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Holistic Approach to the Factors Affecting Individual Investor's Decision Making in the GCC Markets: Evidence from Oman and Saudi Arabia

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Holistic Approach to the Factors Affecting Individual Investor's Decision Making in the GCC Markets: Evidence from the Sultanate of Oman and the Kngdom of Saudi Arabia

by

AlAmir Nasser Salim Al-Alawi

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in partial fulfilment for the degree of**

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Holistic Approach to the Factors Affecting Individual Investor's Decision Making in the GCC Markets: Evidence from Oman and Saudi Arabia

AlAmir Nasser Salim Al-Alawi

Abstract

Behavioural finance studies have documented that investors are subject to psychological factors (cognitive and emotional) and demographic factors (internal), and external factors that make their financial decisions less than fully rational. However, most of these studies have concentrated on developed countries and few on emerging countries. This study is aimed at investigating the internal and external factors that influence individual investors' financial decision making in the Kingdom of Saudi Arabia and the Sultanate of Oman. It contributes to the behavioural finance literature by filling the gaps existing in the GCC countries in particular and emerging countries in general. The study adopts a holistic approach in using perspective theories in the analysis of data collected using questionnaires from 620 individual investors in Saudi Arabia and 590 individual investors in Oman. The data collected is analysed using the partial least squares structural equation modelling (PLS-SEM) in order to understand the behavioural constructs developed.

The study has revealed that religiosity factors have a significant influence on individual investors in both the Kingdom of Saudi Arabia and the Sultanate of Oman. However, the impact was negative in the Kingdom of Saudi Arabia but positive in Oman. Positive psychological capital and psychological (cognitive and emotions emotional) factors are found to have a positive influence on investors' decision making. Among these internal factors, religiosity factors have the highest impact while positive psychological factors have the least effect. In the Kingdom of Saudi Arabia, investors' decision making is positively significantly affected by economic factors and ethical and social factors, while political factors, governance and environmental factors and cultural factors do not significantly influence investors. In the Sultanate of Oman, however, political factors and cultural factors have a positive influence, while corporate governance and environmental factors influence investors negatively. Economic factors do not influence investors' decision making in the Sultanate of Oman, contrary to the observed effect in the Kingdom of Saudi Arabia.

The study indicates that there is a difference between the Kingdom of Saudi Arabia and the Sultanate of Oman's individual investors in relation to the study variables, except for the cultural and psychological (cognitive and emotional) variables. These results have important implications on investors' participation and future development of financial markets in the Sultanate of Oman and the Kingdom of Saudi Arabia.

DEDICATION

To my great parents Tufool and Nasser,

To my wonderful wife Hamdah,

To my brothers Salim, Ahmed, Adil, Ghazi and

To my sisters Marym and Hifa,

To my children Nasser, Ghazi, Mohammed and Tufool

A special dedication to my supervisors,

Ahmed El-Masry and Simon Ashby

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Abbreviations and acronyms

GCC	Gulf Cooperation Council
MSM	Muscat Securities Market
TASI	Tadawul All Share Index
EMH	Efficient Market Hypothesis
CAPM	Capital Asset Pricing Model
MSM	Muscat Securities Market
MPT	Modern Portfolio Theory
APT	Arbitrage Pricing Theory
Quan/Qual	Quantitative/Qualitative
SEM	Structural Equation Modelling
PLS	Partial Least Squares
AVE	Average Variance Extracted
PLS-SEM	Variance Based-Structural Equation Modelling
MVE	Monitoring, Verification, and Evaluation
GoF	Global Goodness of Fit
CFA	Confirmatory Factor Analysis
VIFs	Variance Inflation Factors
ARS	Average R-squared
APC	Average Path Coefficient

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Author's Declaration

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award. This study was fully financed by the Sultanate of Oman Government. Relevant scientific seminars and conferences were regularly attended at which work was often presented. The following activities were undertaken in connection with the programme of study:

Attendance on a number of courses in academic writing, in particular courses on development skills at the University of Plymouth, UK.

- Attendance at a one-week workshop at the London School of Economic and Political Science (LSE).
- Attendance at the Research Development Programme at the University of Plymouth, UK.

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

There has been a growth in stock market investment over the years. This growth has been observed in developed and emerging countries, including the Gulf Cooperation Council (GCC) countries (Al-Khoury and Dhade, 2014; Arouri et al., 2011). According to traditional financial literature, investment in the stock markets is usually attempts to: 1) increase profits, 2) manage liquidity and 3) reduce potential risks. The implication is that a rational investor will be influenced by these objectives when making an investing decision (Obamuyi, 2013). Investors, according to traditional finance theories, are assumed to make rational decisions and attempt to maximise their expected returns (Sultana and Pardhasaradhi, 2012; Siegel, 2007). The formulation of investment-related resolutions based on flawless environmental knowledge is one of the presuppositions of advocates of the rational investor theory. (Somil, 2007; Obamuyi, 2013).

Rationality also assumes that stock markets are efficient where all information is available to all investors and is instantaneously reflected in security prices (Sewell, 2011). Hence, investors, consequently, will not be able to make abnormal profits as the information would be revealed to all the investors at the same time. This also means that investors should only be able to make fair returns on averages based upon the risks associated with the securities they have invested in (Borges,

2010). As a result, rational decisions are purported to be based on the available information and the investor's knowledge about the market in which they are investing. Some of the sources of information include recommendations from stockbrokers, newsletters, financial magazines and the use of fundamental and technical analysis (Brijlal, 2007).

The traditional financial theories that support investor rationality, founded during the 1960s, were based on the Modern Portfolio Theory (MPT) (Markowitz, 1952), the Capital Asset Pricing Model (CAPM) (Sharpe, 1964) and the Efficient Market Hypothesis (EMH) (Fama, 1965). These traditional finance theories attempt to explain how an individual behaves or acts in various economic situations under certain theoretical constraints (Sharpe, 1964). The conventional finance theories can be evaluated as normative theories which attempt to calibrate what is normally right or wrong in terms of human behaviour or, more specifically, financial behaviour. The aforementioned conventional finance theories are based on the assumption of a rational economic person. However, these traditional finance theories have been opposed by neoclassical economic theory which postulates that every investor (or every person) has limited access to information and an individual is bound by external constraints and one's own behaviour (Somil, 2007). Empirical investigations, conducted mostly during the 1980s, rebutted the assumptions of these traditional theories (Mahmood *et al.*, 2011). The criticism has been in terms of both the explanatory power of the theory and the validity of the underlying assumptions (Takahashi and Terano, 2003). This has enhanced the

desire to build alternative models which could provide an explanation to a number of aspects of human behaviour within financial markets. This gap invited attention from scholars who sought to explain how an individual's own psychological and personal biases, in addition to externalities, affect the economic decisions of that person, and raised questions about why people behaved differently when faced with similar situations. An application of cognitive psychology to human behaviour provides a valuable alternative. Cognitive psychology is a term to express the working of the human mind for various mental processes such as memory, language, creativity, perception etc.

Investors are not rational in the way that has been assumed by the traditional financial theories (Shiller, 2005). Hence, the decision-making process is not always solely based on economic rational rather psychological factors; certain externalities influence all financial decisions (Shanmugsundaram and Balakrishnan, 2011). A lot of factors have been identified in the literature which influence an investor's decision-making process. Akerlof and Shiller (2009) argue that an investor's behaviour is influenced by psychological factors. Behavioural finance, which is based on the alternative notion that investors are subject to behavioural biases, says that financial decisions can be less than fully rational (Byrnes and Brooks, 2008). It opposes the principles of rationality. It presents an important and growing challenge to the traditional financial paradigm.

The behavioural finance theory is concerned with the decision environment and the individual differences between decision makers (Sevil *et al.*, 2007). The theory posits that the average investor is not fully rational and that there exists irrationality in investor decision-making in financial markets (Barberis and Thaler, 2003; Bazerman, 1998). According to Al-Tamimi (2006), Psychological tenets pertaining to decision-making in the purchasing and selling of stocks determine the marketing patterns of investors. This runs contrary to the concept of the fully rational investor and the efficient market hypothesis. That said, security costs that fail to reflect their intrinsic worth can cause investors to miscalculate. (Barberis *et al.*, 1998).

That said, security costs that fail to reflect their intrinsic worth can cause investors to miscalculate (see, for instance, Firat and Fettahoglou, 2011; Kiyilar and Acar, 2009; Shiller, 2002) and thus the true conduct of investors is generally not accurately reflected in financial models.

This is because there are a lot of factors which affect these financial decision-making processes. Hence, irrational investors do make random transactions out of personal feelings that cannot be explained by traditional finance theories. Studies have, therefore, sought to understand the aspects that affect the choices that investors make (Chang, 2008). The aspect of risk and return is one of the main considerations when making investment decisions (Damodaran, 2004). However, studies have revealed that this is not the only factor which influences investors' decisions. For instance, Agarwal and Panwar (2014) observed that although classical wealth maximisation criteria are essential, investors do employ various

criteria when choosing stocks. Wealth maximisation can be defined as an objective of financial management which requires management to make financial decisions that enhance the present and future earnings of the shareholders. This objective of the financial management bound managers to making financial decisions which yielded higher risk-adjusted returns on the shareholder's funds. Merikas et al (2008) stated that profits and the corporate financial position are the key aspects of classic wealth maximisation.

Besides criticising the explanatory power and validity of the investor rationality assumption, the factors that have promoted or enhanced investors' irrational behaviour are also of interest. According to Shiller (2000)¹, the irrational behaviour of investors, which refutes the rationality assumption, stems from the following factors: the advent of the communication technologies, irrational exuberance, blurring cultural boundaries, changes in tax structure, market perception of baby boom and its consequences, rapid transmission of business news, optimistic forecasts by financial analysts, growth of mutual funds and increasing interest in indirect investing (especially pension contributions), volatile inflation, the increasing number of financial intermediaries and increased avenues for speculations and gambling. These factors (partly) account for the observed bull markets². Behavioural theory's assertions are of considerable appeal, given the problems classic financial models have encountered when interpreting market-

¹ Shiller (2000) listed the twelve major factors in his book *Irrational Exuberance*, and detailed the irrational behaviours of market participants.

² Shiller (2000) claims that these factors are responsible for the bull market of 1982 to early 2000.

related discrepancies, hence its growing popularity. For instance, the January effect³, the day of the week effect⁴, the abnormal price movements in connection with initial public offerings (IPOs) and with reference to the GCC countries, the effect of Ramadan on stock markets⁵. Discrepancies, emerging predominantly during the 1980's, point to the fact that time-honoured finance models contain omissions (Fuller, 1998). Therefore, behavioural finance aims to interpret the influences of these discrepancies. Further understandings need to be gained of the many market-related manifestations, employing psychological observations of human behavioural patterns. The insights gained using the behavioural finance approach could be employed to assist in diagnosing the impact on financial markets, potentially resulting in advances in finance-related decisions and financial models' forecasts.

This research is anchored within an alternative proposition to the rational theory of investors as promulgated by behavioural finance theories. Behavioural finance has its micro-foundation in psychological evidence and theories. The study of participants' behaviour in the financial markets within the context of existing decision-making theories is one of the possible research strategies to understanding financial decisions. Vasiliou *et al.*, (2008) posit that emotionality has significant and long-lasting effects on the market prices when emotional investors

³ Stock prices are usually higher in the first two weeks in January than in the end of December

⁴ Stock prices on Monday evening are lower than Friday stock market prices, on average.

⁵ Positive stock returns have been observed during the month of Ramadan (Bialkowski *et al.*, 2012).

interact with rational investors. The theory attempts to predict the behaviour of certain groups of investors towards formation and management of investment portfolios. This theory may also assist in understanding the psychological biases prevailing in the financial markets around the globe. Contrary to conventional finance, behavioural finance can help us to understand the actual behaviour of people in financial markets (Nofsinger, 2007) as well as to comprehend the role of investors' behaviour in stock prices (Orhangazi, 2008).

In addition, following this new paradigm of finance, many scholars have considered psychological factors in determining the behaviour of investors (for instance, Al-Tamimi, 2006; Elvin, 2004; Shleifer, 2000; Olsen, 1998). According to Gärling *et al.*, (2010), psychological elements continually influence financial markets, and psychology helps isolate cognitive and emotional tendencies that directly relate to the economy.

Drawing on psychology, investigations can be undertaken to explain why people buy or sell stocks and even why they do not buy stocks at all (Maheran, 2009). Thus, behavioural finance can assist in comprehending and deciphering the ways in which emotions and cognitive errors affect the formulation of financial decisions (Elvin, 2004). Investors, for instance, lose money because they fall prey to powerful emotions which lead to impulsivity and behaviours more analogous to gambling than to genuine understanding of the stock markets (Elvin, 2004). Olsen (1998) contends that behavioural finance can assist in forecasting the consequences of

the psychological aspects of decision-making and their impact on financial markets. It bolsters the ability to perceive the investors' thought processes and accounts for how their emotional patterns affects their decisions (Ricciardi and Simon, 2000) and is capable of greatly assisting the validity of investors' decisions by utilising its psychological and economic precepts (Olsen, 1998). This could, for instance, be through understanding how investors interpret knowledge in order to make investment decisions based on information and how they act with their investment decisions (Kiyilar and Acar, 2009).

However, despite the growing support for behavioural finance, it has had its criticism too. For instance, Fama (1998) criticised behavioural finance on the grounds that there are a lot of inconsistencies in the findings of behavioural finance research, which is due to anomalies, and these anomalies can be explained in terms of market inefficiencies. The criticism is based on two fronts; firstly, the anomalies that have been discovered were often under reactions by investors⁶. Secondly, Fama (1998) suggested that market anomalies are non-pervasive in the long run and tend to disappear as time passes or better research methods are applied. Counter to these criticisms, Shiller (2002) responded to Fama's criticism, claiming that it was due to the incorrect perspective of the principles of behavioural finance. He insisted that there is no fundamental principle that can generalize the

⁶ Prast (2004) argues that overreaction take place in the opposite situation: the news is directly followed by a stock price reaction, which in the subsequent periods is partially compensated by changes in the opposite trend.

people's behaviour; sometimes they simply tend to overreact and sometimes they underreact. Neither has research on financial anomalies revealed this principle. Further, with the disappearance of anomalies over time, Shiller (2002) argues that there is little proof of the rationality of financial markets.

The stock market experience over the last few decades around the globe show that these anomalies have hardly disappeared; rather, they have been graphically reinforced. Thus, behavioural finance, utilising psychology-based theories, attempts to explain these stock market anomalies on prices and returns and if possible use them in investment strategies (Kats, 2006). This modern aspect of finance therefore casts greater light on the factors behind the behaviour of investors.

1.2 Studies on Factors Influencing Investors in the GCC Countries

Very few studies on factors influencing investors' financial decision-making have been conducted in the GCC countries, particularly in the Sultanate of Oman and the Kingdom of Saudi Arabia. One of these by Balcilar *et al.* (2013) investigated investor herding and regime switching in the Gulf Arab stock markets for the period 9th July 2006 to 28th September 2011. The data of closing stock prices of individual shares listed on various stock exchanges of GCC were obtained from Reuters. Their empirical results indicated that there exist three market regimes with respect

to market volatility, namely: (1) low volatility (2) high volatility and (3) crash volatility. Their analysis favours the presence of herding behaviour but with varying levels under each market regime. For instance they observed that herding behaviour exists in all markets in the case of crash volatility, except Qatar. In a cross GCC model they also found a herding behaviour but not a spill over effect, even in presence of cross GCC volatility shocks. Another study by Canepa and Ibrubbian (2014) investigated the role of religion in stock price movements in the case of the Kingdom of Saudi Arabia. The longitudinal study covers six years, from January 2002 to April 2008. The dataset consists of closing stock prices as well as Saudi stock market general index (TASI). In order to investigate if Shariah law affected stock returns, the five sectors in the stock market (Banking, Industry, Cement, Agriculture and Services) were classified according to the degree of compliance with Islamic finance principles. The research highlighted how religious considerations greatly influence the decisions investors make. Further, stocks were discovered to pay greater dividends and had higher levels of variability if they were Shariah-compliant.

Further, studies have shown anomalies in market returns in the GCC countries during the month of Ramadan and the subsequent *Eid al-Fitr* festival. In addition, the stock investments exhibit less risk as the volatility of returns is significantly reduced. Similar results were obtained by Bender *et al.* (2013). Specific to the GCC countries, Al-Hajjeh *et al.*, (2011) confirmed Bialkowski *et al.*'s (2011) findings. They came across robust proof of crucial and convincing chronicle impacts with

respect to the month-long Ramadan in a good number of the countries and pointed out that this may have a bearing on the largely buoyant stakeholder tendency, or conception. Although Ramadan is a festivity month for Muslims, it can also be an occasion of doubt, suggesting that the impingement of the celebration is not consistently clear and conclusive for the duration of Ramadan. It has been established that market rebounds in the first and last days of Ramadan exhibited high levels of statistically vital annual discrepancy. The researchers suggested that this might somehow be ascribed to harmony-related herding effects augmenting the impact of the frame of mind fluctuations affiliated to this time of the year. This anomaly has been attributed to psychological biases of herding and mood (Al-Hajieh et al. 2011; Odabasi and Argan, 2009) as the collective experience of Ramadan tends to influence outlook, consolidate group integration and strengthen the union of all Muslims (Bialkowski et al. 2012).

Considering the limited research in the GCC countries and the unique characteristics of investors in the Sultanate of Oman and the Kingdom of Saudi Arabia, this research is aimed at contributing to our understanding of both the internal and external factors that affect investors' decision making. This research, therefore, contributes to filling this gap in the literature.

1.3 Research Aims and Objectives

This study aims to enhance our understanding of the psychological, demographic and external factors and their consequences on financial decisions in the context of the GCC countries. As suggested by Al-Tamimi (2006), more empirical research to enhance our understanding of the factors influencing investors' decision-making processes is imperative in developing and emerging countries. As other studies have shown, the influencing factors are contextual and thus differ from one region or country to another (for example, Al-Tamimi and Kalli, 2009; Fares and Khamis, 2011; Merikas *et al.*, 2008).

Further, there are few studies on behavioural finance in GCC countries. Therefore, this study is expected to contribute significantly to the development of this new financial field in such countries. This research will enhance our understanding of all dimensions that influence investor behaviour. It will identify the key factors (both internal and external) and explore to what extent each factor contributes to the decision-making process of investors. It will adopt a holistic approach and apply a two-way measurement by taking the cases of the Kingdom of Saudi Arabia and the Sultanate of Oman.

There are some unique features of the GCC countries and these two countries in particular that are worth discussing, as this provides additional motivation for undertaking this study. Firstly, these economies are over reliant on oil revenue. Oil

revenues, for example, account for 84 percent of government revenue in the Sultanate of Oman, and 80 percent of government revenue (45 percent of the GDP and 90 percent of the export earning) in the Kingdom of Saudi Arabia (Fasano-Filho and Wang, 2002). The countries are, therefore, susceptible to falling (or rising) world oil prices. As a result of the recent fall in world oil prices, the GCC countries have experienced increased budget deficits. 20 per cent of the KSA's 2015 GDP had a budget deficit, for example, compared to 11 per cent in Oman. With reference to the stock markets, several studies have shown the effects of varying oil prices on stock market revenues (for example, Dhaoui and Khraief, 2014; Hammoudeh and Li, 2005). Most studies show that stock market revenues' relationship to increases in oil prices was a positive one⁷ (Sadorsky, 1999). The impact of interest rate fluctuations and foreign exchange rates on stock market revenues has also been the subject of considerable research (Choi, Elyasiani & Kopecky, 1992; Jorion, 1991).

Therefore, while there has been a relative increase in the amount of literature on the external factors that influence stock returns, an understanding of the factors that affect individual investors linked to the stock exchange has not been examined in the context of the Kingdom of Saudi Arabia and the Sultanate of Oman. Further, these studies have assumed rationality on the part of investors and efficiency in

⁷ This is the opposite to the oil importing countries that show a negative relationship between the rise in oil prices and stock market return (Hammoudeh and Aleisa, 2004).

the financial markets. However, empirical studies have revealed that the markets are inefficient and the investors are often far from rational. A study by Jamaani and Roca (2015) demonstrated that GCC stock markets were not weak-form efficient, since the patterns of former prices on one GCC stock market can provide insight into the present-time shifts of others. Likewise, Al-Ajmi and Kim (2012) found that the random walk hypothesis is invalid in the case of GCC stock markets, although such studies conflict with Asiri and Alzeera (2013) whose work stated that the KSA's stock market had a weak-form efficiency.

