and 10% (n=8) indicated that their highest educational attainment was secondary school. The remaining 4% (n=3) indicated that they preferred not to disclose their level of educational attainment. Finally, after conducting a mean split on the interval scaled measure of time-perspective, 49% (n=41) of respondents were classified as being present orientated whereas 51% (n=42) were classified as being future orientated.

Given the above descriptive statistics it was concluded that the sample is suitably aligned with the defined target population and furthermore is appropriate for the retirement savings context of this research. This conclusion is based on the fact that the majority of respondents were of working age, were employed, and had high to medium levels of educational attainment. Additionally an appropriate split of male and female, as well as present versus future orientated respondents was achieved.

6.5.2. Descriptive Statistics for Key Constructs

All key constructs of this study were measured on a seven-point Likert-type scales resulting in interval scaled data. Accordingly the relevant descriptive statistics of mean and standard deviations are reported and discussed here. These descriptive statistics are presented in Table 6.2 below. Each key construct is now discussed in turn prior to the presentation of inferential statistics.

Table 6. 2. Descriptive Statistics for Key Constructs

	Type of Scale Used	N	Mean	Std. Dev.	Cronbach Alpha
Attitude	7 Point Likert Scale	80	1.21	0.67	n/a
Subjective Norms	7 Point Likert Scale	80	4.94	1.56	0.78
PBC	7 Point Likert Scale	80	4.28	1.74	0.84
Intention	7 Point Likert Scale	83	1.34	0.81	0.92
Behaviour	7 Point Likert Scale	83	2.11	1.54	0.61
Time-Perspective	7 Point Likert Scale	83	4.90	0.89	0.58

6.5.2.1. Attitude

Respondent's favourable or unfavourable appraisal of pension preservation was operationalized as the summated scale of items 9.1 through 10.3. Scale item 9.1 was a negatively worded semantic differential scale anchored by 1 = Bad and 7=Good. This item was reverse scored prior to data analysis. Scale items 10.1 through 10.3 were anchored by 1 = Strongly Disagree and 7 = Strongly Agree. Given this scoring convention the resulting summated scale scores can be interpreted as follows. Lower scores suggest a more favourable attitude towards pension preservation decisions. Conversely higher summated scale scores suggest less favourable attitudes towards such decisions.

Due to scale reliability and validity considerations necessitated by the use of PLS-SEM, the attitude construct was finally operationalized as the single item 9.1. Due to the reflective nature of the measurement, the removal of indicators does not change the conceptual meaning of the construct (Jarvis et al. 2003). On average, respondents were found to harbour overwhelmingly positive attitudes towards pension preservation decisions (M=1.21) with responses demonstrating little spread (SD=0.67). This finding is aligned with preceding research which indicated that individuals generally harbour positive attitudes towards saving for retirement (Old Mutual, 2011, 2013).

6.5.2.2. Subjective Norms

The second factor suggested by the final conceptual model to be an antecedent on individual intentions to preserve retirement is the psychological construct of subjective norms. As previously discussed this construct is analogous to social pressure to perform or not a particular behaviour (Ajzen, 1991). Subjective norms were argued in the preceding theory chapter to have roots in the individual's subjective estimations that referents (that is friends, family and society) would approve or disapprove of the chosen savings behaviour. The extent to which a respondent is motivated to act in accordance with these subjective norms was operationalized as the summated scale of items 11.1 through 14.3. All scale items were seven-point Likert-type scales anchored by various polar opposites. Summated scale scores can thus be interpreted as follows; scores approaching one (1) would be indicative of high motivation to comply with expectations of referent individuals. Conversely summated scale item scores approaching seven (7) would be indicative of lower motivation to comply with social norms and expectations.

Due to reliability and validity considerations, the final summated scale consisted of scale items 14.2 and 14.3. Again, due to the reflective nature of the measurement, the removal of indicators does not change the conceptual meaning of the construct (Jarvis et al., 2003). This summated scale demonstrated suitable internal consistency with $\alpha = 0.78$. Examination of the mean indicates that individuals were generally slightly above neutral (M=4.94) in terms of their motivation to adhere to the expectations of referent individuals. This mean value suggests when it came to savings decisions such as this, individuals reported that they did not necessarily want to act as their family, friends and/or society would have them act. Respondents however were not unanimous in this regard with a notable spread of responses (SD=1.56). Therefore certain individuals were relatively more or less inclined to act in accordance with social norms.

6.5.2.3. Perceived Behavioural Control

The final antecedent of intention suggested by the final conceptual model is the extent to which the respondent believes they have volitional control over their savings behaviour; that is their perceived behavioural control. Two relevant control beliefs were suggested to determine the extent to which the individual believes they have a genuine choice as to whether to save or withdraw the accumulated retirement savings. The first control belief was the extent to which the respondent's prevailing financial position necessitated the current withdrawal and spending of the accumulated savings. For example, financial hardship may largely necessitate withdrawal and current consumption. Conversely, financial security may enable an intention to save. The second relevant control belief was the ease or difficulty with which the respondent believed he or she may be able to find alternative employment. Individuals who are more optimistic about finding alternative employment may believe that, as they assume future flow of income, they have the genuine ability to save.

Perceived behavioural control was operationalized as scale items 15.1 to 15.4. These scale items were all seven-point Likert-type scales anchored by 1=Agree and 7=Disagree. Given this scaling convention, lower scale scores would suggest lower levels of perceived behaviour control. Higher scores would conversely suggest higher levels of perceived behavioural control. Due to reliability and AVE considerations, the final summated scale consisted of scale items 15.2, 15.3, and 15.4. Due to the reflective nature of the measurement, the removal of indicators does not change the conceptual meaning of the construct (Jarvis et al. 2003). This summated scale demonstrated suitable internal consistency with $\alpha = 0.84$.

Upon examination of the mean, individuals were found to be largely neutral (M=4.28) with regard to the extent to which they believed they had genuine volitional control over their ability to save. However, as with the subjective norms construct, a notable spread of responses (SD=1.74) was evident thereby indicating that certain individuals perceived relatively more or less volitional control than others.

6.5.2.4. Time-Perspective

Individual time-perspective was operationalized using the established Consideration for Future Consequences Scale (CFC) (Strathman et al., 1994) which has previously been shown to correlate positively with other markers of time-perspective (Ferguson, 2007). This twelve-item scale probes the extent to which individuals consider distant versus immediate consequences of their current behaviour. The scale was presented verbatim as scale items 7.1 through 7.12. All scale items were anchored by 1=Extremely Uncharacteristic and 7=Extremely Characteristic. Scale items 7.3, 7.4, 7.5, 7.9, 7.10, 7.11, and 7.12 were negatively worded and accordingly were reverse scored prior to computation of the summated scale. Lower summated scale scores would indicate limited consideration for future consequences and is assumed to be a proxy for present-orientation. Higher summated scale scores approaching seven would suggest the respondent is more inclined to consider the future consequences of their current behaviour. Therefore higher CFC scores are indicative of a future-orientation.

Since the initial publication of the CFC scale concerns have been raised as to the extent of measurement error present in the scale and to its general validity. These concerns have spurred several research efforts to provide further validation by examining the underlying factorial structure. One such research effort by Petrocelli (2003) found evidence of two underlying factors after the application of principle components analysis. This finding was in opposition to the single factor solution originally suggested by Strathman et al. (1994). Later Rappange, Brouwer, and Van Exel (2009) too examined the factorial structure of the CFC scale and concluded that both a single factor solution (Strathman et al., 1994) and a two factor solution (Petrocelli, 2003) did not yield satisfactory results. Following from these findings Rappange et al. (2009) proposed and found support for a three-factor solution which provided the best fit to the data. Using a large sample of n=2000 households Elkebrokk and Nyhus (2008) similarly found support for a three factor solution. Therefore to ensure validity, this research effort will too adopt a three factor solution. In accordance with the solution proposed by Elkebrokk and Nyhus (2008) the twelve scale items were accordingly consolidated into three discreet factors. Factor one consisted of scale items 7.1, 7.2, 7.6,

and 7.8. Factor two consisted of scale items 7.4 and 7.5. Factor three consisted of scale items 7.9, 7.10, 7.11, and 7.12. Scale items 7.3 and 7.7 were excluded as per the recommendations of Elkebrokk & Nyhus (2008). The final summated scale for time-perspective was hereafter computed as the average of these three factors. Despite being slightly below the recommend reliability threshold of $\alpha = 0.60$ (Malhortra, 2010) this summated scale was concluded to demonstrate an acceptable level reliability with $\alpha = 0.58$.

An examination of the mean for this construct indicated that respondents tended report relatively neutral time-perspectives, with an ever so light tendency towards future orientation (M=4.90). Relatively little spread of responses was found with observations generally clustering around the mean (SD=0.89) which may suggest some homogeneity in the sample.

6.5.2.5. Intention

Respondents' self-reported intentions to withdraw the accumulated retirement savings was operationalized as the summated scale of items 2, 3, 4, 5 and 6. All scale items were seven-point Likert-type or semantic differential scales. Accordingly lower scores on the resulting summated scale are indicative of an intention to save the money (to preserve retirement savings) and higher summated scale scores would indicate an intention to withdraw the retirement savings.

Following reliability considerations, all scale items were included in the final summated scale which achieved high levels of internal consistency with $\alpha = 0.92$. Upon examination of the mean, respondents largely indicated strong intentions (M=1.34) to preserve the accumulated savings. Responses largely clustered around this low mean (SD=0.81). Such high intentions to save are largely in accordance with prior research which shows that individuals generally harbour positive intentions towards retirement savings (Old Mutual, 2011, 2013).

6.5.2.6. Behaviour

The longitudinal measure of final savings behaviour was operationalised as the summated scale of the two scale items that constituted the follow-up questionnaire. These two scale items were seven-point semantic differential scales. The first scale item probed the extent to which the respondent indicated it was their decision to withdraw the accumulated retirement savings or not. This scale item was anchored by 1=False and 2=True. The second scale item probed, if the respondent decided to do so, the extent to which they wished to withdraw the accumulated retirement savings. This scale item was anchored by 1= None of it and 7= All of it. As such lower summated scale scores would indicate that the respondent had

chosen to save the hypothetical windfall and higher scale scores would indicate the respondent had chosen to withdraw and spend the accumulated savings (i.e.: not to preserve their retirement savings).

Following the necessary reliability and validity considerations, both scale items were retained in the final summated scale. This summated scale demonstrated slightly lower, although still acceptable, internal consistency with α=0.61 (Malhortra, 2010). An examination of the mean for this construct indicates that respondents on average indicated a desire to save the accumulated retirement savings (M=2.11). A sizable desperation of responses was noted (SD=1.54) however indicating that there were differences among respondents in terms of their ultimate savings behaviour. Although this measure of behaviour is still relatively low, the mean for behaviour is significantly higher than that of self-reported intentions (t=-4.69, p=0.00). It is this statistically significant difference between stated intentions and ultimate behaviour which is central to this study as it provides quantitative evidence of an intention-behaviour gap. This chapter now concludes by presenting the results of the PLS-SEM testing of the proposed theoretical model and its associated hypotheses.

6.6. PLS-SEM MODEL

The forthcoming chapter reports the results of the structural equation modelling conducted to assess the hypotheses previously presented for statistical testing. Specifically Partial Least Squares (PLS) analysis using SmartPLS software (Ringle, Wende & Will, 2005) was conducted. Presentation and interpretation of the structural model is logically preceded by an examination of the measurement model so as to ensure that all measures were both reliable and valid.

6.6.1. Measurement Model

It was noted in the preceding theory chapter that there is little reason to examine structural relationships if one has no confidence in the measures that purport to represent the various constructs within the model (Hair, Ringle & Sarstedt, 2011). Assessment of the measurement model is comprised of two parts. Firstly the measurement model must be shown to demonstrate an acceptable level of reliability. Reliability for the key constructs of this study will be assessed via examination of both internal consistency and indicator reliability. Hereafter the validity of the measurement model is assessed via demonstration of both convergent and discriminant validity.

6.6.1.1. Reliability

The researcher's first point of investigation is to ensure that the various scales are indeed reliable measures of their respective constructs – that is repeated measures would produce consistent results (Malhotra, 2010). Internal consistency and indicator reliability of the various indicators must be examined to evaluate the reliability of the measurement model. Firstly, internal consistency of a set of measures is most commonly assessed through examination of Cronbach Alpha ($\alpha > 0.60$) and the more strict Composite Reliability ($cr > 0.60$) (Malhotra, 2010). As shown by Table 6.3 below all key constructs for this study demonstrated acceptable levels of internal consistency with Cronbach Alpha and Composite Reliability scores in excess of the prescribed minimum thresholds. Only the time-perspective construct may have slight internal consistency concerns with $\alpha = 0.58$ being slightly below the recommended minimum and accordingly appropriate caution should be made when interpreting any findings associated with this construct.

Table 6. 3. Reliability of the Measurement Model

	AVE	Composite Reliability	R Square	Cronbachs Alpha
Attitude	1.00	1.00		1.00
Behaviour	0.70	0.82	0.15	0.61
Intention	0.76	0.94	0.26	0.92
Intention * TP	0.24	0.75		0.79
PBC	0.76	0.90		0.84
Social Norms	0.80	0.89		0.78
TP	0.50	0.74		0.58

Secondly, the reliability of a set of indicators is assessed via the examination of indicator reliability. Indicator reliability examines the extent to which the variation evident within a single indicator of a latent construct is explained by its associated construct. To assess reliability in this way, individual item loadings were examined. These outer loadings are presented in Appendix C. To demonstrate acceptable indicator reliability, outer loadings should be in excess of 0.70 so as to ensure that the squared item loadings are in excess of 0.50 (Hair et al., 2012). All factor loadings were in excess of 0.70 except for the third time-perspective factor which returned an item loading of 0.54. This indicator was however retained within the measurement model as literature supports its inclusion (Petrocelli, 2003; Rappange et al., 2009; Elkebrokk and Nyhus, 2008). With reliability of the measurement model suitably assured, focus then turned to validity considerations so as to ensure that the measures actually measured what they purported to measure.

6.6.1.2. Validity

In the absence of a global measure of Goodness-of-fit for PLS models, evidence of convergent and discriminate validity must be shown to demonstrate that the measurement model is valid (Hair et al., 2012). Convergent Validity assesses the extent to which a measure correlates positively with other measures of the same construct (Durbach, 2010). Discriminant validity on the other hand assesses the extent to which a construct is truly distinct from other constructs in the model and thus captures a single unique phenomenon (Hair et al., 2010). Each of these two facets of validity is now examined in turn.

Convergent validity is assessed in two parts. First, the statistical significance of each item's factor loading on its relative construct must be demonstrated. All items loaded significantly on their respective constructs at the 5% significance level with all test statistics exceeding $t_{Critical}$=1.96. A second indicator of convergent validity is Average Variance Explained (AVE) values in excess 0.5 (Hair et al., 2012). AVE's in excess of this minimum threshold indicate that the common factor explains, on average, more than 50% of the variance in the individual indicators. As is evident from Table 6.3 above, all constructs returned AVE scores in excess of 0.5 except for Time-perspective which returned an AVE=0.495 which is only marginally below the prescribed minimum.

Discriminant Validity is also assessed via two discreet considerations. Firstly cross-loadings are examined as multiple cross-loadings would be symptomatic of problematic discriminant validity (Malhotra, 2010). Upon examination, all items loaded strongest on their corresponding factor (see Appendix E for Cross-Loadings). Secondly, discriminant validity is assessed via examination of the Fornell and Larker (1981) criterion which states that a construct should explain more of the variation in its own indications than for another other construct in the model. To assess this, the square root of a construct's AVE should be greater than that construct's correlation with any other construct in the model. Accordingly Table 6.4 below presents the square root of each construct's AVE along the diagonal which is compared with the constructs correlation with all other constructs in the model. As all construct correlations were less than the corresponding $\sqrt{AVE}$, evidence of discriminant validity is demonstrated.

Table 6. 4. Discriminant Validity: Square of the AVE relative to correlations

	Attitude	Behaviour	Intention	Intention * TP	PBC	Social Norms	TP
Attitude	**1.00**						
Behaviour	0.16	**0.83**					
Intention	0.16	0.32	**0.87**				
Intention * TP	-0.08	-0.28	-0.45	**0.49**			
PBC	0.20	-0.27	-0.42	0.25	**0.87**		
Social Norms	0.38	0.02	-0.16	-0.04	0.28	**0.89**	
TP	-0.04	-0.12	-0.15	-0.27	0.21	0.01	**0.49**

With confidence as to the reliability and validity of the measurement model assured, focus then turned to the evaluation of the structural model and its associated hypothesis testing.

6.6.2. Structural Model

Examination of the structural or inner model is primarily accomplished by interpretation of coefficient of determination (R^2) for each of the endogenous latent variables as well as through interpretation of the sign, size and statistical significance of each of the hypothesised relationships (Hair, Ringle, & Sarstedt, 2011). The final resulting structural model is presented below in Figure 6.2.

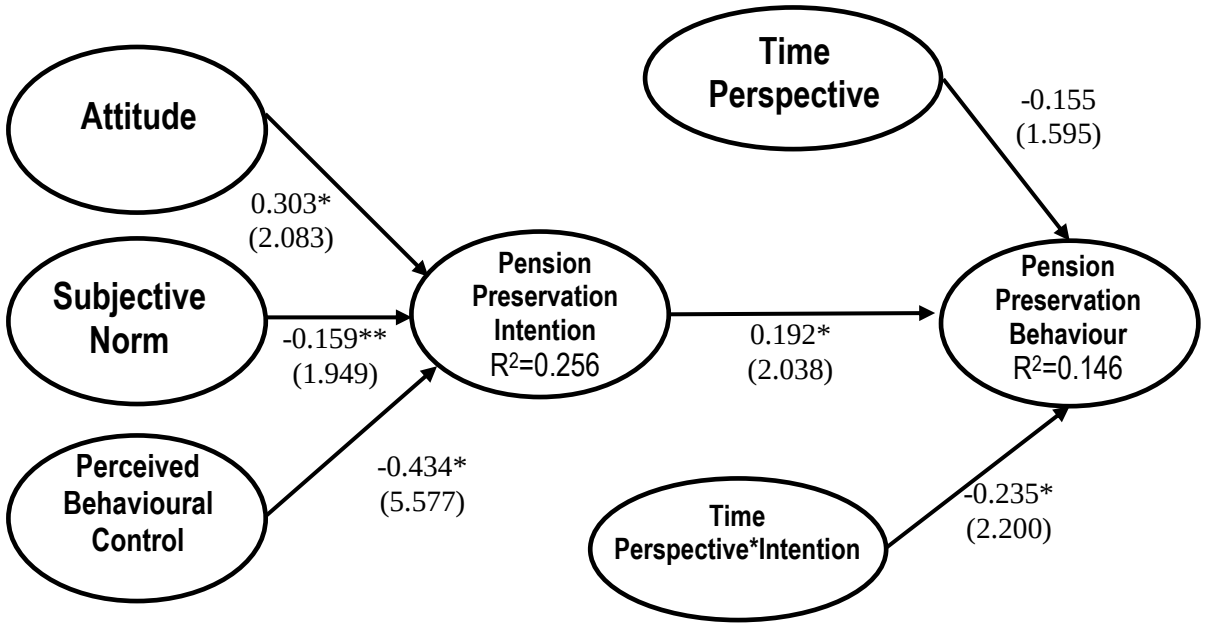

Figure 6. 2. Results of PLS-SEM Model Estimation

Note: t-values are in parentheses

** Significant at the 5% significance level*

*** Significant at the 10% significance level*

An examination of the coefficient of determination (the amount of variance explained) is indicative of the predictive quality of the structural model with values in excess of R^2=0.67 being considered substantial, greater than R^2=0.33 being considered moderate and less than R^2=0.19 being considered week (Chin et al., 2003). The final structural model moderately explains the endogenous constructs of intention with R^2=0.256 and weakly explains Behaviour with R^2=0.146. As noted in the preceding methodology chapter, lower coefficients of determination are to be expected in studies of consumer behaviour such as this (Hair, Ringle, and Sarstedt, 2011).

The second consideration regarding the structural model is to interpret the sign, size, and statistical significance of each of the hypothesised relationships. Relevant t-values are presented in parentheses in Figure 6.2. Such t-values are estimated by the resampling procedure known as bootstrapping (Cases=83, Resamples=5000) and are assessed at the 5% significance level. Path coefficients are too presented in Figure 6.2 above and were estimated by the application of the PLS algorithm (Maximum iterations = 300). A finding for each hypothesised relationship is now presented in turn. Following this, the hypothesised moderating effect of intention*time-perspective is examined in the penultimate subsection of this chapter.

H_1 posited a significant positive correlation between stated intentions and ultimate pension preservation behaviour. This hypothesis was supported with t_{stat}=2.038 being greater than the critical value of 1.96. The path coefficient of β=0.192 indicates that intentions are positively but weakly correlated with ultimate behaviour.

H_2 posited an association between attitude towards pension preservation and intentions to preserve retirement savings. This hypothesis was supported with t_{stat}=2.083 being greater than the critical value of 1.96. The positive path coefficient of β=0.303 indicates that as individuals attitudes towards pension preservation decisions become *less* favourable, their intention to withdraw the accumulated saving increases. Conversely, more positive attitudes towards pension preservation results in greater intentions to preserve accumulated retirement savings.

H_3 posited an association between subjective norms and intentions to preserve retirement savings. As t_{stat}=1.949 is below the critical value of 1.96, the null hypothesis failed to be rejected at the 5% significance level. Accordingly it is concluded that motivation to comply

with the expectations of referents is not significantly associated with individual intentions to preserve retirement savings at the 5% significance level.

H_4 posited an association between an individual's perceived behavioural control and their intentions to preserve retirement savings. This hypothesis was supported with t_{stat}=5.577 being far greater than the critical value of 1.96. The negative path coefficient of β=-0.434 indicates that as individuals level of perceived behavioural control increases (that is they perceive more volitional control over their savings behaviour) their intention to withdraw retirement savings decreases.

H_5 posited an association between individual time-perspective and actual pension preservation behaviour. As t_{stat}=1.595 is below the critical value 1.96 the null hypothesis of no significant association failed to be rejected at the 5% significance level. Accordingly it is concluded that individual time-perspective does not significantly influence individual pension preservation behaviour. The failure to find support for a direct effect of time-perspective is in keeping with preceding research (Van Ittersum, 2012). The result of this hypothesis test directly addresses the first primary objective of this research effort. Further interpretation of this finding is deferred to the forthcoming recommendations and discussion chapter.