In addition, some studies have highlighted the irrationality of investors in GCC countries. One of these aspects relates to the effect of religion on the stock market and behavioural moods of investors. Religious factors are of interest in this region as more than 90 percent of the population is Muslim. This has implications in portfolio selections and thus the performance of some stocks.

Bialkowski *et al.* (2012) found that inconsistencies in stock return patterns in the Ramadan season were greater and less dynamic. This anomaly can be explained by understanding the psychological biases that influence investors in these countries. Bialkowski *et al.* (2012) argue that their results support the proposal that Ramadan improves the mind-set of investors as it enhances a sense of union within the Muslim community; the positive outlook that this stimulates tends to impact on the decisions of investors. Likewise, Al-Hajieh *et al.* (2011) found that there were considerable increases in returns at both the start and the end of

Ramadam; these improvements were assigned to synchronisation-based herding instincts affecting the general atmosphere surrounding Ramadan. Balcilar *et al.* (2013) also provided evidence of herding behaviour in investors in the GCC countries.

With such evidence of irrationality of investors and the inefficiency of the stock markets, this research thus promotes the understanding of investors in the Sultanate of Oman and the Kingdom of Saudi Arabia from a behavioural finance approach. The study is undertaken in order to highlight or reveal the psychological and demographic factors, in addition to the external factors, that significantly influence investors. Further questions therefore need to be asked, such a whether investors exhibit any overconfidence, anchoring, self-attribution, greed, regret aversion, mental accounting, and representation, or which factors could be considered the most influential on their decisions?

As the investors on the stock markets of the two countries will be studied, it's imperative that a brief outline of the performance and activities of the Sultanate of Oman Stock Market and the Kingdom of Saudi Arabia Stock Market be reviewed. The performance of the market index for a ten-year period (2006 to 2016) is shown below (figure 1.1 and figure 1.2). Similar trends can be observed regarding the performance of the stock market indices both before and after the global financial crisis. A comparison of the value of trades and market capitalisation is shown in figure 1.3. The trading currencies are the Saudi Rial for the Kingdom of Saudi

Arabia Stock Exchange (Tadawul) and the Omani Rial for the Muscat Securities Market (MSM) of the Sultanate of Oman. The market capitalisation of the Sultanate of Oman has been increasing rapidly compared to that of the Kingdom of Saudi Arabia. Further, there has been an observed decline in the trading activities from 2014 to 2015 as the value of trades (or turnover) has declined. Besides addressing the external forces that could have an influence on the trading activities within the two stock markets, this study aims to explore the internal factors that could explain the behaviours of the investors in the financial markets.



Figure 1.1: the Kingdom of Saudi Arabia Stock Market - Market Index performance (1996 - 2016)
Source: (<http://www.tradingeconomics.com>)



Figure 1.2: the Sultanate of Oman Stock Market - Market Index performance (1996 - 2016), Source: (<http://www.tradingeconomics.com>).

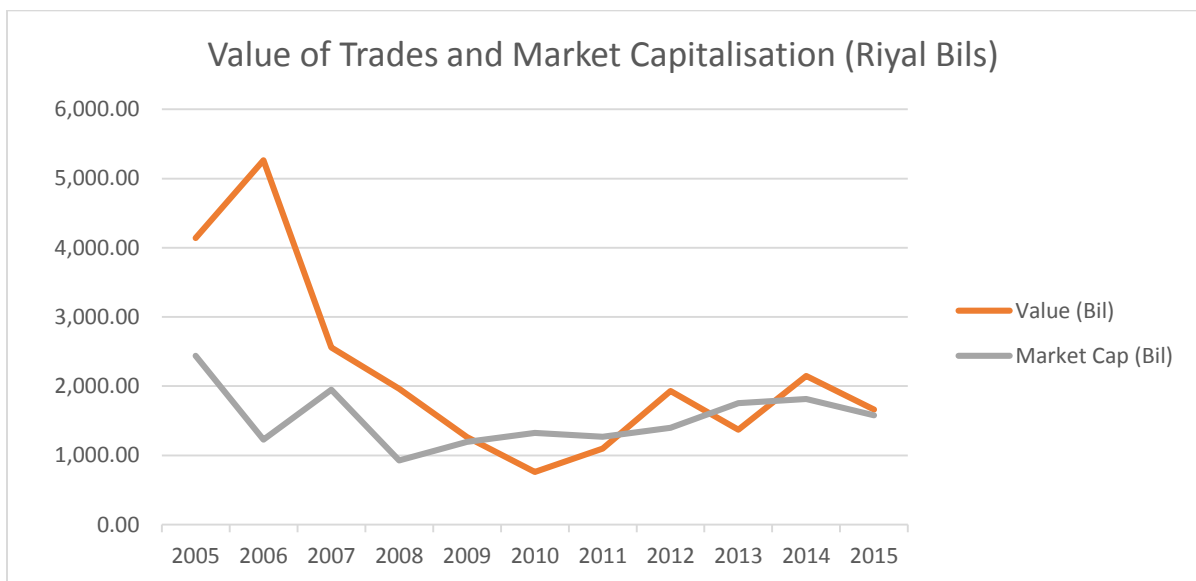


Figure 1.3: The value of trades and market capitalisation, Source: (<http://www.tradingeconomics.com>).

This study has important implications to all the concerned parties: individual investors, companies listed on the GCC financial markets, the GCC countries'

governments and the integrated GCC financial markets to be developed in the future. Understanding the most influential behavioural factors is crucial for individual investors in the GCC countries as factors exist that could unconsciously alter their investment decisions. The persistent biases driven by behavioural factors that affect individuals' choices under risky conditions for a specific situation (Ricciardi, 2004) need to be explored and can be applied to future investment decisions. As people are generally averse to loss (Shefrin, 2000), the knowledge of these behavioural factors could prove significant to loss avoidance strategies.

The identification of the influencing factors on investors' behaviour is also important for different policymakers (Baghdadabad *et al.*, 2011). From a company's perspective, it could affect companies' future policies and strategies while from a government perspective it can affect the required legislations and additional procedures needed in order to satisfy investors' desires and also to give more support to market efficiency (Warneryd, 2001). Thus, the understanding of psychological, emotional and behavioural factors influencing the financial decision-making is important. Further, the understanding of the behavioural factors that influence investor decision-making in the different GCC member countries will be important in the planned integration of the GCC's financial markets in the near future for policy makers. This research, therefore, has potential policy implications besides addressing the literature gap in behavioural finance in emerging countries, particularly GCC countries, where such research is limited.

The research aim of enhancing our understanding of investors' behavioural factors and their consequences on financial decision-making will be achieved by addressing the following objectives. In summary, the study aims to:

- (i) Examine the main factors, both internal and external, that influence individual investors' financial decision-making,
- (ii) Identify which factors have the most and least influence on investors' decision-making,
- (iii) Examine the difference regarding the factors affecting individual investors' decision-making between the Kingdom of Saudi Arabia and the Sultanate of Oman.

The study enhances our knowledge and understanding of the factors that influence individual investors' decision-making in emerging markets. Based on the findings, tentative policy recommendations to enhance the individual investor's decision-making in emerging countries are proposed.

1.4 Organisation of the Thesis

The thesis has been organised into six chapters. A diagrammatic framework of the thesis is presented in Figure 1.4 below. The link between the chapters is also shown. The introductory chapter, Chapter One, is followed by three chapters (Two, Three and Four) which are aimed at discussing prior studies, providing a contextual overview and articulating the theoretical framing and methodology of

the research. The main empirical chapters (Chapters Five and Six) discuss the findings of the research and reflect on prior studies. The conclusion and summary of this study, including recommendations for future research, is made in Chapter Seven.

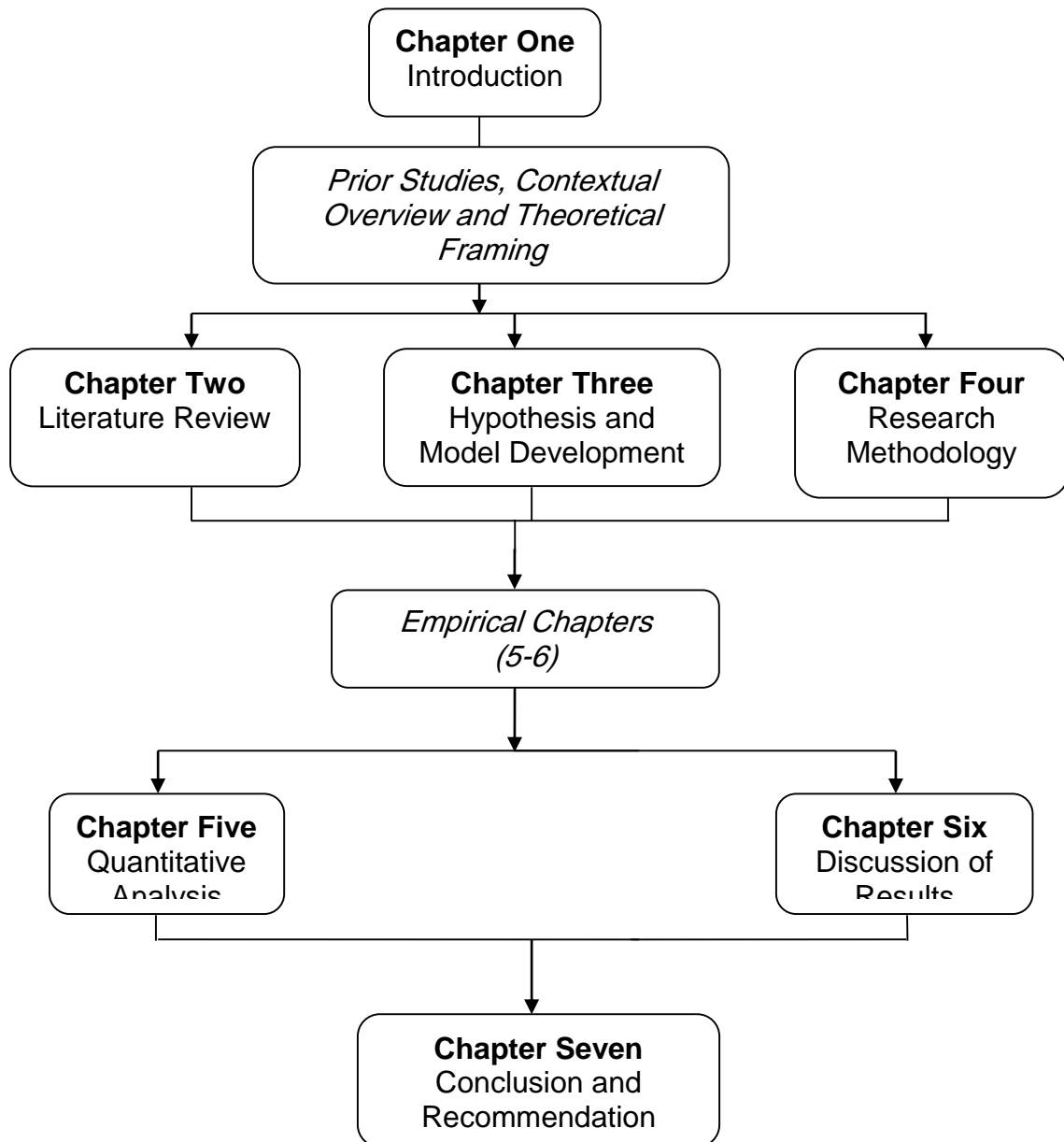


Figure 1.4: Diagrammatic Framework of the Thesis

This chapter has provided an introductory outline of the research. It has explained the aims of the research and outlined the five main objectives of the study. The next chapter is devoted to a detailed review of the literature.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides an extended literature review of behavioural finance and focuses mainly on the factors that the research will attempt to investigate. Firstly, there is a review of the traditional finance theories and their underlying assumption. This is important, as it provides the starting point on which behavioural finance has been built through refuting the theories' key assumptions. Secondly, behavioural finance theories will be reviewed. A discussion of the factors which influence investor decision-making, will be made by reviewing some of the empirical studies on the factors, which are at the centre of this research.

2.2 Traditional Finance Theories

The foundation of traditional finance during the 1960s was laid on the Modern Portfolio Theory (MPT) (Markowitz, 1952), Capital Asset Pricing Model (CAPM) (Rubinstein, 2006) and the Efficient Market Hypothesis (EMH) (Lo and MacKinley, 1999). These theories propagate the hypotheses of rational investors and efficient markets. The proposition is that financial markets are stable and efficient, with stock prices following a 'random walk' pattern, while the overall economy is towards general equilibrium.

2.2.1 Efficient Market Hypothesis (EMH)

The Efficient Market Hypothesis (EMH) is based on the assumption that financial markets incorporate all public information and that the share prices fully reflect all relevant information (Fama, 1970; Markowitz, 1952). Thus, at any given time, security prices fully reflect all available information. According to this proposition, arbitrageurs will undersize an asset that is overpriced until the reduced demand for purchasing it causes the price to fall or rise if the asset was under-priced respectively (Petros, 2012). Therefore, bids to surpass the market amount to luck as opposed to ability, given that existing prices are based on all available data. A further ramification is that purchasing cut-price stock with any degree of regularity is all but impossible.

The EMH is based on two basic concepts of competition and information. Strong links between revenues and costs are formed by the concept of rivalry (Ball, 2009). According to the concept, if profits are excessive in a market or asset, its attractiveness encourages new entrants, which then reduces or eliminates the excess profits. The second insight, as advanced by Fama (1970), is to see variations in the prices of assets as part of the influx of data into the market. Ball (2009) embraced these two underlying insights of the EMH by stating that competition among market participants causes the return from using information to be commensurate with its cost.

Three different types of market efficiency have been advanced which address the inclusion of non-public information in market prices. These are the weak, semi-strong and strong forms. Under the weak form, the market is efficient with respect to the history of all past market prices, and information is fully reflected in securities values (Ricciardi, 2008). In the semi-strong form, the market is efficient and publicly available information is fully reflected in securities values, as in the strong form; the market is efficient in that all information, including information available only to company insiders, is fully reflected in securities prices (Singh, 2012). As a result, prices should always be consistent with 'fundamentals' (Beechey, *et al.* 2000). The underlying conditions for a market to be efficient, Fama (1970) proposed, should include: 1) fee-free transactions for asset trades; b) unrestricted, free access to all market information; and c) agreement on the ramifications that data has on prices and dividends.

EMH is considered to be the mainstay of sanity that determines financial markets' successful operation. (Singh, 2012). Individual investors are assumed to be fully rational and desire to maximize their expected utility (Fama, 1991), with their behaviour not dependent on emotions or psychology (Ball, 2009). Timmermann and Granginr (2004) argue that EMH is unique, as investors' predicted profits have an influence on their trading patterns and thus their eventual income.

However, although this theory succeeded in explaining market behaviours and has been widely accepted, it has not satisfied the behavioural finance proponents (Ton

and Dao, 2014). Lo and MacKinlay (1999), for example, argued that a valid assessment of the EMH would consider how effective the market is plus the favoured risk approaches of investors; as such, the EMH is not a clear and vindicated hypothesis. According to Lo and MacKinlay (1999, p.6) additional structures, for example, investors' preferences, information structure, business conditions, etc., must be specified in order to make EMH operational. However, EMH is tested by means of several auxiliary hypotheses; acceptance or rejection of most of the sub-hypotheses indicate the pervasiveness of the form of market efficiency. A joint hypothesis fails to indicate which of the aspects of EMH support the pervasiveness of the hypothesis, and which of them fail to do so (Lo and MacKinlay, 1999).

The next section discusses the other traditional finance theories which support investor rationality after which criticisms of their assumptions will be reviewed as claimed by behavioural finance scholars.

2.2.2 Modern Portfolio Theory (MPT)

The Modern Portfolio Theory (MPT) relates to investment that is trying to achieve the highest returns possible in relation to a certain quantity of investment risk, or reduce the risk involved in potential returns by intelligent selection of asset quantities (Omisore et al., 2012). The theory was conceived by Markowitz (1952)

as part of his portfolio selection theory, which was designed to isolate the risks in comparison to the anticipated profits.

The portfolio choice problem was formulated as a choice of the mean and variance of a portfolio of assets. According to Markowitz's theory, an investor will theoretically be able to maximize his expected return while minimizing the variability of returns by investing in a diversified portfolio of assets that have different price movements in a given market. Many researchers have thus attempted to model the benefits of establishing diversification strategies for portfolio investment (for example, Eun and Resnick, 1994; Singh, 2012).

According to the MPT, the dangers to a given security needs to be investigated in terms of the changes in the market portfolio costs (Eun and Resnick, 1994). Further, any portfolio could be constructed that maximises expected returns for the investor's preferred level of risk. Nonetheless, the theory states that higher return is directly proportional to higher risk (Singh, 2012). The risk in any portfolio can be minimised by selecting securities with minimum risks. The level of uncertainty involved in a portfolio relates to whether the profits from separate assets increase or if there are a variety of poor and profitable asset returns (Sumnicht and Swisher, 2009). A mixture of both orderly and disordered risk provides the ultimate extent of the risk. This combination of predictable and unpredictable elements is naturally varied and relates to the fact that the potential profits from the asset are unknown (Chaves-Schwintek, 2011). Investors could reduce this kind of risk by simply

allocating their resources to different types of assets simultaneously, or put simply, by diversifying the portfolio.

Ali (2006, p. 14) argued that “MPT has become a backbone of finance as it gives better understanding of the best possible investment portfolio for financial assets”. Curtis (2004) claims that this theory permits the modelling of the long-term behaviour patterns of markets, thereby permitting investment portfolios to reflect the patterns of the market. It also clarifies the motives of investors who are particularly sensitive to risks (Singh, 2012).

MPT, like other theories, has its criticism. Despite being very useful, it has been described as being “descriptive, not prescriptive and relies on assumptions that may not always be valid” (Curtis, 2004, p. 16). Assumptions, for instance, that investors do not need to pay any taxes or transaction costs does not hold true, neither is the assumption that investors can buy securities of any size practical. Also, the idea that the actions of investors do not have an influence on the market is incorrect, as a great amount of sale or purchase of separate securities has an impact on the price values of the security or related securities (Byrne and Brooks, 2008). The greatest criticism, however, is the assumption that investors act rationally, which has been proved otherwise by several studies in behavioural finance (Firat and Fettahoglu, 2011). It could therefore be said that MPT’s proposal that investors possess a clear concept of likely profits is doubtful given

the bias intrinsic to investors' anticipations of the returns they will receive. The capital asset pricing model is discussed next.

2.2.3 Capital Asset Pricing Model (CAPM)

CAPM, which was innovated by Sharpe (1964) and Lintner (1965), evolved from that concept that the prices of securities are based on anticipated returns that are high enough to cover the risk-potential factor. It relates the expected rate of return of an individual security to a measure of its systematic risk, the non-diversifiable risk. As noted above, investors face two kinds of risks, namely, diversifiable (unsystematic) and non-diversifiable (systematic). The unsystematic risk is the component of the portfolio risk that can be eliminated by increasing the portfolio size. Through constructing a well-diversified portfolio, the risks that are specific to an individual security, such as business or financial risk, can be eliminated (Galagedera, 2007). Systematic risk, on the other hand, is associated with overall movements in the general market or economy and therefore is often referred to as market risk. Market risk is the component of the total risk that cannot be eliminated through portfolio diversification (Besley and Brigham, 2008).

The model is based on some underlying assumptions which, however, have also been a source of criticism of the model. The underlying assumptions are the following: (a) all investors have a risk-averse attitude, which can be summarized by mean and variance of returns only as they have a single period time horizon;

(b) there are no taxes and no market imperfection; (c) there are no transaction costs and all investors have all relevant information and this information is free; (d) assets are indefinitely dividable and are all marketable (e) all Investors have homogeneous expectations about return distributions; (f) borrowing and lending at risk-free rates are unrestricted (Krause, 2001).

Fama and French (2004) claim that the appeal of CAPM is that it can provide strong, satisfying predictions on how to assess risks and the links between risk and return. As such, it is employed to assess a portfolio's success. It is employed to predict risks so as to permit the enhancement of portfolios (Period, 2004).

Although it has broad levels of application, research has demonstrated the CAPM's flaws under various conditions, lacked precision and failed to forecast asset worth (Taylor, 2005). The model is plagued by weaknesses, both theoretically, in how to define the market portfolio, and empirically, in whether data explains realized returns. Thus, Fama and French (2004) have proposed that the model is flawed both in principle and in application, and that it has a very low level of practical value.