The final hypothesis (H_6) presented for statistical testing is that of the potential moderating effect of time-perspective on the relationship between intention and behaviour. This hypothesis directly addresses the second primary objective of this research. The strength of the relationship between intention and behaviour is suggested to change as a function of individual time-perspective. Future-orientated individuals are hypothesised to demonstrate greater intention-behaviour consistency than their present-orientated contemporaries. This interaction effect was assessed via the product indicator approach suggested by Chin et al. (2003). The proposed moderator was represented as the latent construct time-perspective*intention. This multiplicative indicator was then standardized and subjected to bootstrapping and the PLS algorithm as with the preceding hypotheses.

As t_{stat}=2.200 is greater the critical value of 1.96, the hypothesised moderating effect is supported at the 5% significance level. Although significant, this moderating effect size was found to be weak with $f^2 = 0.042$. Therefore it is concluded that the relationship between intention and behaviour changes significantly as a function of individual time-perspective. To further understand this moderating effect, an examination as to the relative frequency with which present- versus future-orientated respondents acted in accordance with their stated

intentions is explored. Such a descriptive statistical analysis is presented in Figure 6.3 below which is now disused in closing.

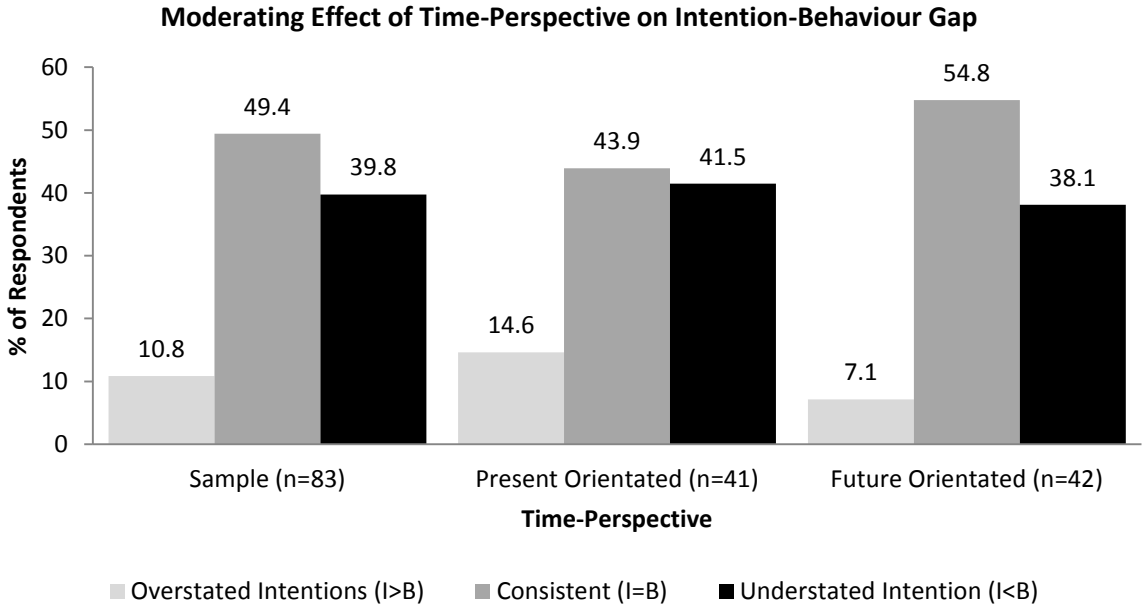

Figure 6. 3. Relative Frequencies of Intention-Behaviour Consistency by Time-Perspective

The total sample (n=83) is partitioned into a present-orientated subsample (n=41) and future-orientated subsample (n=42) based on time-perspective mean split. For each subsample, the relative frequency of respondents acting in accordance with stated intentions (intention=behaviour) is presented relative to those who did not act in exact accordance with their stated intentions (intention≠behaviour). This latter group is subdivided into respondents who overstated their intentions (stated intention to withdraw retirement savings was greater than actual measure of behaviour) and those who understated their intentions (self-reported intentions to preserve retirement were lower than actual pension preservation behaviour).

For the full sample of n=83, some 49.4% of respondents acted in exact accordance with their stated intentions and therefore were classified as demonstrating intention-behaviour consistency. Some 50.6% respondents did not act in accordance with their stated intention which is quantitative evidence of an intention-behaviour gap. Of those respondents displaying inconsistent behaviour, the majority (39.8%) understated their intentions to withdraw the accumulated retirement savings. A lower frequency of 10.8% overstated their intentions to withdraw their accumulated savings.

A different picture however emerges when similar descriptive statistics are examined for present- versus future-oriented subsamples. A greater frequency of future orientated individuals (54.8%) displayed intention-behaviour consistency than present-orientated individuals (43.9%). Present orientated individuals were found to more frequently understate their intentions (41.5%) compared to future-orientated individuals (38.1%). Lastly, and perhaps most markedly, present-orientated individuals (14.6%) were too found to be more prone to overstating their intentions than future-orientated individuals (7.1%). Such findings are in accordance with preceding seminal research by Van Ittersum (2012) who similarly showed that present-orientated individuals tended to overstate their intentions whereas future-orientated individuals tended to understate their intentions, leading to intention-behaviour inconsistency. Interpretation and recommendations following from these findings is deferred to the forthcoming discussion and recommendations chapter.

6.7. CONCLUSION

This chapter reported the results of the PLS-SEM statistical analyses conducted to support or reject the relationships hypothesised by the final conceptual model. Preceding this however, general descriptive statistics describing the final realised sample was discussed so as to assess its suitability relative to the targets outlined in the preceding methodology chapter. Following this a presentation of descriptive statistics for this study's key constructs was offered along with reference to reliability of summated scales where appropriate. After necessary adjustments, all final summated scales demonstrated adequate reliability with the exception of time-perspective which approached reliability with $\alpha = 0.584$.

Hereafter the results of the PLS-SEM analysis was presented wherein this study's hypotheses were either supported or rejected. After demonstrating both the reliability and validity of the measurement model, the structural model revealed that the final conceptual model only moderately to weakly explained the constructs of intention (R^2=0.256) and behaviour (R^2=0.146). Low explained variance was however expected as this study was in the domain of consumer behaviour. All but two of the hypothesised direct relationships were supported at the 5% significance level thereby largely supporting the final conceptual model. No statistical support was found for the relationship between subjective norms and intention, as well as between time-perspective and behaviour at the 5% significance level. The latter finding is in line with the seminal research of Van Ittersum (2012).

Of most importance, support was found for the primary objective of this study. The hypothesised moderating effect of time-perspective on intention-behaviour consistency was

supported at the 5% significance level. Following examination of relevant descriptive statistics, evidence was found that future-oriented respondents displayed intention-behaviour consistency with greater frequency than present-orientated respondents. Furthermore, future-orientated respondents were less likely to overstate their intentions when compared to their present-orientated contemporaries. These findings are in accordance with seminal work in this domain (Van Ittersum, 2012). The concluding chapter of this dissertation now reflects upon and discusses these findings in depth and offers several recommendations flowing from them.

CHAPTER VII
DISCUSSION AND RECOMMENDATIONS

7.1. INTRODUCTION

This research set out to explore and potentially provide insights into a recurrent problem faced by marketing researchers and industry practitioners alike; namely the irregularity with which widely pursued self-report measures correspond to actual ensuing behaviour. The pervasive discontinuity between what is *said* and what is *done* (the so called intention-behaviour gap) fuels arguments that challenge the fundamental value of marketing research. Contemporary definitions depict the discipline as a metaphorical bridge, built of information, which spans the divide between and connects organisations to customers. However, if self-report measures are indeed fragile, flawed, and misleading proxies of behaviour then marketing research may be a costly bridge to nowhere. It is clear that the generation of accurate information is a central task of marketing research and one that is inextricably linked to its value (Kotler, Tybout, & Calder, 2010). This research aimed to guard the value of marketing research by offering and testing a novel consideration that could potentially strengthen the explanatory power and predictive accuracy of self-reported intention measures; that is the direct and/or moderating effect of time-perspective. Such an endeavour was noted by Bagozzi (1993) to be of both academic and practical importance.

This final chapter of the dissertation now offers a thorough interpretation of the findings presented in the preceding results chapter. Each secondary and primary objective is first interpreted independently with associated implications for each forwarded. This chapter then examines the results from a more holistic perspective and finally draws an overall principle conclusion which is offered in answer to this study's guiding research question. Following this, this chapter then details several managerial and academic implications emanating from this principle conclusion. The penultimate section of this dissertation then discusses the methodological limitations that potentially diminish the value of this research. This final chapter then closes by suggesting several future research avenues which arise out of this study. Prior to this however, a brief overview of the study is first offered to facilitate the discussions which are to follow.

7.2. OVERVIEW OF THE STUDY

Theoretical grounding for this research was offered in the three theory chapters of this dissertation. Firstly, Chapter II laid forth evidence that the relationship between behaviour and self-report measures of attitudes and intentions is, at best, modest (LaPiere, 1934; Rabinovich et al., 2010; Wicker, 1969; Albarracin et al., 2001, Armitage & Conner, 2001; Sheppard, Hartwick & Warshaw, 1988). Hereafter, given the highly complex nature of behaviour, this chapter then identified and delineated the Theory of Planned Behaviour (Ajzen, 1991) as the theoretical lens through which the research would approach the intention-behaviour gap. The adoption of such a paradigm was necessary to understand the constitute roles of attitudes, social norms, perceived behavioural control and other factors which influence intentions and drive behaviour. Hereafter, Chapter II then summarised the current state of literature with regard to narrowing the intention-behaviour gap. Offered first was the school of thought that much of the discord may be attributed to measurement error. The ideas encapsulated in Self-Generated Validity Theory (Feldman & Lynch, 1988) and Common Method Variance (Buckley et al., 1990) was forwarded as examples of such attempts to explicate the intention-behaviour gap. Offered second was a discussion as to the potential moderating effects of a raft of variables that have been empirically shown to affect the intention-behaviour relationship (Pieters & Verplanken, 1995; Chanrashekaran, McNeilly, Russ, & Marinova, 2000; Conner, Rodgers, & Murray, 2007; Morwitz, 1997; Golwitzer, 1999). Given the sheer number of proposed moderators discussed in preceding literature, this chapter distilled them into four summative types; namely past-behaviour, temporal stability of intentions, self-regulation, and planning and intention implementation. Although offering considerable insight into the drivers of the intention-behaviour gap, the state of the literature at the point of writing left a significant amount (as much as two thirds) of the discord unexplained (Godin & Kok, 1996, Sheeran et al., 1999; Conner & Godin, 2007; Conner, Sheeran, Norman, & Armitage, 2000).