2.2.4 Arbitrage Pricing Theory

Developed by Stephen Ross in 1976, the Arbitrage Pricing Theory (APT) is meant to provide an alternative to the CAPM. Employing a variety of variables to link

anticipated returns to associated risks on the basis that returns are linked to indexes sequentially (Booth and Clearly, 2010), this theory forecasts patterns in portfolio returns in relation to singular asset returns by means of a sequential mixture of multiple macro-economic variable (Ross, 1976). In other words, the APT proposition is that the price of a security is determined by a number of factors that can be divided into two groups: macro and company-specific factors (Groenewold and Fraser, 1997). It thus tries to capture some of the non-market influences that cause securities to move together (Petros, 2012). The APT has probably to overcome the CAPM's expectations as it entails less and more representative assumptions to be created by a simple arbitrage argument and its illustrative influence is potentially better since it is a multifactor model (Cagnett, 2002).

However, the power and the generality of the APT are both its main strength and weakness (Daniel and Titman, 1997). While the model gives a reasonable description of return and risk, and factors seem plausible, the model itself does not say what the right factors are and these factors can change over time too (Huberman and Wang, 2005). In addition, because it is a multi-factor model, more data is required (Petros, 2012). While some empirical studies have purported success of the APT (for example, Fama and French, 1992, Groenewold and Fraser, 1997), others have argued that this could be due to the weaknesses of the tests employed and not the strength of the model (Huberman and Wang, 2005). The criticisms of the traditional finance models and the development of behavioural finance is discussed next.

2.2.5 Criticisms of the Traditional Finance Theories

Traditional finance theories have been criticised. Their underlying assumptions of investor rationality and efficient markets have been the subject of empirical investigation. These traditional theories have been criticised for ignoring or neglecting almost any potential impact of human behaviour in the investment process. They have also been criticised for assuming that financial markets are stable and efficient, and thus stock prices follow a "random walk" and the overall economy tends toward general equilibrium (Muhammad, 2009). Empirical evidence suggests that there are many market anomalies that cannot be explained by efficient market theories, including excess volatility and anomalies in returns. Excess volatility may be interpreted as prices changing for no reason or because of animal spirits or mass psychology (Shiller, 2002). It describes the empirical phenomenon that stock returns are far more volatile than can be explained by their fundamental values (LeRoy and Porter, 1981). Anomalies in returns have been observed in returns challenging the traditional finance theories' propositions.

2.3 Behavioural Finance Theories

2.3.1 Behavioural Finance Definition

Behavioural finance has emerged as a new approach in response to the criticisms of traditional finance theories. The approach attempts to explain financial market

phenomena by relaxing the assumptions of the efficient market propositions. In general, behavioural finance argues that some market phenomena can be better understood by considering that investors are not fully rational and that human biases influence their investment decisions (Chang, 2008). Kahneman and Tversky (1979) therefore suggested that the principles of the social sciences had the potential to clarify how efficient financial markets are and interpret discrepancies, booms and busts.

Behavioural finance attempts to understand the human psychological biases that are related to the financial markets. It is a movement within the financial world focused on understanding the effect of human behaviour and investor psychology on investment decisions and market prices (Shiller, 2002). Despite many definitions of behavioural finance, there is a considerable agreement between them. Lintner (1998, p.7) defines behavioural finance as “the study of how humans interpret and act on information to make informed investors' decisions.” This is supported by Ricciardi and Simon (2000), who propose that behavioural finance seeks to isolate, from a human point of view, the key factors behind finance and investing. Similarly, Al-Tamimi (2006) (see also, Kiyilar and Acar, 2009) state that behavioural finance hones in on data interpretation by investors through which investors make their decisions. Sewell (2011) defined it as a psychological view of investors, and the impact they have on the market. It attempts to delineate the factors behind poor performances in the markets (Agarwal and Panwar, 2014).

2.3.1 Behavioural Finance Theories

Individual conduct and the manifestations of the market are considered in unison in behavioural finance. It employs both psychological and financial discoveries when drawing its conclusions (Fromlet, 2001). Many theories have been used to explain the various irrational investor behaviours in financial markets. These have drawn from the knowledge of human cognitive behavioural theories of psychology⁸. These are discussed below.

2.3.1.1 Prospect Theory

The foundations of behavioural finance could be traced to the work of Kahneman and Tversky (1979) who coined "prospect theory"⁹. The theory defines how people make decisions when facing risky or risk-free alternatives, whereas heuristics and biases explain, among other things, how people assess risk (Tversky and Kahneman, 1992).There is a tendency, per prospect theory to form an affinity for unlikely outcomes and sidestep obvious investment targets. This is an attempt to proof investors against probable financial loss by generating the potential for recovery from such loss (Curtis, 2004). Ricciardi (2004) supports this, while stating that prospect theory assumes that people are loss-averse. In other words, they are

⁸ Including sociology and anthropology

⁹ Kahneman and Tversky (1979) developed prospect theory as an alternative theory to the expected utility theory. The expected utility theory is a normative theory of how individuals should behave while choosing between risky gambles, assuming that their preferences satisfy a number of assumptions (Von Neumann and Morgenstern, 1944)

more concerned with losses than gains and, as a result, a person will assign more significance to avoiding loss than to achieving gain (ibid). Similarly, Tvede (1999, p. 94) argued that "people have an irrational tendency to be less willing to gamble with profits than with losses". Per this theory, points of view with regard to risks to achieving financial gain differ considerably to loss-related ones (Ricciardi, 2004). Reactions vary to a given circumstance, depending on whether it involves a gain or a loss (Tversky and Kahneman, 1986).

Shefrin (2000, p. 24) defines prospect theory as "a descriptive framework for the way people make choices in the face of risk and uncertainty". In general, the theory suggests that behavioural biases provide better explanations of how decisions are made in risky situations (Naughton, 2002). Based on this theory, personal bias can influence behavioural patterns when a state of uncertainty exists (Ricciardi, 2004). It aims to explain related selection patterns (Grinblatt and Han, 2005), and supports the decision making process of investors (Olsen, 1998).

According to Waweru *et al.* (2003), regret aversion, loss aversion and mental accounting are amongst the viewpoints that affect decision patterns. Per McDermott (2001), the theory considers decision processes to consist of an editing phase (which considers the framing effects) and an evaluative phase (which relates to the process of selection, as determined by subjective value and perceptual probability) (McDermott, 2001).

Barberis and Thaler (2003) argue that prospect theory has been one of the most important theories of decision-making in the past decade, and has been applied in a wide variety of contexts. The theory of cognitive deviations provides an alternative perspective, with some overlap with prospect theory. Figure 2 depicts the two theories.

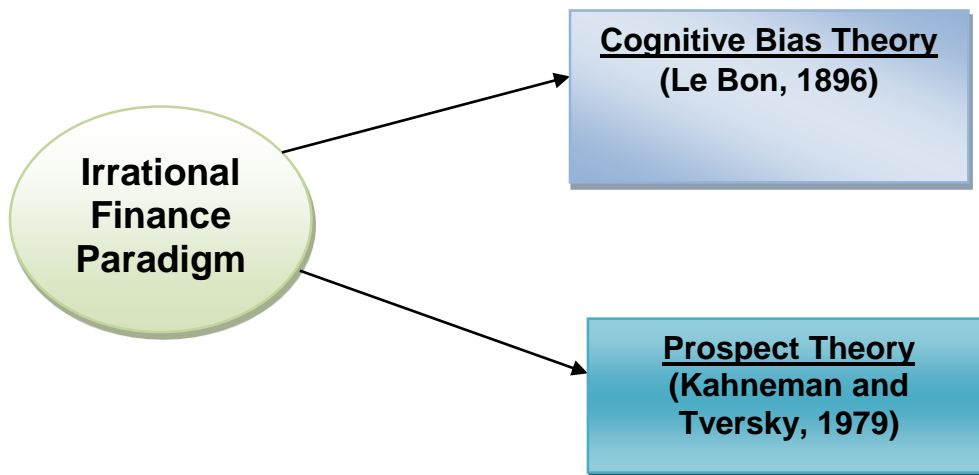


Figure 2.1: Irrational Behavioural Theories. Source: adapted from Baker *et al.* (2010).

2.3.1.2 Cognitive Bias Theory

This group of theories could be traced back to Le Bon and Merunka (2006)¹⁰ who noticed some irrational behaviour and described the impact of the market on the

¹⁰ Le Bon was a French sociologist who noticed features of irrational behaviour in 1896. He divided his observed impact of the market into two categories, the first included accidental and

decision-making process of an individual. Cognitive theory proposes that the behaviour of an individual is determined by their own mind. Thus, contemplation and self-perception determines both behaviour and emotions (Beck *et al.*, 2008). It draws from cognitive psychology, which involves analysis of the ways in which people gather, process and store information in order to understand their surroundings. In other words, how people think, perceive, remember and learn. The key emphasis of this science is on an individual's understanding of how his environment affects his behaviour.

Understandably, cognitive psychology is a very broad field with numerous applications. Hence, this research and discussion herein will be confined to aspects pertinent to the understanding of financial decisions. Cognitive biases are related to how individuals make financial decisions and could help us understand the factors that impact the decision-making process. Nofsinger (2007) claims that biases lead people's investment decisions while Hirshleifer (2001) asserts that flaws in rationale and personal preferences stem from simplifying processes, fooling oneself and making gut decisions. Per Chen *et al.* (2004), such mistakes spring from an urge to oversimplify. Taylor and Brown (1988) argue that individuals do not learn from their errors because they normally take the credit for success but blame it on external effects when they do not succeed.

instantaneous solutions while the second had solutions that are regulated by law and supported by the public opinion, with other people's will reputed to be above own concerns.

Research based on these cognitive biases has been done. Many of these different researched biases could be explained by psychological (cognitive and emotional) simplification. Studies include, for instance, Shefrin (2002) who used self-attribution bias, while, Gubaydullina *et al.* (2011) applied the status quo bias. The loss aversion bias is used, for example, by Kahneman and Tservsky (1979) and Nofsinger (2007).

Significant number of studies were conducted to explore the influence of heretic biases on the decision-making of investors, such as representativeness (Byrne and Brooks, 2008; Chen *et al.*, 2004), familiarity (Baker and Nofsinger, 2002; Seasholes and Zhu, 2010; Ivkovich and Weisbenner, 2007), anchoring (for example, Ates, 2004; Daniel *et al.* 2002), confirmation bias (Montier, 2002), endowment effect (Thaler, 1980), attribution bias (for example, Kassin *et al.* 2010). The next section will discuss the factors that influence investors' decision-making, which is the focus of this research.

2.4 Factors Influencing Decisions

The human decision-making process is complex and is affected by various factors. These factors influence the courses of action which result in different outcomes. The process of forming resolutions may be seen as knowingly activated decisions that are determined by factors from a particular set of circumstances (Orasani and Connolly, 1993), resulting in a specific choice being made. The process could be

considered as an interaction between a problem that needs to be solved, and the individual that needs to solve it within a specific environment (Narayan and Corcoran-Perry, 1997). It is a unique art to tackle complex situations that are not limited to personal resources, but influenced by several factors. Investors differ from each other in all aspects, due to various factors – demographic factors, socioeconomic background, educational level, sex, age and race, for instance. Thus, uniformity in decision-making is almost impossible, as the relative significance of the factors differ.

Considering the complexity of decision-making, studies have sought to empirically identify the most influential factors that affect investors' decision-making. The empirical results have been mixed, as will be discussed further in Chapter Three. In general, the factors that influence investors' decision-making can be grouped into internal factors and external factors. The internal factors include psychological (cognitive and emotional) and demographic factors while external factors include social, cultural, political and environmental elements. Understandably, a lot of factors affect investors' decision making; a review of the main ones that are the focus of this research is made below. As the study adopts a holistic approach, both internal and external factors are discussed.

2.4.1 Internal factors

The internal factors that influence investors' decision-making relate to their psychological biases and distinct demographic features. The psychological factors could be either cognitive or emotional. As will be discussed below, much of the literature on behavioural finance has concentrated on the internal factors. These internal factors are discussed below.

2.4.1.1 Psychological Factors (Cognitive and Emotional)

Psychological factors have long been established to have an influence on investors' financial decision-making (Endler and Magnusson, 1976). Generally, people's behaviour is influenced by psychological biases (Akerlof and Shiller, 2009). The importance and impact of these psychological biases have been empirically investigated in several studies (for example, Gilliam *et al.*, 2010; Nofsinger, 2007). Cognitive psychology has contributed to our understanding about the human decision-making process (Chandra, 2008). Gärling *et al.*, (2010) argue that while psychological factors always play a role in finance, these are not necessarily irrational but rather represent the way people process information and act upon it. Some of the psychological factors that are related to cognitive psychology that impact on investor decision-making are discussed below.

2.4.1.1.1 Representativeness Biases

Individuals use psychological (cognitive and emotional) to simplify problems and make decisions when faced with uncertainties (Brav and Heaton, 2002). Cognitive and emotional psychological factors pertain to the principles a person abides by in the problem-solving process under high-risk circumstances. Myers (1989, p. 286) explains that “all of us have a repertoire of these strategies based on bits of knowledge we have picked up, rules we have learned, or hypotheses that worked in the past.”

The strategies developed become "rules of thumb" that could be considered very common in all types of decision-making situations. So cognitive and emotional psychological factors are general yardsticks that facilitate the decision-making process under challenging circumstances (Ritter, 2003). Shah and Oppenheimer (2008) affirm that these factors permit decisions to be formulated expeditiously. “These rules of thumb (or frameworks) can be used to reduce the complexity of assessing probabilities and predicting values to judgmental operations” (Tversky and Kahneman, 1974, p. 1124).

According to Ricciardi and Simon (2001, p. 19) psychological (cognitive and emotional) are in essence "mental shortcuts or strategies derived from our past experience that get us where we need to go quickly but at the cost of sending us in the wrong direction." Singh (2012) argues that despite rendering decision-

making easier, psychological (cognitive and emotional) can sometimes lead to biases, especially when things change which could result in suboptimal investment decisions. However, Stanovich and West (2008) argue that the psychological aspects affecting decision-making are highly relevant to critical thought processes.

Representativeness bias is a phenomenon where people look for a pattern in a series of random events. It asserts that when people evaluate the probability of uncertain events, they tend to predict by seeking the closest match in its essential properties to past patterns (Kahneman *et al.*, 1982; Tversky and Kahneman, 1974). In other words, points of view concerning circumstances are influenced by how they tie in with other circumstances that a person has encountered in his or her life. Kahneman and Tversky (1972) define the representativeness psychological (cognitive and emotional) as a bias towards formulating expected outcomes from a distribution of impressions. It is a subjective judgment of the extent to which an event in question "is similar in essential properties to its parent population" or "reflects the salient features of the process by which it is generated" (Kahneman and Tversky, 1972, p. 431). According to Shleifer (2000), an important manifestation of the representativeness psychological (cognitive and emotional) is that individuals think that they perceive patterns in truly random sequences. It, consequently, leads to stereotyping and serves to make the world look more organised than it really is.

The representative bias is prevalent in the financial markets as investors/individuals find trends in data too readily and extrapolate these into the future (Barberis *et al.*, 1998). People often evaluate circumstances at face value as opposed to fundamental likelihoods (Byrne and Brooks, 2008). This leads investors to buying stocks that represent desirable qualities (Shefrin, 2002) with investors often confusing a good company with a good investment (Solt and Statman, 1989). Investors will often ignore relevant facts that should be involved in their decision-making process and base their decisions on stereotypes, and see patterns where perhaps none exist (Brabazon, 2000).

2.4.1.1.2 Overconfidence Biases

Studies have shown that people are generally overconfident regarding their ability and knowledge (for example, Benos, 1998; Daniel *et al.*, 1998; Wang, 2001). Nofsinger (2001) believes that excessive self-certainty can result in miscalculations of one's level of expertise, risk levels and levels of control. Overconfidence, then relates to overshooting the mark when evaluating personal competence. According to Tversky (1995) people acquire too much confidence from the information that is available to them, and think they are right much more often than they actually are. This overconfidence applies to the evaluation of stocks, such as scenarios where self-won information is given overly prominent importance.

Overconfidence causes investors to become unreasonably optimistic and not to sufficiently consider the opinions of others (Ben-David *et al.*, 2007; Johnson *et al.*, 1993; Hilary and Menzly 2006; Nofsinger, 2007). A fictitious apparent level of control can spark such overconfidence, together with a hyper inflated sense of hope concerning eventual outcomes (Montier, 2002). Psychological studies have documented that overconfidence affects individual behaviour in many ways. Shefrin (2000, p. 13), for instance, noted that "people tend to be overconfident in their predictions" while Tapia and Yermo (2007) observed that investors tend to miss inaccuracies in the personal information they've obtained and are often not sensitive enough to market-related indicators.

The investors become more overconfident the more often their judgements come true (Inaishi *et al.*, 2010). Subash (2012) notes the overconfidence trait in investors when it comes to picking stocks and deciding when to enter or exit a position. Studies (for example, Bloomfield *et al.*, 1999; Wu *et al.*, 2008) have shown that the majority of investors are overconfident and that this overconfidence is exhibited in their investing behaviour in financial markets. With respect to decision-makers who are overconfident, investors with these traits presume their assumptions to be facts and thus, may overestimate the extent to which the outcomes of a strategy are under their control (De Carolis and Saporito, 2006; Simon *et al.*, 1999). Fischhoff *et al.* (1977) argue that overconfidence tends to make decision-makers give excessive importance to their assessment on the knowledge and accuracy of information possessed whilst overlooking the public information available.

Another aspect of overconfidence is shown by Shiller (2000) who argues that individuals tend to make judgments in indeterminate situations by looking for recognized patterns and proposing that future patterns will be similar to past ones, often without sufficient consideration of the reasons for the pattern or the probability of the pattern repeating itself. Studies have shown different factors that could enhance or limit overconfidence. For instance, Dittrich *et al.*, (2005) showed that overconfidence increases with task complexity and decreases with uncertainty. Similarly, Pulford and Colman (1997) found that overconfidence decreases with easy judging tasks. Cassar and Friedman's (2007) study revealed that decision-based circumstances tend to trigger overconfidence. When the environment is uncertain, Van de Venter and Michayluk (2008) report that overconfidence is extended. Further, long-term investors manifest greater levels of overconfidence than those who are relatively new to the profession.

(Glaser & Weber, 2007; Obernarcher and Osler, 2008; Park *et al.*, 2010).

Some studies have also shown that gender and age influences people's overconfidence (Barber and Odean, 2001b; Lundeberg *et al.*, 1994; Niederle and Vesterlund, 2007; Tynnela and Pertunen, 2003). Relevant literature points to the fact that men tend to manifest overconfidence to a greater degree than women (for example, Barber and Odean, 2001a; Niederle and Vesterlund, 2007). For instance, Barber and Odean (2001b) found that male investors trade more actively than female investors, incur higher transaction costs, and as a result, earn lower returns. Similarly, Hair *et al.* (1998) and Shu *et al.* (2004) have documented greater

overconfidence in men. n (for example, Biais *et al.*, 2005; Deaves *et al.*, 2003). Other socioeconomic factors, such as educational background have been found to influence overconfidence.

2.4.1.1.3 Self-Attribution Biases

Self Attribution biases manifest themselves at times when favourable results are assigned to personal skill whereas unfavourable ones are attributed to misfortune (Shefrin, 2002). In other words, personal competence is credited on moments of triumph, yet outside elements are blamed during moments of failure. Barber and Odean (2002) explain that people who have experienced current success, for example, when the prices of shares they held rose, were more likely to attribute it to their trading prowess. Following a failure, however, unpredictable factors were blamed. These investors tended to gain more and more confidence in themselves, resulting in more assertive and instinct-related approaches to trading.

Daniel *et al.*, (1998) argue that manifesting bias by assigning success to personal skill stimulates overconfidence, which can have a knock-on effect on the prices of assets. A winning strategy on the part of an overconfident investor serves to consolidate the tendency to assign success to personal prowess. Furthermore, Daniel *et al.* (1998) argue that there is momentum in equity prices, which is eventually corrected as public information becomes fully available. Hence there is short-run momentum followed by long-run price reversals. Nguyen and Schuessler

(2012) documented self-attribution bias in their study and suggested that those who are more highly educated tend to suffer less from a self-attribution bias. Choi and Dong (2008) also found self-attribution biases in institutional investors in their study.

2.4.1.1.5 Herding

Herding relates to parallel behavioural patterns evolving from mutual interactions (Hirshleifer and Teoh, 2003). It is the tendency of investors to behave in similar ways (Sias, 2004). Group members tend to mimic those with whom they associate and are therefore affected by their environmental circumstances, and gain knowledge by means of interpersonal relationships. The people they socialise with influence the paths they take financially. Graham (1999) argues that herding behaviour is exhibited when many people take the same action because some imitate others' actions.

Sias (2004) observed that herding exists both for individual and institutional investors while Shiller (2015) argues that financial market herding can cause overreactions. Investors often herd based on mutually agreed signals such as those originated by a broker (De Long et al., 1990). Several studies have documented evidence of herding behaviour (for example, Bikhchandani and Sharma, 2000; De Bondt and Forbes, 1999; Kim and Nofsinger, 2005; Sharma et al., 2006; Walter and Weber, 2006). Chang *et al.*, (2000) observed more

pronounced tendencies to herd in emerging markets than in the US markets while Eagly and Carli (1981) found, interestingly, that more herding behaviour existed in females than males. However, other studies have not found the existence of herding behaviour in the financial markets (for example, Chang *et al.*, 2000; Christie and Huang, 1995; Drehmann *et al.* 2005; Grinblatt *et al.*, 1995).

The word-of-mouth effect has been observed as a factor that affects financial decisions by individual investors (Ivkovic and Weisbenner, 2007) while progress in the field of technology has caused productivity and the spreading of data far more expeditious (Johnson, 2001). Arguably, herding behaviour in individuals should increase. The impact of herd-related phenomena internationally appertains to the levels of dynamicity of stock returns (Borensztein and Gelos, 2001). However, Menkhoff *et al.*, (2006) observed that herding decreases with experience.

2.4.1.1.6 Anchoring

This characteristic appertains to the generating estimates of how likely uncertain occurrences are or forecast outcomes by viewing a primary value and varying it until it fits an ultimate decision (Kudryavtsev and Cohen, 2011). In other words, individuals estimate circumstances from an initial value that adapts to the needs of a conclusion. This initial value or starting position, Agarwal and Panwar (2014) argued, can be determined by generating a problem or incomplete calculation. Whichever it is, alterations are chiefly inadequate, and variations in starting points

succumb to varied estimates. These tend to be shaped by the primary value (Ales, 2004).

In the financial markets, this trait explains the investors' reference to the initial purchase price when selling or analysing stocks (Luong and Ha, 2011). This causes investors to establish a share price parameter stemming from former patterns, resulting in a potential lack of action when faced by unpredictable events. According to Ricciardi and Simon (2001), anchoring accounts for the tendency to adopt questionable ideas and use these as a basis for future strategies. Put simply, people want an anchor to cling to. This explains the behaviour of investors to cling or attach to a certain industry or sector even when companies in that particular sector start offering negative returns. Parikh (2009) illustrates that in a top-down approach, investors who are eager to invest in biotechnology may not see that certain companies in their portfolios in the biotechnology sector may no longer be conducive to sustained growth. However, despite the changing conditions, some investors are likely to hold onto all of their biotechnology companies because they think biotechnology is a prominent sector that is bound to give positive returns. An observation of this trait can be made from the Information Technology (IT) boom of the 1990s where many investors thought that the IT sector was immune to large drawdown, making them adhere to the practice of holding even the most unpopular IT stocks. The end result was the severe depletion of earlier recorded price gains (Parikh, 2009).

Anchoring is essentially an error in thinking that results in investors misjudging fresh, encouraging data (Russel, 1998). It relates to the inability by investors to wholeheartedly integrate the consequences of new data. Such investors do not undertake sufficient analyses due to the volume of information. Rather, they act on an isolated datum that should have little to do with their resolutions and neglect key facts (Chandra, 2008). Many a financial analyst has been anchored in his or her predictions and has overlooked the latest data before arriving at a conclusion. Chandra (2008) summarized that the point of anchoring by investors may be of the purchase or historical prices or historical perception. Investors who anchor on purchase prices retain a stock's purchase price and become indecisive. Those who anchor on historical prices tend to reject stock that have formerly been lower in price; they may also avoid selling assets that have previously had a higher value, Anchoring on historical perception appertains to former viewpoints concerning a business (Chandra, 2008).

Anchoring may serve to clarify certain international financial discrepancies. Campbell and Shiller (1996) illustrate that in the late 1980s a large number of US investors who felt that Japanese stock price-earning were hyper inflated could well have been affected by the US price-earning ratio anchor. Notably, the concept of Tokyo's prices being hyper inflated was less prevalent in the 1990s. He and Shen (2009) demonstrated that there is a relation between past market returns and expected returns. Former returns were effectively an anchor for anticipated returns for individual shares and the overall stock market. Prasanna (2009) also noted the

influence of anchoring in the 'post-earnings announcement drift' whereby announcements by businesses that they had achieved unforeseen earnings resulted in surprisingly poor or impressive returns thereafter.

With reference to the GCC countries (the Sultanate of Oman and the Kingdom of Saudi Arabia, for instance) it is enriching to observe any market phenomenon and what anchoring effects exist. For example, are investors more inclined to invest in oil companies than other industries, or are the historical perceptions of the companies significant? Do investors, for instance, stick to Shariah compliant shares only? This will enhance the understanding of investors' behaviour in the GCC countries which might be particular to the respective countries.

2.4.1.1.7 Cognitive Dissonance

Cognitive dissonance describes an internal struggle following the news that the premises upon which one has been operating have been disproven (Montier, 2002). In other words, when faced with evidence that their beliefs may be incorrect or inaccurate, people experience mental conflict. In order to resolve this conflict they will go through a series of mental processes (Festinger *et al.*, 1956). The theory of cognitive dissonance holds that contradicting cognition works as a driving power that compels the mind to obtain or create new thoughts or beliefs or to alter existing beliefs, so as to reduce the amount of dissonance (conflict) in cognition (Chaudhary, 2013). Cognition symbolises attitudes, emotions, beliefs, or values

while cognitive dissonance is a case of inequality that occurs when contradictory cognitions intersect (Pompian, 2006). This embraces the reactions of those who fail to align these outlooks and therefore remain in internal turmoil.

Festinger's theory of cognitive dissonance (Morton and Pentico 1993) states that people tend to become nervous when faced with challenges to their points of view. They then either try to lessen the internal disruption by reviewing their former beliefs or attempt to vindicate their views. (Ricciardi and Simon, 2000). The theory, according to Chaudhary (2013), states that it is relevant to financial professionals who seek to align conflicting patterns. Mental turbulence is one of the outcomes of a recognition that one has been in error. The realisation of having made an investment mistake usually arises as new information, which is contrary to their popular views, confronts the investors. They will get into a mental state of discomfort whenever contradictory cognitions interact and will be faced with a dilemma whether to adhere to learned value or go by the new information (Pompian, 2012). In other words, when an investor must make a selection, a feeling of internal struggle will follow due to the potential disadvantages of one selection and the potential benefits if the other (Chaudhary, 2013). Faced with this dilemma, investors in some cases are likely to hold on to their investment, despite contradictory signs, because they have been taught to believe that a certain condition is always true. Hence, it is possible for investors to hold losing securities even in adverse market conditions (Agarwal and Panwar, 2014).

Sidestepping cognitive dissonance may have two key impacts on the selection process: 1) a failure to come to a final answer and 2) restricting fresh data may stifle the efficacy of making investment-related judgements (Nofsinger, 2001). The effects could be labelled 'selective decision-making' and 'selective perception' respectively (Pompian, 2012). The effect on decision-making could be that investors continue to invest in losing stocks and get caught in herding behaviour where it is difficult to justify an opposite view when every other investor is seemingly gaining from the market. In these conditions, investors try to justify their investment choice because they don't want to admit that they are wrong. The need to maintain self-esteem may actually prevent investors from learning from their mistakes (Agarwal and Panwar, 2014). Therefore, the outcomes of cognitive dissonance tend to bar investors from behaving in a sane manner. Investors, Pompian (2012) argues, tend to assign defeats to bad luck as opposed flawed judgement as they try to soften the impact of discordance resulting from chasing a pair of conflicting endeavours and from the pain of facing former errors.

Studies have demonstrated the cognitive dissonance bias in decision-making. Goetzmann and Peles (1997) examined the tendency of investors to 'stick', irrationally, with struggling mutual funds on the theory that people do not permit themselves to accept new evidence that suggests that it might be time to evaluate a fund because they feel committed to whatever rationale initially inspired the purchase. Goetzmann and Peles (1997) showed that investors, when deciding whether to sell or retain an investment, are affected by the disparity in value

between the security's purchase price and its current price. It was further discovered that investors facing losses may become selective in terms of how they perceive circumstances and tend to neglect data that invalidates former postulates to invest in funds. Some tended to keep pursuing a high-risk investment so as to make up for past losses in an attempt to save face.

With particular relevance to this research, understanding, detecting, and counteracting the behavioural bias associated with cognitive dissonance are objectives that, when undertaken successfully, could help numerous individual investors in the GCC countries, considering their cultural peculiarities. Fostering this understanding provides another motivation for conducting this research.

2.4.1.1.7 Regret Aversion

Naturally, a person seeks to be happy with their own decisions and veer away from losing scenarios whilst working towards achieving personal happiness through successful decision-making (Shefrin and Statman, 1985). Bitterness is the mental anguish from recognising that one has judged poorly (Nofsinger, 2007). An avoidance of regret stems from an impulse to escape the discomfort of feeling sorry for a badly-judged course of action. Baker *et al.*, (2010, p. 322) define it as "the emotion of regret experienced after making a bad decision or an inferior choice." In other words, it is the individual's reluctance to accept losses, but seek positive sense gratification. This regret is not limited to the pain of financial loss,

and includes the regret of feeling blameable for the decision that gave rise to the loss itself (Sudhir, 2012). Sorrow for one's actions makes one challenge former courses of action and become unsure of one's points of view (Baker *et al.*, 2010). Regret averse investors endeavour to sidestep the pain of errors resulting from steps they have or have not taken (Pompian, 2012). The mistakes they have made stem from poorly informed choices that have failed to recognise the true levels of potential in a situation (Pompian, 2012).

The avoidance of regret affects investors' judgements as it tends to steer them away from decisiveness due to a concern that their judgement will be in error. (Sudhir, 2012). The implication of this cognitive phenomenon is that investors might end up holding onto losing positions too long in order to avoid admitting errors, and realising losses (Pompian, 2012). A wish to circumvent sorrow for one's actions may affect fresh judgments, given that an investor often steers clear of zones with weak histories of success due to the potential future misery of failure such sectors seem to be inviting (Albaity and Rahman, 2012). According to Pompian (2012), it is the anxiety surrounding the prospect of a mistake of commission, or 'wrong move' that makes stockholders timid and cause them to emotionally and perhaps irrationally prefer investments that seem dependable and trustworthy. Avoidance of regret may therefore stimulate herd-based instincts in investors, as seen by the fact that they might favour well thought of companies who seem to offer a buffer against future disappointment (Sudhir, 2012). Buying, for instance, into an apparent mass consensus can limit the potential for future

regret because if an investor loses money in a mass consensus, so too do a lot of other investors and, therefore, the impact of the loss is reduced in comparison to that of an individual loss.

Studies have shown the impact of regret aversion on investors' financial decision-making. Shefrin and Statman's (1984) study highlighted disappointment as a key factor behind investors favouring stocks that provide dividends, given that by paying dividends protects them against poor results. A study on the Istanbul Stock Exchange by Sevil *et al.* (2007) discovered that the power of disappointment outweighed the thrill of success. So judgements in the field of finance contain both financial and emotional impacts. Zaleskiewicz (2015) argues that disappointment can be felt indirectly during the process of anticipating outcomes from a potentially unwise course of action.

Whilst regret aversion has some negative consequences, it should be acknowledged too that there could be some positive effects of this cognitive phenomenon. Investors, for example, become conservative in their portfolio selection choices as a result of the regret aversion bias. Investors, in essence, become more risk-averse as they avoid the regret of making bad investments (Albaity and Rahman, 2012). In addition, anticipated regret aversion is likely to force investors to sell unprofitable securities before the occurrence of further losses occur, thereby limiting further financial failures (Pompian, 2012)

2.4.1.1.8 Gambler's Fallacy

A gambler's fallacy could be defined as a psychological (cognitive and emotional) in which people think that the probability of an outcome has changed, when in reality it has stayed the same (Barron and Leider, 2010). Here, there is a view that one result will eventually achieve an equilibrium through an opposing one (Barron and Leider, 2010) and that unforeseen errors in situations eventually correct themselves (Subash, 2012). Kahneman *et al.* (1971) view gambler's fallacy as an erroneous idea of the justice behind the rules of luck. In other words, it is the belief that the law of averages should self-correct itself. Moreover, the longer the run of observations is, the stronger is the belief that the opposite outcome is due to appear.

If an investor inaccurately foresees that a pattern will shift in the opposite direction, personal bias tends to manifest itself (Sudhir, 2012). Thus a falsehood emerges following poor judgements (Jahanzeb and Muneer, 2012). As a result, investors often buy or sell shares on the premise that fortunes are bound to alter. For instance, based on the (false) assumption that prices are about to drop (because they have continuously been rising), investors would sell too soon. The opposite is true where the investors buy in the (false) assumption that the prices would rise after a continuous period of price drops (Cox *et al.*, 1979). Waweru *et al.* (2008) explains that gambler's fallacy stems from instances of misguided judgements concerning the turning of the tides of fortune following a favourable or unfavourable

series of outcomes. For instance, the reverse point where stock prices should start rising after a period of continuous price drops and similarly, predicting the reverse point when prices should start falling after a steady period of price increases is the challenge. Nofsinger (2002) argues that it is hard to predict these converse points, as the laws of probability usually exist for very long patterns, making it unfeasible to guess or predict the future from the past. Therefore, it is fruitless for investors to rely on past patterns to predict the future. In other words, the investor's belief that 'if certain patterns have occurred regularly in the past, the chances are that those patterns will repeat in the future' is incorrect (Barberis and Thaler, 2003).

2.4.1.1.9 Mental Accounting

Mental accounting is a term given to the propensity of individuals to organise their world into separate mental accounts (Tversky, 1995). According to Thaler (2001), people often divide occurrences in their minds, and the contrasts between such divisions often determine their behaviour. So mental accounting relates to bias and a failure to view a problem in its true context. With respect to investments, for instance, each investment is placed separately, when the different aspects should be combined in order to maximise the utility of the interactions (Ritter, 2003). Consequently, each element of their investment portfolio is treated separately, which potentially reduces the total return (Hirshleifer, 2001). According to Goldberg and Von Nitsch (2001), time as well as content can undergo a process of division.

For instance, people usually keep their money on deposit accounts whilst, on the other hand, use credit for consumption, or an individual may borrow at a high interest rate to purchase a consumer item, while simultaneously saving at lower interest rates for a child's university fund (Goetzmann and Massa, 2003). Shefrin and Thaler (1988) noted the major categories of mental accounting as current income, current wealth and future income. These categories are treated and valued in a different way in people's minds.

According to Thaler (1990) mental accounting is a variety of framing encompassing the monitoring of successes and failures linked to judgements in various scenarios. The narrow framing aspect could help describe the process used by people to code, categorise and evaluate events. Barberis and Thaler (2003) argue the narrow framing aspect of mental accounting causes investors to be unable to see their investments as a portfolio but rather as a collection of different investments. This may occur anytime or through risky choices (Frazzini, 2003). In addition, mental accounting also influences investors' perception of portfolio risk. Oversights in terms of the mutual effects investments have on one another encourages investors to gain an inaccurate concept of the dangers involved in incorporating a security to a given portfolio (Nofsinger, 2007). The mental accounting phenomenon may result in an unwillingness to let go of investments that have previously proven to be considerably lucrative (Pompian, 2012). According to Stanyer (2006), however, mental accounting is not harmful to investors as it helps to discipline

future behaviour by highlighting deviations from decisions that had already been taken in the past.

2.4.1.1.10 Hindsight Bias

Hindsight bias is the tendency of people, having the advantage of experience after a certain result, to incorrectly believe that the result had initially been predicted (Hoffrage and Pohl, 2003). It refers to the tendency of people to think that it was possible to foresee something prior to its occurrence (Shiller, 2000) and therefore misjudge the initial likelihoods and assign too little importance to the eventual results that failed to manifest themselves (Kudryavtsev and Cohen, 2011). 'Creeping determinism' is another term that could be used to describe hindsight bias (Metilda, 2013). Gul (2015) describes hindsight bias as the tendency of individuals with consequence knowledge to modify their understanding of an event in such a way that ex-post one's proposed ability to predict an event is larger than one's ex-ante ability. In this way, people have a tendency to change their opinion after new information has been provided, often justifying that what they had predicted is similar to what has happened.

According to Pompian (2012), the most important impact on investors is the erroneous feeling of safety it offers in terms of investment-related judgements. This appears in the form of taking overly heavy risks and jeopardising the security of portfolios. It can cause investors to form a conviction that their knowledge of

former events guarantees the success of decisions they make thereafter. The result is that stocks may be selected for personal rather reasons rather than their financial history (Werth *et al.*, 2002). Kaul (2011) points out that such forecasts are almost always in error. So an investor needs to exercise caution when assessing how former patterns influence present situation, particularly when sounding their personal competence at anticipating the manner in which existing circumstances will influence future ones (Biais and Weber, 2009).

Several studies have demonstrated the existence of hindsight bias. For instance, Camerer and Weber (1989) found that it encourages excessive levels of certainty and disproportionately high responses to fresh data. Werth *et al.* (2002) observed that strong certainty in previous assessments made prior to the eventual results, plus poor certainty in recalled estimates following knowledge of results encourages hindsight bias. Similarly, Louie *et al.* (2000), in an experiment with a simulated stock trading game, found that participants having a positive outcome exhibit hindsight bias, whereas those having an upsetting outcome show no significant highlight bias. These findings were also supported by Schart and Bosshard-Nepustil's (1999) study. Further, Biais and Weber (2009), in their experiment involving a sample of investment bankers, found that hindsight-biased bankers were less successful with their investments. Biais and Weber (2009) also documented lower variance estimates for investment bankers with high levels of hindsight bias when making forecasts using several financial statistics.

2.4.1.1.11 Greed and Fear

The irrationality of investors' behaviour can also be attributed to the emotional states of greed and fear (Evans, 2004). When investors panic as the market drops, for instance, the amygdala (the part of the brain structure linked to both fear responses and pleasure) is probably responsible (Pompian, 2006). While investors encounter several emotions, the naturally occurring ones of pure greed and fear have profound effects (Sease and Prestbo, 1998). The emotions of fear and greed have been deemed as the main drivers of the financial market (Kiyilar and Acar, 2009). Pompian (2006) argues that, fear has been deeply ingrained within human consciousness since the dawn of time and still has a huge effect today. Thus, the emotional state of greed and fear on the part of individual investors plays a pivotal role in their decision-making (Chaudhary, 2013). Chandra (2008) notes that . The resultant effect of these emotions could be the underachievement of investment objectives. Similarly, Sease and Prestbo (1998) argued that because of these emotions, investors often focus on short-term results to confirm that their investment judgment is sound, which could be at the expense of long-term gains.

So investors are in fact motivated by avarice and trepidation, resulting in speculations involving poorly judged levels of investment (Shiller, 1999). Investors may be fooled by their emotions, non-detached thought processes and group caprice, resulting in unrealistic anticipations of projected levels of competence on the part of companies and the soundness of the economy, which may then lead to

fluctuating stock process breaking sensible value boundaries (Shiller, 1999). The next section discusses the demographic factors that could influence investors' decision-making processes.

2.4.1.2 Demographic Factors

Several studies have shown that psychological biases are influenced by demographics (Gunay and Demiral, 2011; Jain and Mandot, 2012; De Acedo Lizarraga *et al.*, 2007; Shanmugasundaram and Balakrishnan, 2010; Worthington, 2006). Kudryavtsev and Cohen (2011), for instance, documented that women were more influenced by behavioural biases than men. In other studies, demographic and socioeconomic factors have been found to be predictors of risk tolerance behaviour (Worthington, 2006). For instance, Faff *et al.* (2009) found that the higher the age of individuals, the lower the risk tolerance. Similarly, Gilliam *et al.* (2010) investigated the financial risk tolerance among leading baby boomers (born between 1946 and 1950) and trailing baby boomers (born between 1960 and 1964) and found that the latter group are more risk-tolerant than the first. Similar findings have been reported in other studies (for example, Garling *et al.* 2009; Hira *et al.* 2007; Morin and Suarez, 1983; Riley and Chow, 1992; Zuckerman, 1994). Goetzmann and Kumar (2003) also found that individual investors who are young and less wealthy hold more under-diversified portfolios, arguing that this demonstrates a stronger behavioural bias. Other studies have also revealed a

negative association between age and risk-taking (for example, Garling *et al.*, 2009; Gilliam *et al.*, 2010; Faff *et al.*, 2009).