Chapter III formally introduced and posited the psychological construct of time-perspective as a potential moderator of the intention-behaviour relationship. This novel construct had been shown in seminal research to be a potentially fruitful individual difference variable to explain additional variance in the intention-behaviour relationship. For example, Rabinovich et al. (2010) found support for its moderating effect on the attitude-behaviour relationship. Additionally, Van Ittersum's (2012) formative study found that the time-perspective construct moderated the intention-behaviour relationship. Building upon these research outputs, this chapter then set forth justifications for hypothesising both a direct and moderating effect of time-perspective on consumer behaviour. The latter proposition was founded upon empirical

linkages which have been shown in literature between time-perspective and three of the established respondent-level moderators of the intention-behaviour relationship which were discussed in Chapter II. In brief, individual tendencies to overemphasise a particular temporal-orientation (past, present or future) was theorised to lead to temporal biases that manifest in individuals acting in accordance with short- versus long-term contingencies in *predictable* ways (Zimbardo & Boyd, 1999). It was the contention of this research that understanding such predispositions emanating from time-perspective may enhance the predictive accuracy of self-report measures and thereby narrow the intention-behaviour gap.

Chapter IV was the final theory chapter of this dissertation and demarcated the context within which this research was to be undertaken. A constricted context was necessitated as the relative effect of time-perspective (as with other moderators of the intention-behaviour relationship) may be dependent upon the decision being faced. The observed paradox between positive attitudes and intentions regarding saving for retirement and low actual retirement savings statistics was identified as being an example of the intention-behaviour gap. Ultimately pension-preservation decisions were identified as the specific context of this research. The choice of such a retirement savings context was substantiated as such decisions were noted in preceding literature to be prototypical of behaviour exhibiting high-levels of intention-behaviour inconsistency (Thaler & Shefrin, 1981). This final theory chapter closed by noting that such a research context would be of potential interest to both academia and industry. The former may benefit from insights obtained within this study as findings may, within reason, be expanded to other instances of intention-behaviour inconsistency. The latter was argued to potentially benefit from the provision of insights that may (1) assist individual retirees to achieve their retirement savings goals and (2) to assist retirement savings institutions to identify those individuals whose retirement savings intentions may be under threat.

Chapter V then set out and justified the methodology executed to empirically test the final theoretical model. The use of a hypothetical scenario was deliberated prior to discussions regarding salient methodological considerations such as sampling, measurement, and statistical analysis. Firstly, this methodology chapter identified the target population for this study as employed individuals (both in the private in public sector) between the ages of eighteen and sixty-five who were currently contributing on a monthly basis towards some sort of retirement savings (be it a pension plan and/or provident fund) either in their personal capacity or via their employer. To reach this highly defined population, the non-probability sampling technique of snowball sampling was employed. A final realised sample size in the

region of n=100 was pursued as it was deemed appropriate when considering sample sizes achieved in preceding literature, the longitudinal nature of the research, and the statistical technique employed. Hereafter the methodology chapter detailed the measurement of this study's key constructs. The time-perspective construct was measured using the established Consideration of Future Consequences Scale (Strathman et al., 1994). The constituent constructs within the TPB were measured using scale items specially constructed for the purposes of this research. This was necessitated as no preceding research had been conducted in a sufficiently similar context. This theory chapter then closed by providing a thorough discussion of and justification for the use of Partial Least-Squares Structural Equation Modelling (PLS-SEM) as the primary statistical technique employed.

Chapter VI then detailed the results of the descriptive and inferential statistical analysis conducted. Firstly, the final realised sample size of n=83 was deemed to be appropriate (section 6.4). Descriptive analysis of the final sample also showed it to be aligned with the defined target population (section 6.5.1). Following this, descriptive statistics for the key constructs of this study was examined (see Table 6.2). Hereafter attention turned to the examination of the estimated PLS-SEM model. The model's reliability (section 6.6.1.1) and validity (section 6.6.1.2) was first affirmed. It was concluded that all scales performed sufficiently well, with the exception of the time-perspective construct which had slight reliability (α=0.58) and validity (AVE=0.495) concerns. However, as these scores were only slightly below the recommended minimums, statistical analysis continued. Hereafter, attention then turned to testing of the hypothesised relationships through examination of the structural model (section 6.6.2). Hypotheses were assessed at the 5% significance level. All posited relationships were supported with the exception of two. Firstly, no support was found for the direct effect of time-perspective on behaviour (H_5). Secondly, no support was found for the hypothesised relationship between Subjective Norms and Intention (H_3).

Most saliently, a significant moderating effect of time-perspective on the intention-behaviour relationship was supported. Although significant, this moderating effect was found to be weak ($f^2 = 0.042$). To understand this moderating effect, further descriptive statistical analysis was conducted so as to understand the frequency with which present- vs. future-orientated subsamples displayed intention-behaviour consistency. This investigation indicated that future-orientated individuals were more likely to act in accordance with stated intentions compared to their present-orientated contemporaries. Both present- and future-orientated subsamples were prone to over- and understanding their intentions, but present-orientated individuals were observed to overstate their intentions considerably more

frequently. The findings summarised above are interpreted further and conclusions stemming from them are advanced in the forthcoming section.

7.3. CONCLUSIONS ABOUT THE MODEL

The final conceptual model was forwarded in Section 4.4 following the demarcation of this study's specific retirement savings context. The final theoretical model is reproduced here as Figure 7.1 for the purposes of the discussion to follow. Each hypothesised relationship relates to a specific research objective. The two primary objectives of this research effort were the following:

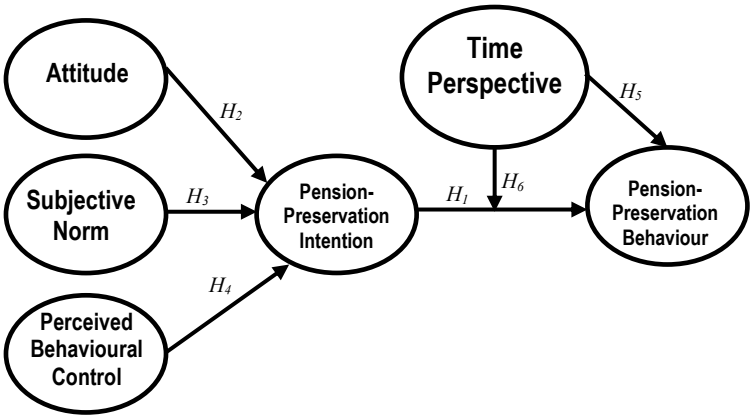

Figure 7. 1. Final Conceptual Model

(1) To determine if Time-perspective has a direct effect on individual pension-preservation decisions.
(2) To determine if Time-perspective has a moderating effect on the relationship between intention and behaviour within the context of pension preservation decisions.

In addition to assessing the possible direct and moderating effect of time-perspective on consumer behaviour as articulated in the two primary objectives above, the following secondary objectives were furthermore forwarded so as to test the whole conceptual model which facilitates a broader understanding of the consumer decision making process:

(1) To determine if intention to preserve retirement savings is positively associated with actual pension-preservation behaviour.
(2) To determine if attitude towards pension-preservation decisions is associated with intention to preserve retirement savings.
(3) To determine if subjective norms regarding pension-preservation is associated with intention to preserve retirement savings.
(4) To determine if the extent of perceived behavioural control is associated with intention to preserve retirement savings.

Conclusions derived from the findings related to each of hypothesised relationships are now offered. Each finding is compared relative to the preceding literature as outlined in the foregoing theory chapters. Hereafter, conjectures as to the meaning and possible significance of the finding is then offered both within the refined retirement savings context and, where appropriate, beyond it. Following individual discussions for each hypothesised relationship a principle conclusion as to the overall model is forwarded. The secondary objectives are first discussed, beginning with the proposed relationship between intention and behaviour.

7.3.1. Intention-Behaviour Relationship

Intentions were delineated in Chapter II (section 2.3) and were theorised to capture the motivational factors that influence behaviour. The construct was defined as self-instructions to perform particular actions in pursuit of defined outcomes (Ajzen, 1991; Conner et al., 2000; Webb & Sheeran, 2006). Preceding literature advocates that intention is the proximal determinant of and therefore the most accurate predictor of behaviour (Conner et al., 2000' Falk, Berkman, Mann, Harrison, & Lieberman, 2010; Foltz et al., 2008; Hall et al., 2008; Sheeran, 2011). For example, intention has been shown in preceding literature to be significantly correlated with behaviour (Hartwick & Warshaw, 1988; Armitage & Conner, 2001) and to explain between 25.6% and 40% of the variance therein (Ajzen, 1991; Godin & Kok, 1996, Sheeran et al., 1999; Conner & Sparks, 2005).

The first secondary objective of this research suggested a direct relationship between intention to preserve retirement savings and actual pension preservation behaviour. This hypothesised relationship was supported and the sign of the beta coefficient (β=0.192) suggests that intention and behaviour are positively related (see H_1 pg. 109). Therefore it is concluded that the more positive an individual's intentions to preserve retirement savings, the more likely it is that they will forego withdrawing the money. Or, conversely the more negative an individual's savings intentions the more increased is the probability of withdrawing the accumulated savings. This observed positive relationship between intention and behaviour is clearly consistent with preceding literature (Ajzen, 1991). Following from this finding, it may be concluded that marketers' pursuance of self-report measures of intention in order to explain and predict behaviour is somewhat substantiated. The weak magnitude of the beta coefficient (β=0.192) however supports the notion that intentions are only weakly associated with behaviour. Accordingly, marketers should be cautious in extrapolating these self-report measures into behavioural predictions. Giving further credence to this assertion is the low explained variance (R^2=0.146) in behaviour offered by

the intention construct within this study. Sole reliance upon intention measures would leave a substantial 85.6% of the variance in pension-preservation behaviour unaccounted for. This low level explained variance is indeed less than the lower band found in preceding research (Conner & Sparks, 2005). Given these findings, the intention construct must be brought under closer scrutiny.

The TPB theorises three discreet antecedents of intention; namely attitude, social norms and perceived behavioural control. Within this study, these three antecedents collectively explained R^2=25.6% of the variance in individual intentions to preserve retirement savings. Conversely, the antecedents left some 74.4% of the variance unaccounted for. This was however not wholly unexpected given that this study was conducted within the domain of consumer behaviour wherein an R^2=0.20 may be considered high (Hair, Ringle, and Sarstedt, 2011). The magnitude of explained variance may however be considered low when compared to prior studies which too employed the TPB. For example, Conner and Sparks (2005) found that the antecedents of intention accounted for 33.7% of the variance intention. Additionally, Godin and Kok (1996) found that the antecedents explained an average of 41% of the variance in intention. Contrasting the explained variance in intention relative to behaviour, it can be concluded that the final theoretical model did a better job of explaining intentions (R^2=25.6%) than it did in explaining behaviour (R^2=0.146). This chasm is aligned with the findings of Armitage and Conner (2001) and, in their words, is quantitative evidence an intention-behaviour gap. Each individual antecedent of intention is now discussed in-turn, which will conclude this chapter's discussion of the secondary objectives.

7.3.1.1. Attitudes

The second ancillary objective of this research suggested that attitudes towards pension preservation decisions are associated with intentions to preserve retirement savings. Attitudes were discussed generally in Chapter II (section 2.3.1) and were defined as favourable or unfavourable appraisals of an object or target behaviour (Ajzen, 19991; Eagly & Chaiken, 1994; Conner, 2000; Ajzen, 2011). Attitudes were theorised to flow out of an individual's behavioural beliefs, i.e.: their subjective estimations that a particular behaviour would lead to a particular outcome (Ajzen, 1991). Within a retirement savings context, Shim et al. (2012) showed that attitude towards retirement savings was associated with retirement savings behaviour.