As well as affecting psychological biases, aspects relating to demographics can have a considerable affect on judgement. Rajdev and Jssciw (2013) stated that factors like age, sex, academic background, size of family, earnings and savings call influence decision-making. Jain and Mandot (2012) investigated how these demographic factors impinged on investors in Rajasthan. From a sample of 300 investors they discovered that age, marital status, sex, location, income, knowledge of the market, vocations and qualifications all heavily influence the decision-making process. Gunay and Demirel (2011) also found that the person's gender was closely tied with financial behavioural influences.

The study further found that savings were also closely tied to four behavioural factors: overreaction, herding, cognitive bias and irrational thinking. Gunay and Demirel (2011) concluded that a person's gender and their level of savings are influential demographic aspects that have strong links with financial behavioural factors. However, they did not find an interaction between age and behavioural finance factors. Another study by Lin (2011), on how investment decision-making varies with different demographic characteristics in Taiwan, found that gender explains the difference in behavioural biases. The study, of 450 individual investors from the Taiwan Stock Market, revealed that females display a greater disposition effect than males while males are more confident than the females. Females were also found to be the most affected by herding, as has proven to be the case in

other studies, such as Eagly and Carli (1981); Flynn and Ames (2006); and Schmidt and Traub (2002). Lin's (2011) study also revealed that young investors were more prone to herding than older investors, as in other studies (for example, Goyal, 2004). However, Lin's (2011) study found no significant evidence between the level of income and behavioural biases.

Several other studies have also found that demographic factors have an effect on investors' decision-making processes. Based on a sample of 589 participants, De Acedo Lizarraga et al., (2007) discovered considerable variation in people's perception of the influences behind the decision-making process amongst different age groups and genders. Similarly, Shanmugasundaram and Balakrishnan's (2010) study on the factors that influence investors' behaviour in the capital market in India showed that demographic factors influence the investors' investment decisions.

These studies all demonstrate that the demographic factors of investors (such as gender, age, education, family size, annual income, and savings) have a highly significant influence on the investors' decision-making process and thus their inclusion for consideration in this study. The demographic factors to be considered in this research are discussed below.

2.4.1.2.1 Age

As discussed above, age is one of the key demographic factors that affects investors' decision-making processes. Various studies have shown the effect of age on investors' decision-making (for example, Evans, 2004; Gärling *et al.*, 2010; Goyal, 2004; Grinblatt and Keloharju, 2009; Hifza *et al.*, 2011; Jianakoplos and Bernasek, 2006). The study by Grinblatt and Keloharju (2009) showed that there is a relationship between the age and sex of investors and their trading activity, when income and wealth variables were controlled alone. Another study by Gärling *et al.* (2010) revealed that young people are generally more open to new experiences than older people and this partly explains the age effect on risk-taking. Similarly, Jianakoplos and Bernasek (2006) study documents that older people tend to take less financial risk than younger people. This is further supported by Evans (2004) who provided evidence that investors under 30 years old tend to take more risks than do older ones.

According to Hifza *et al.* (2011), age influences the attitudes towards risk-taking, both directly and indirectly. The effect of age on the risk-taking capacity of investors has also been evidenced by Kabra *et al.* (2010) in their research into the important factors behind investor behaviour patterns and how these related to risk-related behavioural patterns amongst men and women and varying age categories. Kabra *et al.* (2010) found that age and gender determine the ability of investors to engage in risk-related investments. Similarly, other studies have documented a negative

association between age and risk-taking (for example, Garling *et al.* 2009; Gilliam *et al.* 2010; Faff *et al.* 2009; Hira *et al.* 2007; Sadiq and Ishaq, 2014).

2.4.1.2.2 Education

Education is another demographic factor that has been found to have an influence on investors' decision-making processes. According to Rana *et al.* (2011), individuals who are more highly educated on the subject of financial markets have more efficient and effective risk preferences and thus perceive risk in a more logical way than those without it. This assertion is similar to Campbell (2006), who pointed out that a low level of financial education leads to poor financial decisions. Gärling *et al.* (2010) also noted that those who lack an understanding of the dangers connected with financial products tend to invest in products that fail to align with their means. Several studies have documented the impact of education on investors' decision-making processes (for example, Courchane and Zorn, 2005; Farzana *et al.*, 2012; Grable and Lytton, 1998; Hallahan *et al.*, 2003; Sung and Hanna, 1996). For instance, Farzana *et al.*, (2012) investigated the demographic factors which influence investors' decisions and found that education and occupation were particularly important in this regard.

With respect to the effect of education on psychological biases which subsequently affect investors' decision-making, Bhandari and Deaves (2006) found that investors with a higher educational background are more overconfident

than those who have lower educational levels. Similarly, Grable and Lytton (1998) showed evidence that suggested that higher degrees of education are linked to a greater ability to confront risks. Grable and Joo (1999) later confirmed that risk tolerance and educational level were closely related. Other studies have also found that risk tolerance increases with education (for example, Gutter *et al.*, 1999; Hartog *et al.*, 2002; Plath and Stevenson, 2000; Shaw, 1996; Sung and Hanna, 1996).

2.4.1.2.3 Level of Income

The level of income of investors has also been documented to have an effect on investors' behaviour towards investments (Bertaut, 1998; Gutter *et al.*, 1999; Hartog *et al.*, 2002; Hinz *et al.*, 1997; Jianakoplos and Bernasek, 1998; Schooley and Worden, 1999; Wang and Hanna, 1997). For example, Bajtelsmit and Van Derhei (1997), using a sample of 20,000 management employees, have documented that there is a positive association between risk tolerance and income (salary), while Manish (2010) investigated how the judgement salaried and business class investors vary in terms of their proneness to widespread behavioural biases. The research found that business class investors tend to be subject to cognitive biases whereas members of the salaried class tended towards framing effect and Prospect theory biases. In addition, Lutfi (2010) found that low-income investors tend to be risk averters, while wealthier investors tend to be risk seekers. This is consistent with an earlier study by Barber and Odean (2001a) that

showed investors with higher levels of income invest in more volatile portfolios composed of more volatile stocks. Similarly, Sadiq and Ishaq (2014) observed that investors with greater wealth take greater risks.

Most studies have found that there is a positive association between wealth and risk tolerance (for example, Hartog *et al.*, 2002; Hinz *et al.*, 1997; Wang and Hanna, 1997). Other studies have also shown a positive association between income and risk tolerance (Grable, 2000; Grable *et al.*, 2004; Hira *et al.*, 2007; Plath and Stevenson, 2000). The 1975 survey of Cohn *et al.*, which contained 972 respondents, provided evidence that investor risk tolerance is higher when the wealth and income increases. These results were supported by Bertaut and Starr-McCluer (2000), who observed that as wealth and income increased, households were more likely to own stock-based assets. However, contrary to most studies, Palsson (1996) and Cicchetti and Dubin (1994) found that risk tolerance decreases as wealth increases. Vissing-Jorgensen (2004) further argued that investor irrationality is decreased rapidly as the level of one individual's wealth increases, taking wealth as a proxy for trading experience.

2.4.1.2.4 Number of Family Members

An investor's family size also has an effect on their financial risk-taking behaviour. Lewellen *et al.*, (1977) showed that investors having small family sizes are more prone to risk-taking, whereas an increase in family size causes risk aversion. So

investors with their own families are more likely to be risk averters. Hartog *et al.* (2002) it was revealed that single people tended to be more risk tolerant. Yao and Hanna's (2005) study showed that single men tended to be more risk-tolerant, followed by married males, then single females, with married females tending to be the least risk-tolerant of all.

Further, a study by Lutfi (2010) found differences in the number of family members and their investment patterns. The study documented that a family with a maximum of two people tends to invest their money in capital market assets while, by contrast, big family respondents tend to put their money in bank accounts. Such results indicate that low-scale family investors are more willing to take risks than larger ones. Lutfi (2010) argues that due to the greater strain on large family investors, precarious securities tend to be avoided. This is because the investors with more family members will find it difficult to support their families if they lose their investment. Therefore, they tend to choose less risky instruments like bank accounts instead of capital market instruments.

2.4.1.2.5 Experience

Another demographic factor that is of interest in this study is the experience of individuals and how this might impact on their financial decision-making. Sayagh *et al.*, (2004) stated that experience is critical in the creation of tacit knowledge and use of intuitive decision-making skills. Individuals' past experiences can affect,

whether positively or negatively, their future decision-making. According to Dietrich (2010), former choices impact upon future choices, given that when a judgement results in a gain there is a greater likelihood of repeating such a decision under parallel circumstances. Thus, people tend to avoid repeating past mistakes (Sagi and Friedland, 2007). The experience, for instance, of investors during the global financial crisis of 2008-2009 has made some investors more prudent in their investment, often avoiding risky stocks despite these offering potentially high returns (Lutfi, 2010). Avoiding past mistakes can, however, reach the extent that future decisions based on past experiences do not necessarily result in the best decisions. Nonetheless, Dietrich (2010) argues that investment decisions should not be based on past outcomes or past experiences but on the current choices or options available.

Several studies have shown a relationship between the experience of investors and psychological biases (for example, Ekholm and Pasternack, 2008; Frascara, 1999; Kirchler and Maciejovsky, 2002; Menkhoff *et al.*, 2006). A study done in 2007 by Glaser and Weber showed that experience leads to high overconfidence. These results are similar to other studies (for example, Frascara, 1999; Kirchler and Maciejovsky, 2002) but contrary to other studies that documented a negative relationship between experience and overconfidence (for example, Ekholm and Pasternack, 2008; Locke and Mann, 2001; Menkhoff *et al.*, 2006). In addition, some studies have documented a positive relationship between experience and risk tolerance (for example, Chevalier and Ellison 1999; Hong *et al.*, 2000; Lamont,

2002) while herding has been observed to decrease with experience (Menkhoff *et al.*, 2006).

2.4.1.2.4 Gender

An investor's behavioural patterns are also determined by their gender. It has, arguably, been found in various studies as one of the most important factors that affect financial decisions of individual investors (Gunay and Demirel, 2011). Gender has an effect on the psychological biases which have an effect on the financial decision-making process. Several studies have demonstrated this aspect. For instance, a study done by Grable *et al.* (2004) suggested that women are less risk tolerant than men. These results are consistent with other studies that showed an association between gender and risk tolerance (for example, Felton *et al.* 2003; Hariharan *et al.* 2000; Holt and Laury, 2002; Olsen and Cox, 2001; Weber *et al.* 2002). Garling *et al.* (2009) also found that women are less prone to risk-taking than men. These results were also observed by Rana *et al.* (2011) who found that females have less risk preferences than males and, thus, are reluctant to take risky decisions. However, other studies have shown that gender is not a significant predictor of risk tolerance and risk-taking (see for example, Grable, 2000; Jianakoplos and Bernasek, 1998; Palsson, 1996; Powell and Ansic, 1997; Wood and Zaichkowsky, 2004). In addition, several studies have shown that men are more overconfident than women. For example, Barber and Odean (2001a) found that males were 45 percent more active during the trading process than females

and invoked greater transaction costs resulting in lower overall returns. These results are consistent with other studies that have documented that overconfidence is more prevalent in males than in females (for example, Beyer and Bowden, 1997; Hair *et al.* 1998; Lundeberg *et al.* 1994; Niederle and Vesterlund, 2007). However, some studies have found no difference in overconfidence between men and women (Biais *et al.* 2005; Deaves *et al.* 2003; Lundeberg *et al.* 2000). Similarly, Ronay and Kim (2006) found no difference in risk attitude between men and women, noting, however, that the disparity appears at group level and not when instituted at an individual level.

In summary with regard to the demographic factors, I could summarise the literature by stating that, demographic factors (age, education, income, number of family members, experience and gender) have an effect on investors' decision-making processes. Several studies, as discussed above, have shown an association between the demographic factors and investors' financial behaviour. In addition, the literature has shown evidence of the impact of these demographic factors on the psychological factors. The empirical results, however, have been mixed in some instances. For instance, the studies on the impact of gender on risk-taking and risk tolerance have revealed mixed results, as have the findings on the impact of income and experience on overconfidence.

2.4.2 External Factors

In addition to psychological biases and demographic factors, investors' decision-making are also susceptible to external factors. The most important of these, investigated in this research, are discussed below.

2.4.2.1 Social Factors

Social factors, such as media, social interactions and the Internet, have been identified as causing some behavioural dispositions in investors. Kourtidis *et al.* (2011) argue that social influence has an impact on investors' trading behaviour. Similarly, Nofsinger (2005) noted that family and friends are often consulted before an investor makes a decision. Hong *et al.* (2004) investigated the participation of households in the stock market and concluded that there is a 4 percent greater likelihood that social households will make stock market investments than those that are not social.

Similarly, De Marzo *et al.* (2003) suggested that individuals form their opinions by interacting with others and form decisions, for example, by following recommendations from friends and/or analysts. Social people are more likely to learn about investing than their counterparts as they are more exposed to social influences and, thus, Nofsinger and Baker (2002) argued, are more likely to invest in the stock market. An earlier study by Campbell and Shiller (1989) revealed that

noise traders and smart money investors collaborate in the financial market, and that noise traders are mostly affected by trends, media and on-going discussions. This sometimes leads to herding behaviour, where everyone buys when the market is in an uptrend, providing a catalyst to an already increasing price (Campbell and Kyle, 1993).

Market participants are exposed to a huge amount of information from media outlets, peer network and Internet, sources making it nearly impossible to process all available information (Johnson, 2001). Forward progress in technology have revolutionised the ease of information exchange. Thus, under such circumstances, it is usually common for people to apply several psychologies (cognitive and emotional), often overacting to news or series of evidence and clues, which never exist. In addition, psychological familiarity (cognitive and emotional) may arise as people invest in companies that they know or have been told about (Ashcraft, 2006). For instance, individuals may invest in shares that they frequently hear about in the media or in shares that are visible to them, such as shares in the domestic market.

Several studies have documented how social influence affects various aspects of investing. For instance, Brown *et al.*, (2008) have found that the decision to participate in the equity market depends on the decisions of others in the investor social network. These suggestions have also been supported by Hong *et al.* (2004). In addition, Ivkovic and Weisbenner (2007) documented evidence that

investors are more likely to purchase stocks from a particular industry when other investors within the same postal region purchase stocks from that industry. In another study by Hong *et al.* (2005) it was demonstrated that mutual fund managers' holdings are similar to those of other managers in the same city. Hong *et al.*, (2005) suggested that the 'epidemic model', where intelligence on stock is spread verbally could account for this. Further, a study by Shive (2010), using a data set of equity trades from Finnish Central Securities Depository, found that socially motivated trades predict stock returns.

2.4.2.2 Cultural Factors

Culture can be defined as “the set of important assumptions that members of a community or group share in common” (Singhapakdi and Vitell, 1991, p. 38). The cultural factor has a major impact on investment decisions. According to Srnka (2004), the manifested tendencies and beliefs of a culture shape decision-making processes. A number of studies discovered that investment decision were shaped by cultural and value-related elements (for example, Beugelsdijk and Frijns, 2010; Chui *et al.*, 2010; Grinblatt and Keloharju, 2001; Guiso *et al.*, 2008; Levinson and Peng, 2007). Levinson and Peng (2007) investigated the influence of cultural background on the financial decision-making in the United States and China. Their study found dramatic cultural differences in expression of biases related to framing and morality. Similarly, Grinblatt and Keloharju (2001) observed that language, culture and distance are important factors for investors when trading stocks.

Other studies have investigated cultural differences in terms of risk preference (for example, Bontempo *et al.*, 1997; Fan and Xiao, 2005; Weber *et al.*, 1998). Bontempo *et al.* (1997) found cultural differences between Chinese and Westerners in terms of risk perception. Fan and Xiao (2005) Made comparisons between the risk-related outlooks of Chinese and American workers, concluding that there was a greater degree of risk tolerance amongst Chinese investors. Other studies on risk perception have also shown that people of Asian culture are less risk averse than people of Western culture (Keown, 1989; Weber and Hsee, 1998). On the other hand, Grijalva (2010) carried out a review designed to establish the impact of a culture on financial points of view and financial judgements by comparing the decisions made by Hispanic Mexicans and North American Mennonites.

The study found that cultural issues play an important role in financial behaviour because of the difference in the groups' respective upbringing. Further, Anderson *et al.* (2011) observed that a culture can have a direct affect on an investor's behaviour, while Chan *et al.* (2005) observed that investors favour stocks from parallel cultures or from countries which are closer geographically. A study by Rieger *et al.* (2010) on how time preferences, risk patterns and behavioural biases of approximately 7000 investors from 50 countries influence behaviours highlighted notable variances. The study revealed that investors from Nordic and German-speaking nations tended to have higher levels of patience and that investors from African nations demonstrated the lowest levels of tolerance.

Investors in Anglo-Saxon nations tended to tolerate loss well, whereas Eastern European investors suffered from the greatest aversion to loss. Thus, cultural factors have an effect on investors' financial decisions.

2.4.2.3 Political Factors

Another external factor that has been evidenced to have an effect on investors' financial decision-making is politically related factors. Karima and Azman-Sainib (2013) argued that the primary external influences that interrupt investment decisions tend to be linked to macroeconomic prospects and financial policies adopted by a nation, as reflected by the predicted interest rates and GDP expansion. Ozorio *et al.* (2013) acknowledge that the decisions on the part of investors may be affected by national regulations. Generally, investors do not like to invest in countries that are perceived to be politically charged – those that have unregulated environments and thus have high political risk (Bekefi and Epstein, 2006). Such a risk may originate from a country's government or from a precarious social scenario.

Studies analysing political environments of individual countries have established strong evidence that investors, whether investing in overseas capital markets or property, are likely to avoid foreign investment even if the product or market offers a high return on investment (Harms, 2000). During the recent Greek debt crisis, such traits became evident when the Greek government offered high official bond

returns when its debt became worth 175% of its GDP in 2008. The rational expectations were that such high returns would attract risk-averse investors. However, investors were hesitant to invest after news of looming bankruptcy, even though this never occurred (Ehrhardt and Irwin, 2004). Generally, when the political risk is low, the required rate of return of investors is usually low. In addition, political risk affects the local cost of equity that in turn impacts the growth of local stock market (Yarty, 2008). Another study by Girard and Omran (2007) utilised samples from five Middle Eastern markets, and demonstrated that political precariousness carries a heavy bearing on stock market fluctuations.

2.4.2.4 Environmental Factors

Besides political factors, environmental factors have also been found to influence the individual's decision-making process. Since the 1980s, fund managers have started to evaluate possible detrimental effects from ignoring best environmental practices. Thus, investors now think twice before indulging in companies that have proven unethical practices, for instance of polluting the environment. The movement towards socially responsible investment has grown over the decade with concepts of green funds and green company emerging (Guay et al., 2004). Before 1990, few investors, if any, would pay attention to environmentally friendly marketing campaigns. Moral consistency, international benevolence and investment outcomes all influence investors' behaviours (Wong et al., 1996), and socially conscious investment is promoted regardless of the nature of investments

and their motives. Consequently, even novice investors do understand the implication of investing in green-oriented companies because these companies should have a decent public image, allowing them to gain profit for investors who rely on their professional image. Environmental considerations are, therefore, an important aspect that individual investors should take into account, as these have implications on the future success of most firms in developed economies (Hall, 2006). The ability of the market to evaluate ecological influences is still in the early stages; however, the importance of investing in companies that promote sustainable environment is growing (Sharma and Henriques, 2005).

One strand of research in behavioural finance has been the investigation of environmental factors on the emotions and moods of investors. According to Lepori (2009), changes in environmental factors, such as weather, the body's biorhythms and various social factors, may activate mood changes and ultimately have an impact on investment decisions through the mood misattribution mechanism. Studies have shown that environmental factors have an impact on mood (Chang *et al.*, 2007; Howarth and Hoffman, 1984; Lee *et al.*, 2002) and mood affects decision-making (Etzioni, 1988; Mehra and Sah, 2002).

2.4.2.5 Ethical Factors

Ethical factors represent another set of external factors that could affect investors' financial decisions. Consideration for ethical standards in investment has

increased in recent years (Haines and Leonard, 2004). A growing number of investors are considering ethics when it comes to trading stocks of companies distinguishing between those companies that provide products that cause harm to humans and those that promote the wellbeing of humans. Industries like tobacco, alcohol and gambling are most affected by investors' ethical considerations. Ethically sensitive investors ignore stocks that are associated with harmful practices. According to Lincoln and Holmes (2011), a person may be confronted with circumstances that are subject to morality-related issues. Knowledge of such issues impact upon investors' decision-making processes. On an individual level, making moral choices depends on levels of awareness of ultimate impacts from the perspective of the individual. Srnka (2004) noted that a this is all dependant upon the level of understanding of the consequences of investment decisions.

An ethically sensitive investor will usually focus on the long term and look at the big picture, be able to monitor and measure their progress, and be able to determine if their behaviour matches the ethical goals (Nofsinger, 2001).

However, Lee and Selart (2014) argue that having ethical belief does not preclude a person from making immoral decisions. Similarly, Jones (1991) indicated that a person with a well-developed sense of moral reasoning would not necessarily have a high ability to act morally.

The impact of ethical consideration on financial markets, Román (2003) argued, is the inducement of inefficiency in the market, because investors will not trade

certain stocks. According to Thornton (2008), investment decisions should only be based on financial gains; they claim that some investors may think of ethical investment as a kind of donation, despite their actual interest in financial gains. Mackenzie and Lewis (1999) Found that ethical investors possess varied intentions and do not necessarily seek to optimise profit or be motivated by moral motives. However, Webley *et al.*, (2001) provided contrasting evidence that showed that personal values determine how funds are invested, and ethical investors remain loyal to ethical investments, regardless of performance. Other studies have shown that many ethical investors mix their portfolios with ethical investment and conventional investment (Lewis, 2001; Lewis and Mackenzie 2000; Mackenzie and Lewis, 1999; Webley et al. 2001). So there may be no simple interchange between anticipated returns and personal values. Age has been shown to have an effect on ethical considerations. Matterson (2000), for instance, found that 75-80 percent of 24-38-year-old investors preferred ethical investment behaviour as compared to 73 percent of 40-60-year-old investors.

2.5 Gaps in Literature

Considerable research has been empirically conducted on investors' behaviour, especially in terms of identifying the factors influencing investors' decisions within the stock markets (Aregbeyen and Mbadiugha, 2011; Shiller, 2000; Shleifer, 2000). The studies have provided evidence that financial judgements are wholly interconnected with aspects of behaviour that are both internal and external.

(Jamshidinavid, Babak, Chavoshani, and Amiri, 2012). Thus, besides psychological factors (cognitive and emotional) and demographic factors, a number of other external factors which include social, cultural, political, environmental and ethical factors are also responsible in influencing investors' financial decisions (Byrne and Brooks, 2008; Floros, 2008; Kliger and Levy, 2008; Lepori, 2009; Shive, 2010). The study by Aregbeyen and Mbadiugha (2011), for instance, investigated twenty factors related to social, economic, psychological and cultural issues that influence the behaviour of investors on the Nigerian capital markets. Their study showed that all factors had an influence on investment decision-making; however, the level of influence was different, with social factors, followed by economic factors, having the highest impact.

Similarly, Ton and Dao (2014) examined the psychological factors that influence investors' decision-making on the Vietnam Stock Exchange and revealed five psychological factors that possess the greatest decision-related impact. There have not, however, been many other studies conducted in emerging countries to explore decision-making processes. For example, Kouser *et al.* (2012) examined behavioural factors influencing investors in Pakistan while Kadariya (2012) investigated these factors on investors in Nepali's stock market. Kiyilar and Acar (2009) also investigated the behavioural factors influencing investors in Turkey while Baghdadabad *et al.* (2011) examined investors' behaviour in Malaysia. Further, a study by Yahyazadehfar *et al.* (2011) investigated the various factors that influence investors' decision-making on the Iranian stock exchange. To

analyse the research data, they used path analysis and Linear Structural Relationships (LISREL) software. Their study revealed that political factors had the highest influence (62%) followed by psychological factors (53%), economic factors (47%) and lastly internal factors (31%). In addition, Fares and Khamis (2011) investigated individual investors' stock trading behaviours in Jordan, while Sultana and Pardhasadhi (2012) examined factors influencing Indian individual equity investors' decision-making and behaviour.

Studies of investors' behaviour in other countries have also been conducted, such as in Sri Lanka (Cooray, 2003), Bangladesh (Rashid and Nishat, 2009), Greece (Merikas *et al.*, 2008), Iran (Masomi and Ghayekloo, 2011; Mojgan), Pakistan (Kaleem *et al.*, 2009) and India (Geetha and Ramesh, 2012; Jain and Mandot, 2012). Within the GCC countries, Al-Tamimi (2006) investigated the factors influencing individual investor behaviour on the United Arab Emirates (UAE) financial markets and found that Increasing profits and finance-related data tend to have the greatest influence in the UAE, whereas peripheral data, religious and family influences tended to carry the least weight. Hence, one of the motivations for this study is to include the Sultanate of Oman and Kingdom of Saudi Arabia to this literature through exploring the factors that influence investors' decision-making in the two countries.

In addition, this study explores both internal and external factors, as the deciding elements for individual investors' decision-making is the integration of all factors

(psychological-cognitive and emotional, social, political, cultural, environmental, ethical factors). A number of exploratory and empirical research has been conducted to investigate the factors and the extent of their influence on investors' financial decisions (for example, Evans, 2004; Mayfield *et al.*, 2008; Sultana and Pardhasadhi, 2012; Waweru *et al.*, 2008). However, the influences of these factors on investors' financial decisions have mostly been examined separately, and only a few of these studies have integrated some of these factors.

The present study attempts to categorise the most relevant factors into internal and external factors. Nonetheless, none of the studies has examined all of the factors together as investigated in this research. In this study, a holistic approach will be adopted to explore the deciding factors and the extent of their influence on investors' decisions. This research, thus, makes a valuable contribution, as it is the first of its kind to be conducted in the GCC countries using a case study of investors from the Kingdom of Saudi Arabia and the Sultanate of Oman.

2.6 Summary

This chapter has provided an extensive literature review from the field of behavioural finance, providing a better understanding of behavioural factors that influence investors' decision-making, and also forms the basis for the formulation of the theoretical framework and hypothesis development covered in Chapter Three.

The chapter reviewed the limitations of the traditional finance theories and, in particular, the proposition of market efficiency and investor rationality. The contribution of behavioural finance and the key theories propagated to address the criticisms of the traditional finance theories were then discussed. The focus of the chapter was then directed at reviewing the literature on the key behavioural factors that have been evidenced to have an effect on investors' decision-making. These factors were divided into two categories, internal factors and external factors. Internal factors consist of demographic and psychological factors, while external factors are comprised of social, cultural, political, environmental and ethical factors.

All these factors have been demonstrated to have an effect on investors' decision-making. Several empirical studies have provided evidence to document the impact of these factors on investors' behaviour. Studies have shown that cognitive and emotional influences, overconfidence, self-attribution, representativeness, herding, anchoring, cognitive dissonance, regret aversion, gambler's fallacy, mental accounting, hindsight bias, greed and fear all have an impact on investors' decision-making processes (Barberis and Thaler, 2003; Biais and Weber, 2009; Grinblatt *et al.*, 2008; Hira *et al.*, 2007; Kiyilar and Acar, 2009; Aregbeyen and Mbadiugha, 2011; Nofsinger, 2007; Sharma *et al.*, 2006; Shive, 2010; Walter and Weber, 2006). In addition, other studies have revealed that age, education, income levels, size of family and gender all play their part in the decision-making process

(Beugelsdijk and Frijns, 2010; Chang *et al.*, 2007; Kourtidis *et al.*, 2011; Lee and Selart, 2014; Ozorio *et al.*, 2013).

CHAPTER THREE: HYPOTHESES AND MODEL DEVELOPMENT

3.1 Introduction

Using 2000 samples, Aregbeyen and Mbadiugha (2011) investigated the elements that impact upon investment choices in Nigeria. 20 factors, incorporating social, economic, psychological, cultural and demographic aspects were isolated. Social factors tended to attain the highest figures, followed by economic, psychological and cultural elements. Per an analysis of variance, the variations in the figures between the various categories were not significant and it was found that economic, social, cultural and psychological factors had a relatively equal impact on investment decisions.

Luong and Thu Ha (2011) explored the behavioural factors influencing individual investors' decisions at the Ho Chi Minh Stock Exchange, Vietnam. They found that there are six behavioural factors which influence the individual investor's investment decision, namely: (1) herding behaviour, (2) market irrationalities, (3) prospect theory, (4) overconfidence bias, (5) Gambler's fallacy and (6) anchoring bias. They also reported that market factors have a stronger influence than behavioural factors on investment decisions. Abhijeet (2008) pointed out that certain heuristic biases such as: (1) representativeness bias, (2) overconfidence bias, (3) anchoring, (4) regret aversions, (5) mental accounting and (6) cognitive

dissonance, in addition to greed and fear, influence investors' decisions by changing their perception of the underlying risk and return.

Nguyan and Schubler (2012) also found that psychological factors play an important role in the individual investor's financial decisions in the case of Germany. They considered certain factors such as demographics, educational background, work experience and income level and found that certain systematic mistakes, such as self-attribution and the endowment effect, are committed by German investors.

Seppälä (2009) conducted a study to explore the relationship between investment decisions and three heuristic biases, namely hindsight bias, overconfidence bias and self-attribution bias. He reported that investment decisions are affected by these heuristic biases but the relationship is moderated by the investment experience and personal attributes of the investors. He further reported that investment advisors are relatively less prone to hindsight bias in comparison to individual investors. Investment professionals have a lower level of overconfidence bias and therefore normally outperform individual investors, but they are prone to self-attribution bias. He concluded that certain personal attributes such as expertise and thinking style moderate the impact of biases on the investment decisions.

Instances of investors' misconceptions are broadly recognised throughout literature in this field, although such misconceptions are not invariable. The fortunes of an investor are subject to a number of factors. It is incumbent upon investors to minimise the influence of their own inaccurate observation. They can raise their own awareness potential biases and work towards greater efficacy. Many investors suffer from premature selling, inaction in the face of falling share prices, paying too much for shares as a result to undue external influences (Subash, 2012).

Baghdadabad *et al.* (2011) conducted a study on small investors' behaviour in the Kuala-Lumpur stock market by analysing 13 influencing factors. They proposed an order of the factors according to their relative importance in decision-making, such as (1) financial statements of companies, (2) accounting instruments, (3) past stock prices, (4) the firm's public information, (5) profitability, (6) consultancy, (7) financial ratios, (8) history of trading volume, (9) information from other sources, (10) discounted cash flows, (11) government policies, (12) risk and (13) other economic variables.

Bennet, *et al* (2011) studied the role of demographic factors in addition to certain external factors in shaping the attitude of investors towards the selection of stock. They found that certain demographic factors, along with five other external factors, namely: (i) ROE, (ii) quality of management, (iii) ROI, (iv) P/E Ratio and (v) other financial ratios, influence the investment decisions. They also found that certain

factors which had previously proven to be relevant, such as (i) recommendation by analysts, (ii) broker and research report, (iii) recommendations by friends, (iv) family and peers and (v) geographical factors do not affect the investment decisions.

3.2 Conceptual Framework

3.2.1 Theoretical Foundations

This chapter presents the conceptual framework which supports the current study. It firstly begins with the theoretical foundation that the study's conceptual framework is based on. The study adopted the perspective theories that are employed to justify the relationship between the variables of this study. For example, it examines the relationship of internal factors which, in this study, consist of three variables: (1) positive psychological capital, (2) religiosity factors and (3) factors on individual investor's decision-making. Secondly, it examines the relationship of the external factors, which consist of five main latent variables: (1) political factor, (2) economic factor, (3) corporate governance and social factors (4) cultural factor, and (5) ethical and environmental factors on individual investors' decision-making. This is followed by the presentation and consideration of the conceptual framework of the study.

3.2.1.1 The Impact of Internal Factors on Individual Investors' Decision-Making

3.2.1.1.1 From Internal Factors to Decision-making

From Religion to Decision-making

Ford and Richardson (1994), in their study, examined the role of religion in economic decisions. They noted that religious beliefs had a strong bearing on Sri Lankan leaders decisions. In addition, Renneboog and Spaenjers (2012) investigated the role of religion in the economic attitude and investment behaviour across religious faith in Europe, and found that religion played a significant role in investment decisions. Arruñada (2010) documented the significant role of religion in risk-taking behaviour in investment and reported that speculative risk-taking behaviours vary with specific local religious beliefs. Their findings indicate that religion induces the risk tolerance, thus calling for a negative relation between investment and religiosity.

Moreover, the researchers reported that firms located in religious countries enjoy cheaper equity capital. They contended that religion played a positive role in corporate governance, and thus enhanced the investor's confidence in the firm. This finding suggests a positive role of religion in investment decisions. However, Al-Tamimi (2006), in his study's findings, stated that there is no evidence in favour

of religion as a factor to investment decisions in the case of the UAE. This unusual result can be expected in cases of countries like the UAE where there is a great deal of religious diversity due to a high number of expatriates from different countries and different religious beliefs. Moreover, Hilary and Hui (2009) contended that religion, by affecting the risk tolerance level, impeded investment and growth. This finding suggests a negative impact of religion on investment decisions. Based on the previous argument, this study suggests the following hypothesis:

Hypothesis 1. Religiosity-related factors have a positive impact on individual investors' decision-making.

From Positive Psychological Capital to Decision-making

As will be discussed in the following section, positive psychological capital is commonly studied in organizational studies. Positive psychological capital is attributed to self-efficacy, optimism, hope and resiliency. Therefore, individual factors are considered. Puri and Robinson (2007) examined the impact of optimism on the economic choices and found that it affects savings and investment decisions. They reported that optimistic people are more likely to invest in individual stocks, whilst over-optimistic people do not make prudent financial choices. These assertions support the positive link between positive psychological capital and investors' decision-making. From a different viewpoint, Guiso et al.

(2008) investigated the relationship between trust and market participation. They found that lack of trust causes less market participation. This finding implies that trust and optimism cause more market participation. These results indicate a positive relationship between positive psychological capital and an investor's decision-making.

Goetzmann and Peles (1997) reviewed and summarized the previous research and concluded that emotional and cognitive factors play an important role in the investing decisions. This finding suggests that a positive psychological capital may positively influence investing decisions. Furthermore, Kaya (2012) contended that an investor's optimism results in more investment in risky assets. Optimism as an indicator of positive psychological capital contributes to the investor's decision-making. Also, Konana and Balasubramanian (2005) investigated the impact of psychological factors on online traders' decision-making and found that psychological capital influences online investing decision. Therefore, the study proposes the following hypothesis:

Hypothesis 2. Positive psychological capital-related factors have a positive impact on the individual investors' decision-making.

From Psychological (Cognitive and Emotional) Factors to Decision-making

Gigerenzer and Gaissmaier (2011), in their study, argued that cognitive and emotional biases play an important role in decision-making. They argued that (a) individual investors and organizations often depend on simple psychology in an adaptive way and (b) ignoring part of the information can produce more accurate judgments than weighting and adding all information. Gigerenzer and Brighton (2009) and Kogut and Kulatilaka (1994) contended that humans do not always need complex cognitive strategies for reaching unbiased decisions. In certain conditions, psychological (cognitive and emotional) are enough to make good decisions. This implies a positive link between psychological (cognitive and emotional) and financial decisions, including investment decision-making. Furthermore, Goetzmann and Peles (1997) found evidence in support of the significant role of psychological (cognitive and emotional) in investment decision-making. They concluded that past experiences drive future decisions. Nasic and Weber (2007) explored the role of risk attitude, risk perception and beliefs in investment decision-making, and found that an investor's risk-taking behaviour can be predicted by their optimism and overconfidence. Thus, this study suggests the following hypothesis:

Hypothesis 3. Cognitive and emotion-related factors have a positive impact on individual investors' decision-making.

3.2.1.2 The Impact of External Factors on Individual Investors' Decision-making

3.2.1.2.1 From External Factors to Decision-making

From Political Factors to Decision-making

Gartzke and Boehmer (2001) found evidence in support of the view that political instability adversely affects investment decision-making. In addition, Castells and Solé-Ollé (2005) reported a significant link between investing decisions and the political environment. Furthermore, Durnev (2010) argued that "political uncertainty surrounding elections can affect how corporate investment responds to stock prices. In a large panel of elections around the world, investment is 40% less sensitive to stock prices during election years compared to non-election years". Their findings indicate a positive link between political factors and investment decisions, both at corporate and individual levels. As a consequence, we propose the following hypothesis:

Hypothesis 4. Political-related factors have a positive impact on individual investors' decision-making.

From Economic Factors to Decision-making

By applying econometric techniques on historical data of developing countries, Greene and Villanueva (1991) concluded that macroeconomic factors play an important role in the investment decisions by altering the risk return profile of the investment avenues. Serven and Solimano (1992) argued that “monetary, fiscal, and exchange rate policies aimed at correcting unsustainable macroeconomic imbalances are bound to affect private investment.” Their assertions indicate a positive link between macroeconomic factors and individual investing decisions. Moreover, Panetta (2002) reported a significant relationship between investing decisions and macroeconomic conditions by studying the risk return attributes of the investment vehicle influenced by the macroeconomic conditions. Konana and Balasubramanian (2005) reported that economic factors do affect online individual investors’ decision-making. Thus, this study recommends the following hypotheses:

Hypothesis 5. Economic-related factors have a positive impact on individual investors’ decision-making.

From Corporate Governance and Social Factors to Decision-making

In a study published in 2000, La Porta and his colleagues studied the role of the regulatory environment on the development of equity markets. They suggested a

strong link between the corporate regulatory environment and equity markets, which suggests the existence of a relationship between the corporate regulatory environment and individual investors' investment decisions. Also, La Porta et al. (2000) contended that good governance improves financial reporting practices, and thus enhances investors' confidence. This connotation indicates a link between corporate governance and individual investing decisions. Furthermore, La Porta (2000) asserted that good governance improves shareholder protection, which leads to the development of a vibrant financial environment. They found that "where laws are protective of outside investors and well enforced, investors are willing to finance firms, and financial markets are both broader and more valuable." This argument favours the positive impact of good governance on the individual investors' investing decisions. Based on these arguments, the study proposes:

Hypothesis 6. Corporate governance and socially related factors have a positive impact on individual investors' decision-making.

From Cultural Factors to Decision-making

Riahi-Belkaoui (1998) found that "the level of the systematic risk of stock exchanges was influenced by various cultural dimensions. Cultural differences create different social environments for the demand and supply of securities by global stock exchanges". Their findings imply that cultural forces do not influence individual investors' investment decisions but rather the macro-level environment.

O'Barr and Conley (2000) studied the cultural impact on investment decisions and concluded that examined influence is pervasive in investing decisions. In addition, Sevdalis and Harvey (2007) contended that the cultural profile of investors affects the investment decisions. Therefore, this study suggests the following hypothesis:

Hypothesis 7. Culture related factors have a positive impact on individual investors' decision-making.

From Ethical and Environmental Factors to Decision-making

While corporate social responsibility (CSR) is understood to be generally linked to firm value, there is limited prior research exploring the ways in which CSR information affects financial market decisions (Cohen, et al., 2015). Sparkes (2001), in a study entitled "Ethical investment: whose ethics, which investment? Business Ethics", proposed that socially responsible investing is the determining factor behind investors' decision-making. They pointed out that investors investing in socially responsible companies tend to outperform those who fail to do so.

El Ghoul *et al.* (2011) explored how American companies' equity process were affected by CSR performance. They verified businesses with high CSR ratings tended to have reduced equity process, particularly in the case of businesses with strong employee relations and environmental approaches. Greater equity was found to exist in the nuclear and tobacco industries. Sharfman and Fernando (2008)

discovered that by strengthening environmental risk management the price of capital tends to reduce. High levels of environmental performance tends to demonstrate reduced risks despite reduced premiums. Dhaliwal et al. (2011) point out that reductions in equity capital prices can be achieved by having CSR reports published. Based on the previous argument, this study suggests the following hypothesis:

Hypothesis 8. Ethical and environment related factors have a positive impact on the individual investors' decision-making.

Overall, this conceptual framework will be employed to enable an analysis of the relationships between the constructs which are based on the perspective theories. According to these conceptualized relationships, the study investigates eight proposed hypotheses. These relationships are conceptualized in Figure 3.