The posited association between attitudes and intention was supported in this research (see H_2 pg. 109). The positive beta coefficient (β=0.303) indicates that as individual attitudes

towards pension preservation becomes more favourable, intention to preserve retirement savings increases. The moderate size of the beta-coefficient indicates that intention does not follow perfectly from self-reported attitudes. This finding is aligned with the seminal research within the domain of attitude-behaviour research (La Piere, 1934; Rabinovich & Webley, 2007, Wicker, 1969). Following from this finding is the general conclusion that marketers should, as with intention measures discussed above, treat self-reported attitudes as *suggestive* of intentions and not as valid and reliable proxies.

7.3.1.2. Social Norms

The third secondary objective of this research proposed an association between social norms and intentions to preserve retirement savings. This construct, which was argued to be analogous to "peer pressure", was discussed in Chapter II (section 2.3.2). In brief, social norms were theorised to have origins in an individual's motivation to comply with the normative expectations of referent individuals, i.e.: the extent to which the individual wished to act in accordance with how friends, family and/or society would have them act (Ajzen, 1991).

No support for the posited association between social norms and intentions was found at the 5% significance level in this research (see H_3 pg. 109). As this hypothesis was not supported, the beta coefficient's sign and size is not interpreted. It must be noted however that the returned t_{stat}=1.949 is only slightly below t_{crit}=1.96. Therefore an association between social norms and perceived behaviour control would be supported at a slightly lower level of statistical certainty (say at $\alpha = 10\%$ and t_{crit}=1.64).

The null result at the 5% significance level may be explained by the fact that the relative effect of the antecedents of intention may vary depending on the nature of the decision being faced. That is to say, social norms may possibly be less relevant within this retirement savings setting than in other decision contexts. A second potential explanation for the null result may be the fragility of the scale used to measure the Social Norms construct. This scale consideration will be expanded upon in the forthcoming limitations section of this chapter (see Section 7.6). This researcher however is of the view that the first explanation for the null result is the sturdiest. That is to say it is the opinion of the researcher that this null result is particular to the retirement savings context. In brief, an ability to save is fundamentally determined by the availability of residual income after paying monthly expenses. Although an individual may wish to adhere to a savings culture espoused by the society which surrounds her, the absence of available money surely precludes savings

regardless of perceived social pressure. In conclusion; it is the estimation of the researcher that perceived behaviour control exerts a profound influence on retirement savings intentions which overrides that of social norms.

7.3.1.3. Perceived Behavioural Control

The fourth and final secondary objective of this research posited an association between perceived behaviour control and intention to preserve retirement savings. This construct, which is analogous to Bandura's (1977) concept of self-efficacy, was also discussed in Chapter II (section 2.3.3). Within the TPB, PBC captures the notion that an individual's perception of volitional control (more so than actual control) is an antecedent of intention (Ajzen, 1991). Subjective perceptions of behavioural control is theorised to flow out of an individual control beliefs, which themselves are determined by the availability of required resources to perform the behaviour in question. The influence of PBC on financial decision making was substantiated by Shim et al., (2009).

The posited association between PBC and intention was supported in this research (see H_4 pg. 110). The negative beta coefficient (β=-0.434) indicates that there is an inverse association between the constructs; that is to say as individuals perceive more control over their retirement savings decisions they become less inclined to withdraw the accumulated retirement savings. The size of the beta coefficient indicates that PBC is the strongest determinant of intentions within this retirement savings context. This finding leads to the conclusion that PBC is perhaps the principal determinant of individual retirement savings intentions. This concludes the discussion of the secondary objectives of this research. The primary objectives probing the effect of time-perspective on consumer behaviour are now discussed and principle conclusions emanating from the associated results are forwarded.

7.3.2. Time-Perspective

The time-perspective construct was charted in Chapter III of this dissertation where it was defined as a temporal bias induced by a chronic overemphasis of one particular temporal orientation (past, present, or future) in decision making which predisposes individuals to act in accordance with either short- or long-term contingencies in *predictable* ways (Zimbardo & Boyd, 1999). It was the contention of this research that understanding such predictable predispositions could improve the predicative accuracy of marketing research output and thereby narrow the intention-behaviour gap. The primary objectives of this research suggested both a direct and moderating effect of time-perspective on consumer behaviour. Each primary objective is now discussed in turn.

7.3.2.1. The Direct Effect of Time-Perspective

The first primary objective of this research alluded to a direct effect of time-perspective on consumer behaviour. This hypothesised effect had substantial support in prior research within the fields of economics, psychology and marketing. Within economics, the Discounted Utility Model (Samuelson, 1937) for example demonstrates that time-perspective (or temporal discounting as it is referred) offers a coherent explanation for the seemingly irrational behaviour of individuals choosing smaller sooner rather than larger later rewards. Further research within economics has too concluded that time-perspective exerts a significant direct effect on financial decision making (see for example; Hershey & Mowen, 2000; Howlett et al., 2008). The field of psychology on the other hand has additionally supported a direct effect of time-perspective on a range of behaviours including health (Zimbardo & Boyd, 1999), drug addiction (Beenstock et al., 2011), and pathological gambling (Hoch & Loewenstein, 1991). Lastly, research within the domain of marketing has furthermore supported time-perspective's direct effect on behaviour. For example, time-perspective has been argued to explain a substantial proportion of the variance in retail shopper behaviour (Karande & Merchant, 2012) and retirement savings behaviour (Hershfeild et al., 2011). This accumulating body of evidence supports Zimbardo and Boyd's (1999) assertion that time-perspective is one of the most powerful influencers on human behaviour yet identified.

Hypothesis H_5 was associated with this first primary research objective. No support was found for the hypothesised direct effect of time-perspective on behaviour at the 5% significance level. Given this null result, the size and sign of the beta coefficient is not interpreted. This finding leads to the tentative conclusion, within the context of pension-preservation decisions at least, that time-perspective does not significantly influence behaviour directly. Given the considerable prior research supporting this direct effect as summarised above, this null result is in apparent contradiction to existing theory. This null result may well be idiosyncratic to the particular behaviour studied as the magnitude of time-perspective's effect is more than likely dependent upon the nature of the decision being faced. Alternatively, it may well be that, in research wherein intention is not explicitly measured nor considered, time-perspective's effect may be subsumed into and thus appear as a direct effect.

The null result was not wholly unexpected however, particularly when read in light of the seminal research by Van Ittersum (2012). This researcher suggested that time-perspective has its effect on behaviour *through* its biasing effect on intentions. When read in this light,

the null result then appears to partly support this assertion. The finding related the second primary objective is required however before this conclusion can be held with certainty.

7.3.2.2. The Moderating Effect of Time-Perspective

The second primary objective of this research suggested that time-perspective exerts a moderating effect on the intention-behaviour relationship in addition to a direct effect on behaviour. This hypothesis has origins in the work of Rabinovich et al. (2010) who showed that time-perspective significantly moderated the relationship between attitudes and behaviour. Following on from this work, Van Ittersum (2012) provided the first empirical support for a moderating effect of time-perspective on the intention-behaviour relationship. This seminal research concluded that future-orientated individuals display greater intention-behaviour consistency than their present- and past-oriented contemporaries. The current research effort aimed to expand upon these two formative findings by testing for such a moderating effect within the domain of retirement savings.

To further justify the hypothesised moderating effect of time-perspective on the intention-behaviour relationship, this dissertation drew upon several theories offered in literature in an attempt to explain the potential mechanisms that may underlay this effect. In so doing, empirical associations between time-perspective and several established respondent-level moderators of the intention-behaviour relationship was shown. These three empirical linkages were thoroughly presented in Chapter III but are summarised here. First, time-perspective was shown to be associated with intention stability though *Temporal Construal Theory* (TCT) (Trope & Lieberman, 2003). Future-orientated individuals are suggested by TCT to have more stable intentions over time as their mental representations of the future are more likely to already include potentially dissuading feasibility considerations, which only manifest later for present-orientated individuals. Second, time-perspective was linked to self-regulatory capacity in several neuro-imaging studies (Okuda et al., 2003; Fellows & Farah, 2005; Bechara et al., 1996) and through *Temporal Self-Regulatory Theory* (Hall & Fong, 2007). Neuro-imaging studies suggest that future thinking ability and self-regulation result in activations in like areas of the brain (Okuda et al., 2003). Along a similar vein, Hall and Fong (2007) theorised that self-regulatory capacity largely corresponds with measures of time-perspective as they share common biological bases. Third and finally, time-perspective has been shown to be associated with planning and intention implementation. Preceding research has indicated that future-orientated individuals are significantly more likely to engage in planning behaviour, which in turn increases intention realisation (Bergadaa, 1990; Howlett et al., 2008; Rabinovich & Webley, 2007).

Hypothesis H_6 addressed this second primary objective. Support was found for this moderating effect at the 5% significance level. Therefore, this finding supports the proposition that the relationship between intention and behaviour changes as a function of time-perspective. After examination of relevant descriptive statistics, this research showed that future-orientated individuals displayed intention-behaviour consistency with greater frequency than did present-orientated individuals. This finding corroborates prior research and leads to the following tentative conclusion being drawn; time-perspective is indeed a fruitful individual difference variable with the potential to identify those individuals whose self-reported intentions may be more or less predicative of ultimate behaviour. Which of the three mechanisms suggested above actually underlies this observed moderating effect is not apparent however from this research. Whether increased intention-behaviour consistency for future-orientated individuals is most attributable to intention stability, self-regulation, or planning is an interesting question deferred to future research. This concludes the drawing of specific conclusions emanating from the individual findings of this research. A holistic interpretation of the entire theoretical model is now offered in the forthcoming section which directly answers this study's guiding research question.

7.4. OVERALL CONCLUSIONS REGARDING THE RESEARCH QUESTIONS

When considered collectively, the results of the hypothesis testing largely supported the final theoretical model as the majority of the hypothesised relationships were supported with beta-coefficients being of the expected sign. Therefore the final theoretical model provides a coherent graphical illustration of the decision process followed by individuals facing pension-preservation decisions, or more generally decisions wherein the costs and benefits of action are separated in time (i.e.: future-orientated behaviour). Most saliently, when read together, the findings associated with the two primary objectives of this research lead to the final principal conclusion of this study which is offered in answer to the following research question which was posed in the introductory chapter of this dissertation.

What is the effect of time-perspective on consumer behaviour and can it improve the predictive accuracy of self-reported intention measures?

A failure to support a direct effect on the one hand (primary objective one) in combination with a supported moderating effect on the other hand (primary objective two) leads to the conclusion that time-perspective does indeed affect consumer behaviour. This effect is however via its moderation of the intention-behaviour relationship rather than a direct

influence on behaviour. Inferred from this supported moderating effect is the conclusion that the strength of intention-behaviour consistency is related to the individual's prevailing time-perspective. In answer to the research question, factoring in time-perspective considerations can thus potentially enhance the predictive accuracy of self-reported intention measures. Self-report measures offered by future-orientated individuals can be assumed to be more accurate predictors of behaviour than the self-report intention measures of past- and/or present-orientated individuals. This principle conclusion is aligned with and therefore affirms that of the seminal finding by Van Ittersum (2012), particularly in so far as the observation that future-orientated individuals not only display greater intention-behaviour consistency but are also less likely to overstate their intentions.