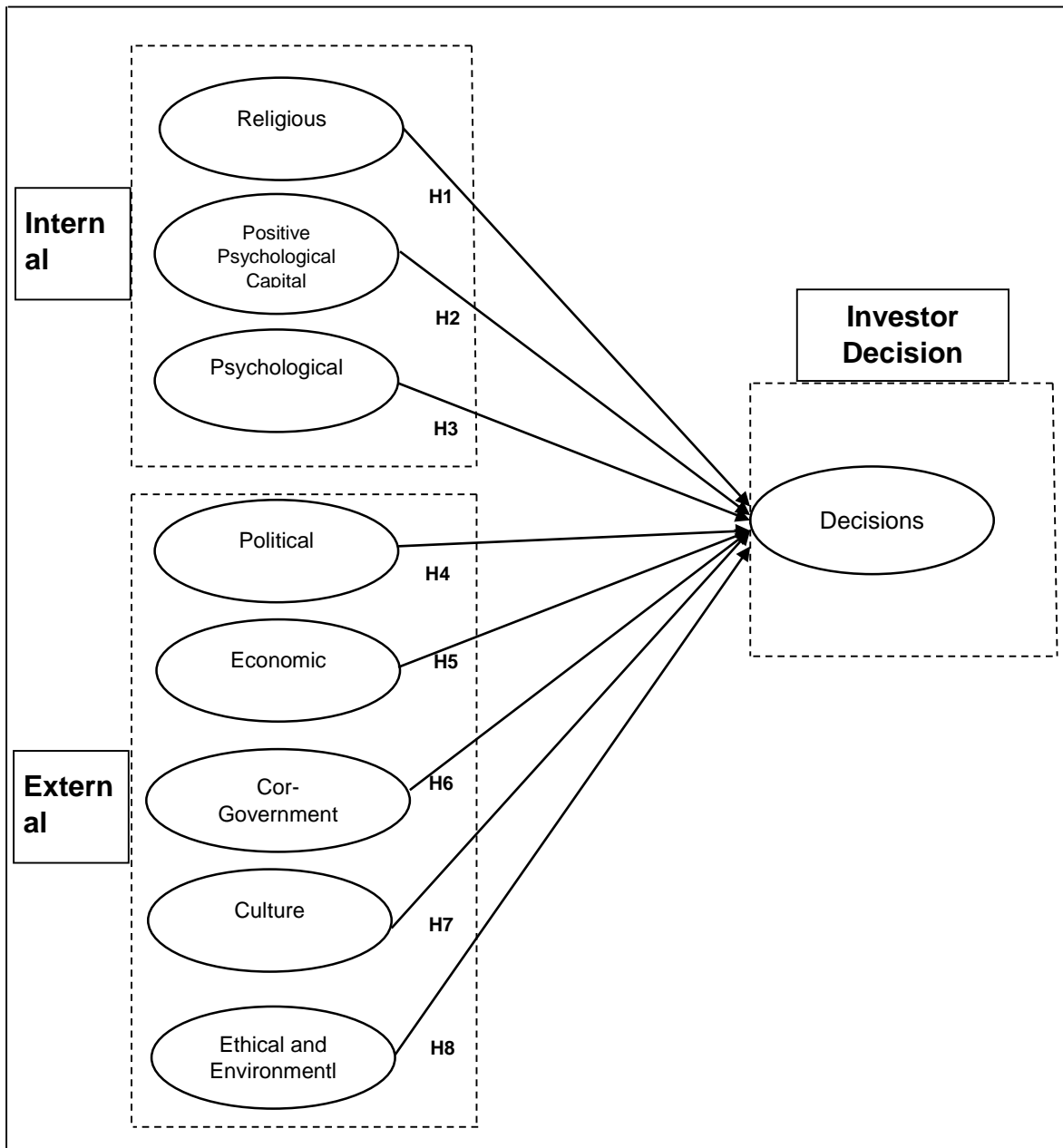


Figure 3.1: The Research’s Proposed Conceptual Framework

The previous conceptualized model is employed to test the relationships between constructs in the Sultanate of Oman and Saudi Arabia. Therefore, this study

provides a comparative study between the two countries employed for this study, which are the Kingdom of Saudi Arabia and the Sultanate of Oman. To compare between these two countries' respondents (The Kingdom of Saudi Arabia and the Sultanate of Oman), t-test analysis was employed (see Section 5.5.6 and Table 5.63). Therefore, for further analysis, the study proposes the following hypothesis:

Hypothesis 9. There are no differences regarding the factors affecting individual investors' decision-making between the Kingdom of Saudi Arabia and the Sultanate of Oman.

3.3 Statistical Expression of the Model

The relationship among the factors affecting the decision-making of individual investors can be expressed as the following generic model. The model indicates that decision-making is a function of various factors, which we divide into external and internal factors:

$$Y=f(X_1, X_2, X_3, X_4, \dots X_N)$$

Further economic relationships among the considered variables can be specified as the following statistical model:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \dots + \beta_nX_n + \varepsilon$$

More specifically the model can be specified as:

$$DEC = \beta_0 + \beta_{PCF}PCF + \beta_{REL}REL + \beta_{PSY}PSY + \beta_{POL}POL + \beta_{ECO}ECO + \beta_{GOV}GOV + \beta_{CUL}CUL + \beta_{ETH}ETH + \varepsilon$$

where:

DEC is for decision-making, which is our dependent variable and independent variable, PCF is for positive psychological factors, REL is for religious factors, PSY is for psychological factors (including emotional and cognitive factors), POL is for political factors, ECO is for economic factors, GOV is for corporate governance and social factors, CUL is for cultural factors, ETH is ethical and environmental responsibility. β_0 is the constant, β_n are slope coefficients and ε is the error term.

3.4 Summary

To summarize, this chapter has introduced the conceptual framework of the research, which brought together and discussed in detail the main concepts. A conceptual framework has been developed based on the aforementioned literature review and perspective theories which are employed to justify the relationship between the variables of this study. For example, it examines the relationship of internal factors which, in this study, consist of three main variables, namely: (1) positive psychological capital, (2) religiosity factors, and (3) psychological (cognitive and emotional) factors on individual investors' decision-making, and

external factors which consist of five main latent variables, which are: (1) political factor, (2) economic factor, (3) corporate governance and social factor (4) cultural factor, and (5) ethical and environmental factors on individual investors' decision-making, and it also explores the direct relationship between the individual investors' decision-making underpinning this examination.

The next chapter discusses the methodology of the study which is used in this research and the reasons behind its adoption. Furthermore, the tools and techniques employed to implement the research are also illuminated.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

According to Hussey and Hussey (1997), research methodology is the whole approach to research practice. It is a set of well-organized activities that will lead to solid results at its completion (Mingers, 2001). Kothari (2004) also illustrated that research methodology is more than just research methods, as it goes further than this. It extends to achieving the intention behind using a certain technique rather than having the choice of research methodology as an end-all; it aims to have a valid and capable research outcome.

In the next section the research philosophy is developed. Section Two then discusses the research approach, followed by the study in Section Three. Section Four outlines the research design. Section Five presents the research strategy, while Section Six discusses the data collection technique used in this study. Section Seven then deals with a pre-testing questionnaire, sample size and data analysis.

4.2 The Research Philosophy

Johnson and Clark (2006) suggested that any research study should mirror the choice of research philosophy, as the research philosophy will refute the research

actions and help to understand the issues under study in its proper context. It is an established fact that the research philosophy influences the outcome of the study. Therefore, it is important to establish which type of philosophy suits the issue under investigation (Hassard, 1988; Smith and Dainty, 1991; Guba and Lincoln, 1994). Positivism and Post-positivism are the two main philosophies used in the field of behavioural science and the social sciences (Easterby-Smith et al., 2008). Each of these two methodological philosophies will determine how research is conducted (Sekaran, 2006; Brotherton, 2008). Therefore, the following part of this section will highlight positivism and post-positivism methodology.

The research philosophy of this study is positivism. The philosophy of positivism is a scientific method that is commonly applied to social studies such as human behaviour (Saunders et al., 2009). The advocates of positivism like Comte (1853) argue that this philosophy is concerned with a single reality, as it proposes that the social world exists outside which should be measured all its effects in an objective way. Remeny and Williams (1998) contended that the outcome of such philosophy research can be law-like generalizations analogous to the laws of the physical and natural sciences. This is because the social topics under investigation proceed mostly on the same path as the natural sciences (Smith et al., 2005; Huberman and Miles, 2002). In fact, the researcher begins with a theory in this type of philosophy, then uses a scientific method to analyse the collected data in order to test the assumptions of the related theory (Howell, 2013). Likewise, Neuman (2006) argued that positivist social science is a structured technique mingling logic

with clear-cut observations of a person's aims to build a concrete set of probabilistic causal laws, which could be used to forecast the future trend of a person's action.

This research's ontological position was critical realism, which suggests that the human variable retards a complete comprehension of reality (Guba and Lincoln, 1994; Howell, 2013). The study proposes a conceptual framework of factors affecting individual investor's decision-making in the GCC Markets. This reality is seen to be external to the researcher and thus can be observed and objectively measured. However, it is also believed that this fact cannot be totally understood in a positive way, as the study recognizes the effect of the investors' perceptions, attitudes and views toward internal and external factors that affect their decision-making.

Such an effect comes from the use of Likert scales, which are based on investors' perceptions and beliefs, hence justifying the critical realism ontology. As for the epistemological position, the belief is that the researcher and what is researched are not totally separate, as the former had already developed a pre-existing knowledge from the review of literature; however, the objectivity of the investigation can still be pursued with the quantitative measurement of the study's variables. The findings of this research are applicable, but can still be fallible as a result of a different context.

4.2.5 Research Approach

There are two commonly used research approaches in social sciences research: the deduction approach and the induction approach. In accordance with the research objectives and the methods used, this study falls into the deductive research. The hypotheses are developed in light of the existing behavioural finance theories and tested with quantitative data collected through survey. The extant literature suggests that when the researcher is interested in exploring some social issues covered by existing theories and formulates the hypothesis in accordance with the relevant theory, the research approach is called *deductive method* (Bryman, 2008).

In fact, the deduction approach goes through the stages of theory, hypothesis, data collection, findings and then either confirms or rejects the hypothesis (Lancaster, 2005; Bryman and Bell, 2007; Crowther and Lancaster, 2008). Moreover, Saunders et al. (2009) suggested that positivism is the potentially important philosophical justification behind the deduction approach.

Table 4.1 Summary of the Main Differences between the Two Approaches.

The Comparison Items	Deduction Approach	Induction Approach
Research aims	Seeking to gain scientific facts.	Seeking to gain meaning of human actions.
Research process	Start with a theory then set a hypothesis, collecting data, and get the findings to confirm or reject the hypotheses in order to confirm or revise the theory.	Start with collecting data via a series of interviews/observations then analyse the data to get to classify the nature of the problem to set a theory.
Methods choices	Quantitative method	Qualitative method
Relationship between researcher and subject	Researcher is objective to what is being researched.	Researcher is subjective to what is being researched.
Generalization	More concerned with generalization	Less concerned with generalization

Source: Saunders et al. (2012).

The choice of a suitable research technique and strategy is influenced by the type of research approach used (Limpanitgul, 2009; Williams, 2007). Moreover, as mentioned earlier, the inductive approach seeks to answer the question of why something occurs, whilst the deductive approach seeks to answer the question of what is happening (Saunders et al. 2009). In social sciences, it is agreed that the deductive approach is by far the most popular way to develop the theoretical knowledge base (Eriksson and Kovalainen, 2008). Hence, this study adopts the deductive approach to investigate what the effects of the internal and external factors are upon individual investors' decisions.

4.3 Research Method

The methodology is a combination of methods and techniques used to answer the question (Howell, 2013). According to Marshall (1996), the choice of method in a study should be determined by the research question being investigated in the study. Howell (2013) concludes that to answer this research question, the researcher has to identify the methodology used. In fact, both quantitative and qualitative methods are commonly used in business studies (Howell, 2013). In most of the behavioural finance studies qualitative attributes of the subjects are converted into the measurable quantities by using indexes and ordinal scales. The data collected through the questionnaire surveys are analysed using the statistical approaches commonly used for quantitative researches (see, for example, Cuong and Jian, 2014; Abdallah and Hilu, 2015). Very often qualitative and quantitative methods are confused with each other. In order to identify the suitable method that the researcher should follow, both techniques are illustrated below.

Stuhlmiller (2001) suggested that when there is lack of theoretical support to clarify a particular social phenomenon and there is no literary guidance about the relationship among the variables under consideration, the qualitative research method is then the useful approach to explore the issue in detail. This method, according to Miles and Huberman (1994) and other researchers, helps researchers to realize a person's motivations behind their behaviour. It is suited to social

sciences research (Thomas, 2003). However, Johnson and Onwuegbuzie (2004), amongst others, have also argued that the method has some obstacles, as the researcher is not independent; accordingly, their outcome will be filled with their personal preferences. They conclude that the knowledge generated by using this method is too subjective, may not be generalized, and may lack accurate knowledge. Leech et al. (2010) asserted that qualitative research is philosophically inductive due to the fact that the data collected is dependent on the investigator's background and experience and then transformed to draw conclusions about the observed phenomenon.

According to researchers such as Guba and Lincoln (1994), Bryman and Bell (2007) and Zikmund *et al.* (2013), the quantitative method, which is commonly used under the deductive approach, involves testing a theory by highlighting the variables based on the theory and examining the causal relationships between constructs. In fact, positivism is concerned with the quantitative method, in contrast to post-positivism (Gale and Beefink, 2005). Gray (2004) opines that this method has some weakness. For instance, as this type of research is used to test theories/hypotheses, the researcher might have insufficient data to determine the focal roots of the phenomenon. He argued that the knowledge generated from this method would generally be too abstract and broad for direct application. Gray (2004) added in his criticism of this quantitative method that it provides numerical descriptions and is less involved in accounts of personal perception. By contrast, Johnson and Onwuegbuzie (2004) point out that quantitative research has many

advantages over qualitative research. For example, using quantitative research would help us to generalize our conclusions from a satisfactory sample size which represents the population under study. They add that this method would achieve better objectivity and more accurate results as it includes several tools to check the validity and reliability of the data. Individual biases would be avoided by making use of subjects who are unfamiliar to them.

For example, Gilan and Abbasi (2015) in their study "Analysis of the structural model behaviour of financial investors in capital markets using structural equation modelling (SEM)" employed SPSS and PLS-SEM. In their study they used descriptive survey research to examine the relationships between variables. Furthermore, Kengatharan and Kengatharan (2014), whose work is based on Waweru et al. (2008), begin by reviewing existing theories in behavioural finance, after which they propose their research hypotheses. Questionnaires issued to Colombo Stock Exchange investors then serve to test these hypotheses, and SPSS software is employed to evaluate the accumulated information.

Thus, the methodology used in this research has to be congruent with the objectives of research. Hence, based on the question and the objectives of this research (see Chapter One), this thesis adopts the quantitative method to investigate the effect of the internal factors (positive psychological capital, religiosity and psychological (cognitive and emotional) factors) factors and external factors (political, economic, corporate governance and environment, culture and

ethical and social factors) which influences individual investor decision-making in the market securities of Oman and Saudi Arabia.

4.4 Research Design

This section highlights the current research design considered in this study. The ethical issues are appropriately addressed in the research design as well as in the pilot study. Initially, the study explores behavioural finance theories from which hypotheses can be drawn. Next, the hypotheses are vindicated by means of the cumulative questionnaire information from investors in Saudi Arabia and the Sultanate of Oman.

Denscombe (2008) suggests that good research is not based on any single rules; rather, it is for the researcher to make strategic decisions about the research options and strategies to follow. There are no universal criteria that single out one research strategy as being preferable to another. The only criteria to selecting a particular research strategy are the effectiveness of the selected strategy and sufficiency to answer the research question. According to Yin (2003), any chosen strategy can be used for an explanatory, descriptive and exploratory research purpose. The type of strategy to be used is determined by the type of methods that tend to be used by the researcher (Creswell, 2009).

Keeping in view the research questions and research objectives, the most appropriate research strategy for this thesis is the survey, for three basic reasons. Firstly, this thesis, considered within the context of positivism, used a deduction approach and the method used in this research is the quantitative method; therefore a survey is part of that paradigm and it is the most common strategy to be used for such behavioural research (Saunders et al., 2009). Secondly, this thesis is an explanatory research and, as Gray (2004) suggested, a survey is an appropriate strategy employed for explanatory researches. Thirdly, using the survey strategy will help the researcher to explain the relationship among the study's variables. Moreover, having random samples of a population used to generalize the findings makes the survey the most fitting approach.

Most of the existing studies in the field of behavioural finance used questionnaire surveys to collect data about the individual investor's reaction/behaviour and associated factors (Nagy and Obenberger, 1994; Subrahmanyam, 2008; Ray, 2009; Sadeghnia, 2013; Sindhu and Kumar, 2013). Some studies have used secondary data to find out the market anomalies normally not explained by the conventional finance theories (e.g., Shapira and Venezia, 2001; Coval and Shumway, 2005; Locke and Mann, 2001). Very few studies have applied experimental design or observation in behavioural finance to observe the response of subjects towards a particular scenario (Hommes et al., 2005; Heemeijer, 2009; Bloomfield, 2010).

4.6.1 The Questionnaire

The research philosophy under study uses a deduction approach and a quantitative method, and the purpose of this study is an explanatory study which uses a survey research to test the research hypotheses in order to explain the causal relationships proposed between the variables.

To obtain data from the individual investors in the Sultanate of Oman and the Kingdom of Saudi Arabia, the researcher has developed a questionnaire. The questions in the questionnaire were divided into two broader categories: questions related to the demographic features of the respondents, and questions related to the internal and external factors affecting their investment decisions. Normally, the structure of the questions can be divided into close-ended and open-ended questions (De Vaus, 2002). The close-ended questionnaire is also called a *multiple-choice questionnaire* or *forced choice questionnaires* (Hague, 2002). In this type of questionnaire, the respondents will choose the answer from the predefined answers. According to Hague (2002), this kind of questionnaire's structure is suitable for quantitative research. In contrast, open-ended questions will give the respondents space to contribute their own way to answer the questions (Fink, 2003). According to Hague (2002), this sort of questionnaire is appropriate to qualitative researchers, as its structure can supply the researcher with important information that is not likely to be gotten via closed-end questions (Dillman, 2011). However, open questions can be tremendously time-consuming,

as they make it necessary to code the responses (Saunders et al. 2007). It is worth noting that the validity and reliability of the data collected from the questionnaire survey will be influenced by the background of the participants, and the sort of questionnaire used (Snowball, 2007).

In addition to the above justification for the use of questionnaire surveys, the data collection using a questionnaire technique has many other advantages over other data collection techniques. Questionnaire survey is cost effective and time saving compared to other data collection techniques. The extant literature suggests that questionnaire-based studies give enough time to the respondents to give their unbiased and stress-free answers (Gray, 2004). In addition to this, the current research is an explanatory research and, as has been concluded by Lancaster (2005), the questionnaire used is not fit to be used for an exploratory research, but it is the right technique for a descriptive and explanatory study. Next, we are going to illustrate the different types of questionnaire surveys, the questionnaire layout, the translation of the questionnaire, the constructs measurement, the sampling size used in this research, the ethical issues which have been considered in this study and we will end with a short summary.

4.7 The Questionnaire Surveys

The researcher collected data through self-administered questionnaire surveys. There were numerous options to conduct a survey – by Internet and intranet-

mediated questionnaire, by postal questionnaire or by delivery and collection questionnaire. The researcher selected a delivery and collection method and, for this purpose, individual investors were contacted at their workplace. The questionnaires were personally distributed to the investors, who were asked to fill and return the questionnaire by hand. The individual investors were contacted on the brokerage houses where they come for trading.

Thomas (2003) argued that the respondent rate to e-surveys is very low, as people are busy, do not believe that privacy will be maintained by such websites, and lack the ability to differentiate between a commercial survey and the researcher's one. However, the respondent rate will be enhanced via face-to-face communication in hand-delivered questionnaires (Babbie, 2010). Therefore, this study uses self-administered questionnaires whereby the survey is hand-delivered and collected later from the individual investor in the security market.

4.7.1 The Questionnaire Layout

According to Sheehan (2001), it is very important to know how to present the questionnaire in such way as to enhance the rate of respondents. The rate of respondents will decrease if the questionnaire is either too long or too short (Edwards *et al.*, 2002). The length of the questionnaire has been subject to debate among the scholars, but research has proven that three to four page

questionnaires have higher response rates than lengthy or shorter questionnaires (Adams and Gale, 1982).

The rate of respondents will also be influenced by a covering letter that should be attached to the questionnaire to clarify the aim of the survey (Dillman, 2011). Considering the previous information, the current questionnaire is a close-ended questionnaire of seven A4 pages, with a covering letter attached (see Appendix B). The covering letter asks respondents to identify clearly the aims and objectives of the research and how their answers to the survey will help obtain these aims and objectives. It also reassures them that their answers and information will be used for an academic purpose only and will be treated with a highly universal and ethical standard. The questionnaire is divided into five parts; each part tackles a different phase of the variables.