This principle conclusion however is offered with the following caution. The moderating effect, although found to be significant, explained only slight additional variance ($f^2 = 0.042$) and therefore this contribution to theory may be seen as negligible. Following from this, time-perspective's effect may not be as strong as the results of this research would on the face of it suggest. Although offering only slight additional explained variance, it is the belief of the researcher that this study makes a notable contribution to this fledging field of study within consumer behaviour. Additionally, this research output may yield several potentially valuable insights with implications for industry and academia. These possible managerial implications are now discussed in the forthcoming section.

7.5. MANAGERIAL AND THEORETICAL IMPLICATIONS

Marketing researcher's pursuance of self-reported intention measures was highlighted within this dissertation as precarious given the observed irregularity with which intentions are predictive of behaviour (Fennis et al., 2011; Morwitz, 1997; Van Ittersum, 2012; Webb & Sheeran, 2006). This dissertation's principle finding was to support the productive insight that time-perspective considerations have the potential to narrow this pervasive intention-behaviour gap, and thereby enhance the explanatory and predictive accuracy of marketing research. This finding subsequently yields several potentially important implications for industry and academia.

The most obvious implication of this research is as follows. Given that time-perspective considerations have been shown to have the ability to potentially discriminate between individuals who are more likely to exhibit intention-behaviour consistency and those that might not, marketers within academia and industry must be cognisant of and consciously account for its effects. Marketing researchers should take deliberate steps to understand the

prevailing time-perspectives of their sample units, and where appropriate factor in the potential bias it may manifest. Such efforts may include, but are not limited, to the use of a weighting factor which for instance may be used to dampen down overly optimistic intentions of present-orientated individuals. In so doing, marketing researchers can somewhat correct over- and/or understating of self-report measures, which may in turn improve predictive accuracy of their research. To understand the prevailing time-perspective of sample units does not necessarily require explicit measurement of time-perspective as the construct is shown to be highly correlated to such demographics as age, gender, race, and socio-economic status (Zimbardo et al., 1997;Teuscher & Mitchell, 2011; Harrison, Lau, & Williams, 2002; Prenda & Lachman, 2001). For instance, it does not require overt measurement of time-perspective to conclude that a sample of older, wealthier, and highly educated respondents would result in more accurate intention measures than those from a younger, poorer, and less educated sample. Even a modest consideration of time-perspective such as this may be sufficient to markedly enhance the predictive accuracy of research output.

Time-perspective's moderating effect on the intention-behaviour relationship may have a further implication for marketers in industry, particularly those of financial services such as retirement savings (or any other future-orientated purchase for that matter). For example, understanding the prevailing time-perspective of a retirement funds' members may assist marketers to identify those individuals whose continued fund membership may be under threat and thus upon whom focus interventions. If for example a fund member communicates an intention to terminate their relationship with the organisation following retrenchment, service failure or other such occurrence, an understanding as to their individual time-perspective may be a crucial factor to assess the probability of actual relationship termination. If the member in question is known to be a future-orientated individual (perhaps by examining proxies such as wealth, age and educational status) then it may be wise to involve more senior staff to address their concerns. If on the other hand, the individual is known to be more present-orientated and thus more impulsive but ultimately exaggeratory with regards to their intentions to terminate the relationship, then more junior staff may be sufficient to handle the situation. Incorporating time-perspective considerations such as this into customer relationship management has the potential to preserve the loyalty of their existing customer bases through the strategic allocation of scarce human resources.

For marketing researchers in academia, this work has a further potential implication which warrants discussion. From a theoretical standpoint, this study provided support for the

inclusion into marketing of an abstract psychological construct which has its origin outside of the discipline. Although better understood in fields such as psychology and behavioural economics, this research shows that such "outside" variables are potentially productive explainers of consumer behaviour. Incorporating such abstract constructs may thus help marketers to better understand consumer behaviour observed in reality. Therefore, such variables should be more widely incorporated into consumer behaviour research. Affirming the potential value of such variables is aligned with the conclusions of Hall and Fong (2007) who state that their absence devalues socio-cognitive models of behaviour. Furthermore, such an assertion supports the early thoughts of Hirschman (1977) and Abelson and Clarke (1963) who similarly argued that consumer behaviour often deviates substantially from assumed rationality as behaviour is driven *both* by "cold rational interests" and "hot passions". Abstract psychological variables such as time-perspective clearly assist us to more fully understand the latter. The potential implications of this research outlined above should be read with a clear understanding as to the limitations of this research which are discussed in the penultimate section of this dissertation.

7.6. LIMITATIONS OF THIS STUDY

The generalizability of this study's findings is constrained by several methodological limitations. First and foremost, this study's final realised sample size and its representativeness are of concern and thus potential limitations. This study's final realised sample of n=83 was noted previously as being seemingly small (Section 6.4). However, it was concluded that this sample size was sufficient for the purposes of this research based on budgetary and time constraints in addition to three further considerations; (1) it was aligned with sample sizes achieved in prior studies, (2) the research was longitudinal in nature and (3) the chosen statistical technique of PLS-SEM was shown to be robust to smaller sample sizes. Despite these potentially mitigating arguments, a larger sample size would certainly haven been preferred. Indeed, it can be strongly contended that a larger sample size would have engendered greater confidence in the findings of this research. This position is based on the theoretical underpinning of sampling theory, namely Central Limit Theory which states that a sample mean ($\bar{x}$) will be a close approximation of the true population mean (μ) given that the sample size (n) is sufficiently large (Shui et al., 2009).

The representativeness of the sample following the use of non-probability sampling is a second potential limitation of this research (Aaker et al., 2008). Although the snowball sampling technique with quota controls employed may have resulted in good estimates of population parameters, this is not necessarily assured as there is no way of objectively

evaluating the precision of the sample results (Malhotra, 2010). Potentially mitigating concerns as to the representativeness of the sample were the descriptive statistics offered that showed the final realised sample is aligned with the target population. The final realised sample was shown to be largely constituted of individuals who were of working age, was employed and had high to medium levels of education (Section 6.5.1). In addition to this, the small spread observed in terms of the time-perspective construct ($\bar{x} = 4.90, sd = 0.89$) may suggest some homogeneity in the sample and a slight bias towards future-orientated individuals. This higher incidence of future-orientated respondents may be attributed to the employed and educated nature of the specified target population. Time-perspective theory suggests that employment, age, and economic status are all positively correlated with future-orientation (Section 3.2). As a consequence of both the small sample size and the potentially unrepresentative nature of the sample, statistical inferences as to population parameters is not justified from this research (Shiu et al., 2009). Discussion regarding the implications of this research must thus be confined to this sample of respondents only (Malhotra, 2010). Accordingly, the findings and recommendations discussed in the preceding sections of this chapter are offered as somewhat conjectural and serve only to give insight into the direction of the population parameters.

A second potential methodological limitation of this research was the fragility of several of the scales used to measure key constructs within this study. Of particular concern were the scale items specifically constructed for the purposes of this research; namely attitude, social norms, and perceived behavioural control. These measures of the antecedents of intention did not perform as well as expected and therefore required post-measurement adjustments to affirm their reliability and validity. For instance, convergent validity (AVE) considerations necessitated the removal of several indicators for each of the respective constructs. Due to the reflective nature of the measurement however, the removal of indicators from summated scales such as this was tolerable as it does not change the conceptual meaning of the construct (Jarvis et al., 2003). In addition to these three variables, the scale for time-perspective (the Consideration for Future Consequences Scale (Strathman et al., 1994) also demonstrated questionable reliability and validity (Section 6.5.2.4). To improve the measurement of this key construct, the original one factor solution was rejected and a three factor solution was adopted based on the recommendations of several authors (Elkebrook & Nyhus, 2008; Petrocelli, 2003; Rappange et al., 2009). Notwithstanding this necessary adjustment to the CFC scale it continued to display both reliability ($\alpha = 0.58$) and validity (AVE=0.495) concerns with indicators remaining slightly below the recommended minimum

thresholds. In conclusion, more robust, reliable and valid measures for this study's key construct would certainly have enhanced the quality of this research output.

The methodological concerns delineated above constrain the generalizability of this research. Expanding the generalizability of these findings however is the context within which this research was undertaken. Retirement savings decisions such as the one which constituted the hypothetical scenario in this research are thought to be prototypical of time-inconsistent behaviour (Thaler & Shefrin, 1981). That is to say, retirement savings decisions bear many of the hallmarks of behaviours characterised by intention-behaviour inconsistency. The insights gained within this context may therefore, within reason, be transferred to other contexts. Despite the limitations of this research as discussed here, this study somewhat enlightens our understanding as to the effect of time-perspective on consumer behaviour and in so doing makes a contribution to the literature. It is clear thou that much is still left unknown and therefore future research must continue to build upon these tentative early findings and those that preceded it. Several suggestions for future research are now offered in the final section of this dissertation.

7.7. FUTURE RESEARCH

This study expanded upon the formative work of Rabinovich et al. (2010) and Van Ittersum (2012) and supported their initial hypothesis that time-perspective was a significant moderator of the intention-behaviour relationship. This study examined this postulated moderating effect within the novel retirement savings context and related insights gained to consumer behaviour. In addition to this, this research made a unique contribution to the literature by identifying several underlying mechanisms which may potentially drive time-perspective's effect. In so doing, this research offered answers to many of the lingering questions which originated out of the aforementioned seminal studies. This research now itself spawns three questions which may be fertile avenues for future research endeavours.

Firstly, although suggesting several potential factors that may explain the moderating effect of time-perspective on intention-behaviour consistency, the question remains as to which identified factor (intention stability, self-regulation or planning) most strongly drives its effect. The hierarchy (if there is one) for these variables is as yet unknown. It may even be that the pre-eminence of a particular factor is determined by the situation and/or even be contingent on other elements such as personality. Additionally, there may be the distinct possibility that it is time-perspective which drives these three factors and not the other way around. Such a phenomenon would be reminiscent of Zimbardo and Boyd (1999) who argued that time-

perspective may be related to, integrate, and/or even be the foundation upon which a diverse array of psychological constructs are erected. The direction of causality is intriguingly unclear at this stage. Accordingly, understanding the origins, drivers and/or foundational nature of time-perspective is an interesting endeavour for future researchers to undertake.

A second question emanating from this research is the appropriateness of this study treating individual time-perspective as a stable personality trait (Section 3.2.2). As discussed in the preceding theory chapter of this dissertation there is mounting evidence that time-perspective may be more pliable and subject to change than this study assumed. For example, it has been shown in literature that time-perspective is correlated with age, education, and socioeconomic status (Zimbardo et al., 1997; Teushcer and Mitchell, 2011; Harrison, Lau, & Williams, 2002; Prenda & Lachman, 2001). Research by Loewenstein (1996) also suggests that time-perspective may be subject to environmental determinants such as hunger, thirst, and even sexual desire. Lastly, several authors have additionally found negative mood states such as depression, fear, anxiety and stress lead to a notable predisposition towards present pleasure and hedonic consumption (Alison & Silver, 1998; Gray, 1998; Klapproth, 2011; Spiegel, 1997). Therefore, future researchers may wish to explore the extent to which time-perspective is indicative of intention-behaviour consistency when respondents are exposed to various stressors. For example, can future-orientated individuals still be assumed to report more accurate intention measures than their present-orientated contemporaries if they are exposed to a stressor and/or are subject to energy depletion? Or are certain temporal orientations more resistant to stress and thus continue to report reliable intention measures regardless of the situation? In essence, it may be an interesting avenue of investigation for future researchers to understand the extent to which individual time-perspective (and thus intention-behaviour consistency) is subject to change over time and across situations.

A third and final question emanating from this research relates to the apparent within temporal-orientation differences which this study may have overlooked. As discussed in Section 3.2.2.1 of this dissertation, present-orientated individuals can be further subdivided into present-hedonists and past-fatalists (Zimbardo & Boyd, 1999). This further level of individual classification is of importance when one considers the finding of Van Ittersum (2012) who suggested that there may be marked differences between the two subgroupings in regard to their propensity to over- or understate intentions. Specifically this research showed that present-hedonists were more likely to overstate their intentions and present-fatalists more likely to understate theirs. These potentially crucial differences were not

captured in this research as a consequence of use of the CFC scale which measures time-perspective on a continuum from present- to future-mindedness, and makes no further distinction. Thus it may be enlightening for future researchers to replicate this study using the more complete Zimbardo Time-Perspective Inventory (Zimbardo & Boyd, 1999) as the measure of time-perspective so as to capture this potentially important nuance. Such a contribution to literature could further enhance the predictive accuracy of self-reported intentions measures.

7.8. CONCLUSION

This study set out to answer the research question as to whether the psychological construct of time-perspective exerts a significant effect on consumer behaviour, and whether this variable could potentially narrow the pervasive intention-behaviour gap. This study found support for a moderating effect of time-perspective on the intention-behaviour relationship within the confines of retirement savings decisions. In so doing, this research yielded several insights that potentially guard and perhaps enhance the value of marketing research. Of most significance is the principle conclusion of this study which contends that embracing time-perspective theory when interpreting self-report measures of intentions improves their predictive accuracy. Through facilitating more precise behavioural forecasts, time-perspective considerations figuratively reinforce the bridge of information which marketing research attempts to span between organisations and their customers.

This final chapter began by offering a brief summary of the study to facilitate the discussions that were to follow. Hereafter this chapter offered specific interpretations and possible implications for each of this study's secondary objectives. Here it was concluded that marketers' pursuance of self-report measures may be somewhat justified as intentions were found to be significantly associated with behaviour. Researchers were cautioned however as this observed association was found to be modest at best. This chapter then examined the results from a more holistic perspective and finally drew the overall principle conclusion highlighted in the above paragraph. Following this, this chapter then discussed several broad managerial and academic implications of this research. The penultimate section of this dissertation then discussed the methodological limitations which the reader must be cognisant of when considering the implications and recommendations charted in this chapter. This dissertation then closed by suggesting several future research questions which arose out of and were left unanswered by this study.

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APPENDIX A - MEASUREMENT INSTRUMENT

Questionnaire Number:	

UNIVERSITY OF CAPE TOWN

Dear Respondent,

It will be appreciated of you to take the time to complete this questionnaire regarding a financial decision that is commonly faced by individuals such as yourself.

This survey will present you with a hypothetical scenario which you must please project yourself into. You will be asked to indicate how you would choose to behave if it were you who were actually facing the decision. In addition, this survey will ask you some other general questions which are of interest to the researcher.

This research is conducted in association with the University of Cape Town. Your participation is greatly appreciated.

This questionnaire will take no longer than 10 to 15 minutes to complete and you will be contacted after a period of two weeks for a two minute follow up survey via email if you agree to participate.

As appreciation for your participation, your name will be entered into a random lucky draw for a R500 cash prize.

Please note that neither UCT nor your employer will have access to your responses in any way. Your responses will be treated as highly confidential and will not be used for any purpose other than this research.

By completing this questionnaire you implicitly give consent to take part in the research study.

If you require any further information regarding this study please contact the researcher on:

Email: WCKBRA001@myuct.ac.za

Telephone: 072 804 9643.

Filter

1. Are you currently between the ages of 18 and 65 AND currently employed?

Yes – Please continue with this questionnaire.	☐
No – You do not have to complete this questionnaire, thank you for your time.	☐

To facilitate the short two-minute follow-up survey in two weeks, please provide your email address in the box below.

PROVIDE EMAIL ADDRESS HERE

Scenario

The following scenario presents a decision that is commonly faced by many people who are similar to you in a number of ways. Please answer the questions to follow after carefully reading and projecting yourself into the scenario presented in italics below – that is answer the questions as if it were you who were facing this decision given the current circumstances in your life.
Note: there are no correct or incorrect answers; this is simply a survey of your attitudes and intentions.

Scenario

You have just celebrated your birthday with your friends over the preceding weekend; you arrive at your work on Monday morning only to be directed immediately your boss's office. Unfortunately your company has been struggling as of late and management have decided that there is no alternative but to retrench staff in order to save the company. Unfortunately for you, and to your great surprise, ***you are one of the employees who have been retrenched (let go) and your last working day is two weeks from today.***

You too are advised that you have ***built up sizable retirement savings (pension fund or provident fund) with the company****. You have been contributing on a monthly basis since you began working for the company. You are advised that you may* ***withdraw this money in cash or transfer the money to your new employer's pension fund.***

NOTE: You only have to make this decision two weeks from today.

Section A

Please indicate <u>what you intend to do</u> with your retirement savings (pension fund or provident fund) when you have to make the actual decision in two weeks from today.
Please select the response that most accurately reflects your feelings by selecting (☑) the appropriate option.

2. In two weeks' time, I intend to withdraw and spend my retirement savings following my unexpected retrenchment.

definitely do not	1	2	3	4	5	6	7	definitely do

3. In two weeks' time, I will withdraw and spend my retirement savings following my unexpected retrenchment.

unlikely	1	2	3	4	5	6	7	likely

4. In two weeks' time, I will be willing to withdraw and spend my retirement savings following my unexpected retrenchment.

false	1	2	3	4	5	6	7	true

5. In two weeks' time, I plan to withdraw and spend my retirement savings following my unexpected retrenchment.

disagree	1	2	3	4	5	6	7	agree

6. If you intend withdraw and spend your retirement savings in two weeks following your unexpected retrenchment, how much of the money do you intend to withdraw and spend?

none of it	1	2	3	4	5	6	7	all of it

Section B

For each of the statements below, please indicate whether or not the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you) please select "1"; if the statement is extremely characteristic of you (very much like you) please select "7".
Of course, use the numbers in the middle if you fall between the extremes.
Remember, there are no right or wrong answers and therefore you can answer as you feel appropriate.

	STATEMENT	extremely uncharacteristic			Uncertain			extremely characteristics
		1	2	3	4	5	6	7
7.1	I consider how things might be in future, and try to influence those things with my day to day behaviour.	1	2	3	4	5	6	7
7.2	Often I engage in a particular behaviour in order to achieve outcomes that may not result for many years.	1	2	3	4	5	6	7
7.3	I only act to satisfy immediate concerns, figuring the future will take care of itself.	1	2	3	4	5	6	7

7.4	My behaviour is only influenced by the immediate (I.e., a matter of days or weeks) outcomes of my actions.	1	2	3	4	5	6	7
7.5	My convenience is a big factor in the decisions I make or the actions I take.	1	2	3	4	5	6	7
7.6	I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes.	1	2	3	4	5	6	7
7.7	I think it is important to take warnings about negative outcomes seriously even if the negative outcome will not occur for many years.	1	2	3	4	5	6	7
7.8	I think it is more important to perform behaviour with important distant consequences than behaviour with less-important immediate consequences.	1	2	3	4	5	6	7
7.9	I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level.	1	2	3	4	5	6	7
7.10	I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time.	1	2	3	4	5	6	7
7.11	I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date.	1	2	3	4	5	6	7
7.12	Since my day to day work has specific outcomes, it is more important to me than behaviour that has distant outcomes.	1	2	3	4	5	6	7

Section C

Please answer each of the following questions by selecting the number that best describes your opinion. Some of the questions may appear to be similar, but they do address somewhat different issues. Please read each question carefully.

9.1. Deciding to withdraw and spend my retirement savings two weeks following my unexpected retrenchment is…

bad	1	2	3	4	5	6	7	good

10.1. Deciding to withdraw and spend my retirement savings two weeks following my unexpected retrenchment will help to ensure I have enough money to be comfortable in my retirement years.

strongly disagree	1	2	3	4	5	6	7	strongly agree

10.2. Deciding to withdraw and spend my retirement savings two weeks following my unexpected retrenchment will help me to be financially independent in my retirement years.

strongly disagree	1	2	3	4	5	6	7	strongly agree

10.3. Deciding to withdraw and spend my retirement savings two weeks following my unexpected retrenchment will help me be happy in my retirement years.

strongly disagree	1	2	3	4	5	6	7	strongly agree

11.1. My family thinks that

Definitely should	1	2	3	4	5	6	7	definitely should not

decide to withdraw and spend my retirement savings two weeks following my unexpected retrenchment.

11.2. My friends thinks that

Definitely should	1	2	3	4	5	6	7	definitely should not

decide to withdraw and spend my retirement savings two weeks following my unexpected retrenchment.

11.3. Society thinks that

Definitely should	1	2	3	4	5	6	7	definitely should not

decide to withdraw and spend my retirement savings two weeks following my unexpected retrenchment.

12.1. When it comes to matters such as this, I want to do what my family think I should do.

agree	1	2	3	4	5	6	7	disagree

12.2. When it comes to matters such as this, I want to do what my friends think I should do.

agree	1	2	3	4	5	6	7	disagree

12.3. When it comes to matters such as this, I want to do what society thinks I should do.

agree	1	2	3	4	5	6	7	disagree

13.1. Most of the people in my family would decide after the two weeks to withdraw their retirement savings and spend it if they were unexpectedly retrenched.

agree	1	2	3	4	5	6	7	disagree

13.2. Most of my friends would decide after the two weeks to withdraw their retirement savings and spend it if they were unexpectedly retrenched.

agree	1	2	3	4	5	6	7	disagree

13.3. Most of the people in society would decide after the two weeks to withdraw their retirement savings and spend it if they were unexpectedly retrenched.

very much	1	2	3	4	5	6	7	not at all

14.1. When it comes to matters such as this, how much do you want to be like your family?

very much	1	2	3	4	5	6	7	not at all

14.2. When it comes to matters such as this, how much do you want to be like your friends?

very much	1	2	3	4	5	6	7	not at all

14.3. When it comes to matters such as this, how much do you want to be like most people in society?

very much	1	2	3	4	5	6	7	not at all

15.1. I currently do not have enough money after my unexpected retrenchment and need to rely on my retirement savings for survival.

agree	1	2	3	4	5	6	7	disagree

15.2. Not having enough money after the unexpected retrenchment would make me more likely to withdraw and spend my retirement savings.

agree	1	2	3	4	5	6	7	disagree

15.3. I am not sure I will be able to find another job soon after my unexpected retrenchment and therefore I feel I need to withdraw my retirement savings to survive.

agree	1	2	3	4	5	6	7	disagree

15.4. Not being sure I will find a new job soon after my unexpected retrenchment would make me more likely to withdraw and spend my retirement savings.

agree	1	2	3	4	5	6	7	disagree

agree	1	2	3	4	5	6	7	disagree

Demographics

17. Are you currently employed?

Yes	☐
No	☐
Student	☐

44. Please indicate your highest level of education completed.

Primary Completed	☐
High School Completed	☐
Tertiary Completed	☐
Prefer not to answer	☐

19. Please indicate your gender:

Male	☐
Female	☐
Prefer not to answer	☐

45. Please indicate which age range you currently fall within.

18-25	☐
26-49	☐
50-65	☐
Older than 65	☐
Prefer not to answer	☐

THE END

Thank you for your time and contribution to this study!

APPENDIX B - LONGITUDINAL FOLLOW-UP MEASUREMENT INSTRUMENT

Questionnaire Number:	

UNIVERSITY OF CAPE TOWN

Dear Respondent,

Thank you for your participation in this study and for agreeing to complete this short follow-up questionnaire. This questionnaire should not take more than two minutes for you to complete.

Two weeks ago you were presented with a hypothetical scenario regarding a decision that is often faced by people much like yourself. You were asked to project yourself into this scenario and indicate how you would choose to behave if it were you who were actually facing the decision.

This research is conducted in association with the University of Cape Town. Your participation is greatly appreciated.

Remember that as appreciation for your completion of this follow-up questionnaire, your email address will be automatically entered into a random lucky draw for a R1000 cash prize.

Please note that neither UCT nor your employer will have access to your responses in any way. Your responses will be treated as highly confidential and will not be used for any purpose other than this research.

PROVIDE EMAIL ADDRESS HERE

By completing this questionnaire you implicitly give consent to take part in the research study.

If you require any further information regarding this study please contact the researcher on:

Email: WCKBRA001@myuct.ac.za

Telephone: 072 804 9643.

Scenario

To remind you of the decision you face today the scenario is again presented in italics below. Please answer the questions to follow after carefully reading and projecting yourself into this scenario. Please answer the questions as if it were you who were facing this decision given the current circumstances in your life.

Note: there are no correct or incorrect answers!

Scenario

Two weeks ago you celebrated your birthday with your friends over the weekend and you arrived at your work on the Monday morning only to be directed immediately your boss's office. Unfortunately your company had been struggling as of late and management had decided that there was no alternative but to retrench staff in order to save the company. Unfortunately for you, and to your great surprise, ***you were one of the employees who had been retrenched (let go) and your last working day was to be in two weeks – that day is today.***

You were advised that you had ***built up a sizable retirement savings (pension fund or provident fund) with the company****. You have been contributing on a monthly basis since you began working for the company. You were advised that you may* ***withdraw this money in cash or transfer the money to your new employer's pension fund.***

NOTE: Today is the day you must decide what to do with your retirement savings.

Section A

Please indicate <u>what you want to do</u> with your retirement savings (pension fund or provident fund).

Please select the response by selecting the option which most accurately reflects your feelings.

2. It is my decision to withdraw and spend my retirement savings following my unexpected retrenchment.

false	1	2	3	4	5	6	7	true

3. If you have decided to withdraw and spend your retirement savings in two weeks following your unexpected retrenchment, how much of the money do you intend to withdraw and spend?

none of it	1	2	3	4	5	6	7	all of it

THE END

Thank you for your time and contribution to this study!

APPENDIX C - INDICATOR RELIABILITY – OUTER LOADINGS

Appendix C: Indicator Reliability – Outer Loadings

	Attitude	Behaviour	Intention	Intention * TP	TP
@10	1				
@15.14.2					
@15.14.3					
@16.15.2					
@16.15.3					
@16.15.4					
@3			0.909054		
@3*TPF1				-0.038461	
@3*TPF2				0.785552	
@3*TPF3				0.142708	
@4			0.845733		
@4*TPF1				0.369171	
@4*TPF2				0.726756	
@4*TPF3				0.14474	
@5			0.844938		
@5*TPF1				0.071216	
@5*TPF2				0.631275	
@5*TPF3				0.309819	
@6			0.905775		
@6*TPF1				0.30608	
@6*TPF2				0.880947	
@6*TPF3				0.399656	
@7			0.854856		
@7*TPF1				-0.011751	
@7*TPF2				0.798107	
@7*TPF3				0.35632	
F1		0.942112			
F2		0.711241			
TPF1					0.544332
TPF2					0.729215
TPF3					0.809597

APPENDIX D - CONVERGENT VALIDITY – FACTOR LOADINGS

Appendix D: Convergent Validity – Factor Loadings

	Attitude	Behaviour	Intention	Intention * TP	PBC	Social Norms	TP
@10	1.00	0.00	0.00	0.00	0.00	0.00	0.00
@15.14.2	0.00	0.00	0.00	0.00	0.00	0.32	0.00
@15.14.3	0.00	0.00	0.00	0.00	0.00	0.76	0.00
@16.15.2	0.00	0.00	0.00	0.00	0.36	0.00	0.00
@16.15.3	0.00	0.00	0.00	0.00	0.38	0.00	0.00
@16.15.4	0.00	0.00	0.00	0.00	0.40	0.00	0.00
@3	0.00	0.00	0.22	0.00	0.00	0.00	0.00
@3*TPF1	0.00	0.00	0.00	-0.12	0.00	0.00	0.00
@3*TPF2	0.00	0.00	0.00	0.27	0.00	0.00	0.00
@3*TPF3	0.00	0.00	0.00	-0.05	0.00	0.00	0.00
@4	0.00	0.00	0.20	0.00	0.00	0.00	0.00
@4*TPF1	0.00	0.00	0.00	0.09	0.00	0.00	0.00
@4*TPF2	0.00	0.00	0.00	0.23	0.00	0.00	0.00
@4*TPF3	0.00	0.00	0.00	0.02	0.00	0.00	0.00
@5	0.00	0.00	0.24	0.00	0.00	0.00	0.00
@5*TPF1	0.00	0.00	0.00	-0.04	0.00	0.00	0.00
@5*TPF2	0.00	0.00	0.00	0.08	0.00	0.00	0.00
@5*TPF3	0.00	0.00	0.00	0.05	0.00	0.00	0.00
@6	0.00	0.00	0.24	0.00	0.00	0.00	0.00
@6*TPF1	0.00	0.00	0.00	0.11	0.00	0.00	0.00
@6*TPF2	0.00	0.00	0.00	0.24	0.00	0.00	0.00
@6*TPF3	0.00	0.00	0.00	0.20	0.00	0.00	0.00
@7	0.00	0.00	0.25	0.00	0.00	0.00	0.00
@7*TPF1	0.00	0.00	0.00	-0.11	0.00	0.00	0.00
@7*TPF2	0.00	0.00	0.00	0.20	0.00	0.00	0.00
@7*TPF3	0.00	0.00	0.00	0.12	0.00	0.00	0.00
F1	0.00	0.78	0.00	0.00	0.00	0.00	0.00
F2	0.00	0.37	0.00	0.00	0.00	0.00	0.00
TPF1	0.00	0.00	0.00	0.00	0.00	0.00	0.06
TPF2	0.00	0.00	0.00	0.00	0.00	0.00	0.58
TPF3	0.00	0.00	0.00	0.00	0.00	0.00	0.67

APPENDIX E - DISCRIMINANT VALIDITY – CROSS LOADINGS

Appendix E: Discriminant Validity – Cross Loadings

	Attitude	Behaviour	Intention	Intention * TP	PBC	Social Norms	TP
@10	**1.00**	0.16	0.16	-0.08	0.20	0.38	-0.04
@15.14.2	0.34	0.03	-0.08	-0.03	0.16	**0.81**	-0.07
@15.14.3	0.36	0.02	-0.18	-0.03	0.30	**0.97**	0.04
@16.15.2	0.07	-0.25	-0.34	0.23	**0.86**	0.18	0.13
@16.15.3	0.29	-0.25	-0.36	0.20	**0.84**	0.36	0.22
@16.15.4	0.15	-0.21	-0.38	0.22	**0.91**	0.18	0.18
@3	-0.03	0.29	**0.91**	-0.33	-0.42	-0.20	-0.08
@3*TPF1	-0.35	0.10	**0.38**	-0.04	-0.35	-0.36	-0.28
@3*TPF2	0.05	-0.22	-0.15	**0.79**	0.12	-0.04	-0.43
@3*TPF3	-0.09	0.04	-0.48	**0.14**	0.00	-0.03	-0.17
@4	0.10	0.25	**0.85**	-0.36	-0.33	-0.12	-0.14
@4*TPF1	-0.29	-0.07	-0.01	**0.37**	-0.06	-0.18	-0.14
@4*TPF2	0.00	-0.19	-0.17	**0.73**	0.13	-0.04	-0.18
@4*TPF3	0.01	-0.02	-0.57	**0.14**	0.09	0.10	-0.14
@5	0.19	0.27	**0.84**	-0.30	-0.35	-0.16	-0.08
@5*TPF1	-0.19	0.03	**0.14**	0.07	-0.16	-0.21	-0.15
@5*TPF2	-0.10	-0.07	-0.08	**0.63**	0.04	-0.09	-0.53
@5*TPF3	-0.17	-0.04	-0.43	**0.31**	0.10	-0.05	-0.07
@6	0.17	0.30	**0.91**	-0.47	-0.37	-0.12	-0.17
@6*TPF1	-0.08	-0.09	-0.02	**0.31**	-0.02	-0.13	-0.15
@6*TPF2	-0.12	-0.20	-0.22	**0.88**	0.09	-0.09	-0.38
@6*TPF3	-0.14	-0.17	-0.57	**0.40**	0.19	0.04	-0.07
@7	0.23	0.30	**0.85**	-0.49	-0.35	-0.12	-0.20
@7*TPF1	-0.03	0.09	**0.27**	-0.01	-0.26	-0.16	-0.35
@7*TPF2	-0.10	-0.16	-0.23	**0.80**	0.15	-0.14	-0.13
@7*TPF3	-0.22	-0.10	-0.47	**0.36**	0.15	-0.09	0.02
F1	0.17	**0.94**	0.35	-0.32	-0.24	0.00	-0.06
F2	0.06	**0.71**	0.12	-0.08	-0.23	0.07	-0.19
TPF1	0.16	-0.01	0.01	-0.20	0.13	0.37	**0.54**
TPF2	-0.02	-0.09	-0.11	-0.45	0.16	0.16	**0.73**
TPF3	-0.06	-0.10	-0.13	0.00	0.16	-0.16	**0.81**

APPENDIX F – COMMERCE FACULTY ETHICS COMMITTEE CLEARANCE

UNIVERSITY OF CAPE TOWN

Faculty of Commerce
Ethics in Research Committee

Courier: Room 2.26 Leslie Commerce Building Upper Campus University of Cape Town
Post: University of Cape Town • Private Bag • Rondebosch 7701
Email: Harold.Kincaid@uct.ac.za
Telephone: +27 21 650 5041
Fax No.: +27 21 650 4396

UCT/COM/121/2013

10th April 2013

Bradley Wickham
University of Cape Town
bradwickham14@gmail.com

Dear Researcher

Project title: Addressing the Intention-Behaviour Gap: Time Perspective and Financial Literacy in Pension Preservation Decisions

This letter serves to confirm that the project entitled,"**Addressing the Intention-Behaviour Gap: Time Perspective and Financial Literacy in Pension Preservation Decisions**", as described in your final submitted protocol 2013, has been approved. You may proceed with the research.

Please note that if you make any substantial change in your research procedure that could affect the experiences of the participants, you must submit a revised protocol to the Committee for approval.

Best wishes for great success with your research.

Regards,

Harold Kincaid

Professor Harold Kincaid
Commerce Faculty Ethics in Research Committee