In the first part, the questions were focused on the internal factors that affect the individual investor's decisions and, consequently, their performance in the security markets. It mainly asks the individual investor the extent to which the positive psychological capital factors, religiosity factors, and the psychological (cognitive and emotional) factors affect their decisions. In the second part, the questions were concentrated on the external factors that affect their decisions. These external factors are the political factors, economic, corporate governance and social, cultural, ethical and environmental factors.

The third part was related to the individual investors' decisions, which means how the investors estimate their decisions in the stock markets. Finally, the last part of the questionnaire was concerned with the demographic information, such as gender, age, marital status, educational levels, and experience in the stock markets, the income and their type of occupation.

4.7.2 The Research Measures

To ensure that the respondents understand the questions asked in the questionnaire it was translated into Arabic for the natives, and for international investors it was in English. In addition, it was a self-administered survey and questionnaires were distributed to the respondents personally. The researcher was present to answer any questions respondents failed to understand. Further, the respondents were investors who were knowledgeable about the jargon and phrases used in the questionnaire.

This section provides an outline of the independent variables of the study as well as the dependent variable. In this section, we are also going to show the measures of these variables, which have been drawn from extant studies. In this study, the five Likert Scale is used, as it is the most common, sensible and straightforward scale to gather data using the questionnaire method (Viswanathan *et al.*, 2004). This same scale is also used by the related literature, and is measured from *strongly disagree* to *strongly agree* (John and Srivastava 1999).

The dependent variables under study relate to the individual investor decision-making, whilst the independent variables refer to the internal factors, such as positive psychological capital factors, religiosity factors, psychological (cognitive and emotions) factors, and refer to external factors such as political factors, economic factors, corporate governance and social factors, cultural factors, ethical and environmental factors. These variables are represented by modified items from different sources (see Table 4.2; for more details see Section 4.9.1.2).

Table 4.2: Operationalisation of the Items Used in This Study

Part 1: Internal Factors	
1. Positive Psychological Capital Factors:	
Item	Source
In uncertain times, I usually expect the best.	Scheier et al. (1994).
I always look on the bright side of things.	Scheier et al. (1994).
Overall, I expect more good things to happen to me than bad.	Scheier et al. (1994).
I have confidence in my ability to solve my investment problems in a creative way.	Newman et al. (2014).
I am good at further developing the ideas of others.	Newman et al. (2014).
I have the ability to listen carefully to concerns and solve problems creatively.	Culbertson et al. (2010).
I have the ability to make a plan for my goals for the next five years.	Gupta and Singh (2014).
I feel confident analysing a long-term problem to find a solution.	Culbertson et al. (2010).
I feel confident at helping to set targets/goals in my area of work.	Luthans et al. (2010).
I can think of many ways to get out of any problem.	Culbertson et al. (2010).
I usually meet the goals that I set for myself.	Scheier et al. (1994).
My past experiences have prepared me well for my future.	
I usually manage difficulties one way or another at work.	Luthans et al. (2010).

I am determined to overcome difficulties that I encounter in my investment.	
When I have a setback in my job search, I usually do not have trouble recovering from it.	
2. Religiosity Factor:	
The Dua'aa (supplication) supports me.	Eid and EL-Gohary (2015).
Islam helps me to have a better life.	
The Prophet Muhammad (peace-be-upon-him) is the role model for me.	
I believe that Allah (God) helps me.	
I perform the obligation of Zakat.	Canepa and Ibnrubbian (2014).
I prefer to invest in Shariah-Compliant companies.	
I seek to make my investment based on Islamic jurisprudence.	
I give great importance to invest in companies that rely on the Islamic banking system.	
3. Psychological (Cognitive and Emotions) Factor:	
I rely on my investment decision on the past returns of the stock, as an indicator of future returns.	Chen <i>et al.</i> (2007).
Good stocks are firms with past consistent earnings growth.	Bhandari <i>et al.</i> (2008).
I buy hot stocks and avoid stocks that perform poorly.	
I tend to invest in the stocks of companies that have a local or regional business presence more than those that do not.	Huberman (2001).
I believe that I am less likely than many others to suffer from bad events.	Chen <i>et al.</i> (2007).
I use predictive skills to set my investment decision-making.	Barber and Odean (2001a).
I feel more confident in my own investment opinions over the opinions of my colleagues or friends.	
I believe that my skills and knowledge about the stock market can help me to outperform the market.	Chen <i>et al.</i> (2007).
After a prior loss, I become more risk averse.	Lingesiya and Kengatharan (2014).
I prefer to invest in low risk/return stocks with a steady performance.	Pennings AND Smidts (2000).
I feel nervous when large paper losses (price drops) occur in my invested stocks.	Senthil (2015).

I would increase the sum of my stock market holdings if in the last month the aggregate trading volume in the stock market was higher than usual.	Hon-Snir et al. (2012).
Other investors' decisions of choosing stock types have an impact on my investment decisions.	Lingesiya and Kengatharan (2014).
I react quickly to the changes of other investors' decisions and follow their reactions to the stock market.	Lingesiya and Kengatharan (2014).
I use the purchase price of stock as a reference point in stock trading.	Lingesiya and Kengatharan (2014).
I am unlikely to buy a stock if it was more expensive than last year.	Senthil (2015).
I am able to anticipate good or poor market returns in stock markets.	Shlomit et al. (2012).
I would expect the value of the index to decrease in the next month if in each of the last six months the price of the shares index value increased.	Shlomit et al. (2012).
I tend to treat each element of my investment portfolio separately.	Seiler et al. (2012).
I avoid selling shares that have decreased in value and readily sell shares that have increased in value.	Muermann <i>et al.</i> (2006).
Part 2: External Factors	
1. Political Factors:	
The internal political events (e.g. Arab Spring) affect my investment decisions.	Yahyazadehfar <i>et al.</i> (2011).
I play close attention to the political news.	
I play close attention to the government's suggestions.	
2. Economic Factors:	
Interest rates influence my investment decision in the stock market.	Yahyazadehfar <i>et al.</i> (2011).
Inflation rate influences my investment decision in the stock market.	
My investment decisions in the stock market are influenced by the investment substitution.	
The share price affordability by the firm influences my investment decisions in the stock market.	Yahyazadehfar <i>et al.</i> (2011).
I consider the published corporate financial statements in my investment decisions.	Al-Ajmi (2009).
To set up my investment decision I use financial models for investment.	Qureshi et al. (2012).
I utilize technical analysis while making investment decision.	Qureshi et al. (2012).

Increase/decrease in the company's profits have affected my investment decisions.	Al-Ajmi (2009).
The distribution of stock dividends influences my investment decisions.	
The expectation of higher stock price influences my investment decisions.	
The expected performance of the company plays an important role in my investment decisions.	
3. Corporate Governance and Social Factors:	
I consider the recommendations by a reputable and trusted brokerage house in my investment decisions.	Al-Ajmi (2009).
My investment decisions are affected by friends/co-workers' recommendations.	
My investment decisions are affected by individual stock brokers' advice.	
Rumours from the market affect my investment decisions.	
I consider the company's shareholders profile for investment.	Chang and Wei (2011).
I take the governance strengths of companies into account when making investment decisions.	
The firm's affiliation with a business group affected my investment decisions.	Bae et al. (2010).
The size of a firm's shareholder's ownership influences my investment decisions.	
I expect a firm that pays a dividend to be better governed than one that is non-dividend paying, thus such indicators of dividend-paying firms influence my investment decisions.	
4. Cultural Factors:	
I respect the culture values in share investment.	Omo and Stanley (2011).
I tend to perceive industrial and technological risks as opportunities rather than threats to those companies I invest in.	Elke et al. (2000).
I prefer to invest in companies that have a high degree of integrity.	Abu Saleh (2006).
I prefer to invest in companies whose CEO is of a similar cultural origin.	Grinblatt and Keloharju (2001).
I have limited market knowledge about the product/service I buy/sell from those companies I invest-in.	
5. Ethical AND Environmental Factors:	
I consider corporate social investment while making investment decisions.	Lewis and Mackenzie (2000).

I prefer to invest in those companies that engage in corporate social investments.	
I prefer to invest in those companies that care about others' interests and wellbeing.	
I prefer to invest in those companies that comply with state law and professional codes.	
I prefer to invest in those companies that comply with internal rules and procedures.	
I prefer to invest in those companies that comply with individual principles and beliefs.	
I consider the company's environmental impact of product and services in my investment decision.	Newell and Lee (2012).
The environmental record (awards/penalties) of the company affects my investment decision.	
Environmental reporting influences my investment decision.	
Part 3: Decision-making	
My investments in stocks have a high degree of safety.	Pasewark and Riley (2010).
My investment has the ability to meet interest payments.	
My investment has a lower risk compared to the market generally.	
My investment in stocks has demonstrated increased revenue growth in the few past years.	
My investment in stocks has demonstrated increased cash flow growth in the past few years.	

4.8 Ethical Considerations

According to Zikmund *et al.* (2013), considering the ethical subject in research becomes especially important when the intention of the research is to study human behaviour. In fact, ethical concerns appear during all the stages and issues of the research, like privacy, confidentiality, consent, frankness and integrity (Veal, 1997), and the needs of a middle ground between the researcher's rights, the participant's rights and the university assessment requirements is noteworthy, as

an embarrassment or even stress to any of them will affect the method used in the study and sequentially the analyses and findings part of the research (Fouka and Mantzourou, 2011). Therefore, researchers, such as Marshall and Rossman (2014) and Cooper and Schindler (2008), argue that the researcher should set up a roadmap to carry out the investigation with the consideration of the ethical issues in order to avoid any source of harm.

From these points of view, the University of Plymouth set ethical guiding principles (Plymouth's ethical protocol), which have to be agreed to by the researcher before he/she may conduct the investigation. Thus, the researcher must seek the University of Plymouth's ethical approval of research from the faculty of research ethical approval committee first. Hence the researcher, having been granted that ethical approval (see Appendix A), ensured that the research matched with the university's ethical requirements.

Here are some of the clauses the researcher considered in this quantitative research. First, with regard to the informed consent clause, and to ensure a voluntary participation, the participants got a letter explaining the purpose of the study as well as a face-to-face meeting explaining the risks and benefits related to the research. The pre-notification letter also gives to the participants the opportunity to exercise their right to take part or not in the research study. Although the pre-notification letter attempts to encourage the participants to take part in the survey by offering a copy of the final results once the study is finished, the

researcher still clearly asked the potential participants whether they wish to participate in the survey or not.

Secondly, with respect to the openness and honesty clause, the policy in all aspects of research regarding: the presentation of research aims and objectives; findings of research; reporting research methods and procedures; data collection method; the analysis and interpretation of data; using and acknowledging the work of other researchers; presenting the work to other researchers and to the general public; conveying valid interpretations; making justifiable claims based on research findings and in making research findings widely available, was followed rigorously, in line with prevailing disciplinary norms and standards: in performing research and using appropriate methods in drawing interpretations and conclusions from the research; and in communicating the results. The researcher was mindful and respectful of all the participants in, and subjects of, the research, including humans, the environment and socio-cultural objects. The researcher complied with the ethical norms for research, e.g. the requirements for honesty and impartiality. The researcher also worked on the basis of fundamental respect for human dignity and respected the integrity, freedom and right of co-determination of the research subject. In addition, once the results are published, the researcher will make the relevant materials available upon request. With respect to the participants, they will be given the opportunity to ask any questions regarding the research process. These questions will be considered and answered by the researcher.

Thirdly, with respect to the right to withdraw, the researcher informed the participants (verbally and via the covering letter) that they have the right to withdraw from the investigation until September 2014 (the start date of the analysis). If the participant withdraws from the survey by this date, the data related to this participant will be destroyed immediately in accordance with best practice.

Fourthly, in accordance with the clause of protection from harm, the researcher endeavours to protect participants from physical and psychological harm at all times during the investigation. To ensure the respondents' safety, the researcher refrains to apply any sort of pressure. In addition, their confidentiality and anonymity was carefully protected. The researcher made sure to avoid any kind of embarrassment, discomfort or harm that could have been caused during the collection of the data or the reporting phase. The place for interview with the participants was selected upon the agreement of both the interviewer and interviewee. Priority has been given to places inside security markets of the GCC (each security market in the GCC having a place for public meetings which are available on request). The researcher was willing and ready to stop research where the participants were at risk or of significant harm. With respect to the fifth clause, debriefing, the researcher will provide clear and detailed information regarding the research. This will be done via the covering letter. All the information regarding the survey will be made explicit and no information will be hidden. During and after the completion of the survey, the researcher is ready to answer any questions from the concerned person.

Finally, to respect confidentiality and protect privacy, the researcher provided full anonymity for the participants and confidentiality for the supplied information. The researcher removed all identifying information about the participants from research records and reports. It is worth noting that despite the research method having unambiguous ethical concerns, the variety of these ethical concerns seems to be more prevalent in qualitative research than in quantitative research.

4.9 Pilot Study

A questionnaire, in business research, is a common tool used to collect data. Accordingly, before using a questionnaire or survey for data collection, it must be piloted. The main aim of questionnaire piloting is to refine the questionnaire. This is so that the respondents will have no difficulties answering it. Also, it can help the researcher to achieve an assessment of the validity of questions and the probable reliability of the data that will be gathered. Hence, the initial analysis, using the pilot test data, can be carried out to be sure that the data that is eventually collected will allow the research questions to be correctly answered. Thus, this chapter discusses the testing of the questionnaire's pretesting (content and face validity), translation validity, construct validity and reliability.

4.9.1 Pretesting Questionnaire

The questionnaire, in this study, has five sections, dealing with the impact of the internal and external behaviour of finance factors on the individual investors. In this questionnaire, there were 134 indicators, 126 of which related to research latent variables, and the 7 remaining questions were related to demographic information. All of the items used in the questionnaire were progressively and carefully developed through pre-testing before administering the questionnaire to the target participants. Throughout the pretesting questionnaire, the final items were theoretically reviewed once more in order to improve their content validity. As will be discussed in the following sections, some changes have been made regarding the language, the length of the questions and order of the questions, and some of these items were removed.

4.9.1.1 Content Validity

According to Bryman and Bell (2007), questionnaire validity refers to the extent to which the measuring construct accurately measures what it is assumed to measure. From this point, content validity can be defined as the extent to which the measurement questions/items in a questionnaire provide sufficient coverage of the research questions (Saunders et al., 2009). As cited in Abou-Shouk (2012), content validity can be reached in several ways; for example, the topic of the study

should be defined carefully, and the questionnaire should be evaluated by a panel of individuals to determine whether it measures what it should measure.

As mentioned before, the point of this research is to look at the impact of the internal and external behaviour finance factors on the individual investors. An extensive review of literature was conducted and showed that these factors clarified the following: first, the relationship of internal factors which, in this study, consists of three main variables: (1) positive psychological capital, (2) religiosity, and (3) psychological (cognitive and emotional) on individual investor's decision-making. Second, the relationship of factors, which consists of main five main latent variables: (1) political factor, (2) economic, (3) corporate governance and social (4) culture, and (5) ethical and environmental factor on individual investors' decision-making.

Initially, to establish content validity, the questionnaire was given to 20 doctorate students specializing in business to see how well they could understand the questionnaire questions/items and asked them to express their views on whether the 134 indicators were representative of the research's latent variables. Most of the participants' feedback was related to the order of the questions on the questionnaire form, which resulted in the design of a new form. In the final draft of the questionnaire, the presentation and layout were enhanced and improved and some minor changes were applied. Furthermore, the participants reported that the

questionnaire's statements were clear, easy to understand, came in a logical order, and that the items represented the research constructs.

To guarantee sufficient validity, it was decided to translate the form before proceeding to pilot it on participants. Harkness (2003) stated that the most key reason for translating questionnaires is to provide an instrument that is not accessible in the language required in the field. Thus, in this study, it was essential to translate the questionnaire, because it targeted the Sultanate of Oman and the Kingdom of Saudi Arabia participants. Hence, the study developed a questionnaire in Arabic to provide clarity to the participants.

4.9.1.1.1 Questionnaire translation

It is important for the researcher in international research that the translated questionnaire's questions/items have the same meaning as the original questionnaire. In this study the back-translation technique was used. In this technique, back translation refers to the procedure according to which a translator understands, interprets and translates a document previously translated into another language back to the source language.

Translating any document from one language to another is indeed difficult, as it needs to be done very carefully because the interpretation of one word is different from country to country. In addition to this, there are many words that could have

the same meaning. A weak translator would lead the respondents to a poor understanding of the issue and, therefore, the results may not be reliable or accurate. From this perspective, many researchers have been exposed to how a good translation of any document should be conducted. Among these researchers was Usunier (1998), who argues that the translation should be a direct translation, back translation, parallel translation or a mixed translation. Usunier (1998) proposed that in direct translation, the original questionnaire would be translated directly to the target questionnaire, and that would be all, while in back translation, the original questionnaire would be translated to the target questionnaire and vice-versa, after which both newly sourced questionnaires would be compared to the original questionnaire and the needful steps to create the final questionnaire would be taken. In contrast to the previous translation technique, both parallel and mixed translation techniques use two or more translators to conduct such a process. Thus, in the parallel translation, the original questionnaire will be translated by two translators or more to the target questionnaire. These target questionnaires then should then be compared to develop the final questionnaire, while in the mixed translation, we use the back translation techniques by two translators or more, after which a comparison of their new original questionnaire will be used to get the final version (Usunier, 1998).

In this respect, Brislin (1986) argued that the most common technique used to guarantee reliability and accuracy of the questionnaire translation in cross-cultural study is back translation. Hence, in this research the back translation technique

was used. The original questionnaire (English version) was translated to the target questionnaire (Arabic version). Then, the translated version has been re-translated into the original questionnaire by two expert translators. After that, another two professional doctors who specialized in Linguistics and used to conduct their work in both languages compared the two sourced versions to the original questionnaire. They then did the needful adjustments to elicit the final version. Moreover, the researcher got help from a friend whose mother tongue is Arabic and conducted his PhD in Linguistics (English) to do the final check. He confirmed that the final version was sufficient enough and did not need any further adjustment.

4.9.1.2 Constructs Reliability

Reliability can be defined as a statistical measure of how reproducible the questionnaire tool data are (Litwin, 1995). Pilot studies are generally perceived as examining grounds for the reliability (internal consistency) of the latent variable (Moser and Kalton, 1971, cited in Elbaz, 2013). The measure can be reliable when participants gave the same answer in different situations. Cronbach's alpha (α), scale's mean and corrected item-total correlation were employed.

Cronbach's alpha takes values ranging from 0 (measures are totally inconsistent) to 1 (items correlate perfectly). A great value reflects good internal consistency of the indicators in the latent variable (George and Mallery, 2003). Many researchers

agree that a value of 0.5 or less indicates an unacceptable scale. Some have stated that a value of 0.6 is required (Heung and Chu, 2000), while others have stated that Cronbach's alpha should be greater than 0.7 for the reliability to be considered acceptable, 0.8 to be sufficient and 0.9 to be excellent (Head and Ziolkowski, 2010; Hair et al., 2011).

Thus, reliability can be measured by calculating Cronbach's alpha, which measures the homogeneity of a latent variable formed of multiple indicators. Item-total correlation is a method commonly employed to test the homogeneity of a latent variable made up of several indicators. It is basically the Pearson's product moment correlation coefficient of an individual item/indicator with the scale total calculated from the remaining items (Everitt and Skrondal, 2006). As cited in Elbaz (2013) the common rule of thumb is that an item should be correlated with the total by more than 0.3. Items with a lower correlation than this should be removed (Field, 2009; Everitt and Skrondal, 2006).

Reliability analysis, in the current study, was implemented on nine latent variables: positive psychological, psychological, religiosity, political, economic, governance and social, culture, ethical and environment, and decision. Cronbach's alpha, as indicated above, can be seen as an index of the internal consistency (construct reliability) of a set of constructs (Everitt and Skrondal, 2006). The internal consistency of the nine constructs is highly reliable. It can be established that these nine latent variables employed in the study research model are highly reliable.

There was a good distribution of the participants' answers across all the questionnaire questions, indicating that the respondents could differentiate between the nine concepts (latent variables). Corrected item-total correlations, in this study, ranging from 0.300 to 0.959, demonstrated that some indicators/items were redundant. Therefore, some questions/items were removed (see Appendix B).

The Positive Psychological Capital Factor (PSC)

The PCF variable can be defined according Luthans, Youssef and Avolio (2007, p.3) as “an individual’s positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success”. The PCF construct (see Appendix B) is based on Scheier et al. (1994); Culbertson et al. (2010); Newman et al. (2014); Gupta and Singh (2014); Satoris et al. (2010) and Luthans et al. (2010). PCF construct is measured using ten indicators. The Cronbach’s alpha for the PCF latent variable is 0.894. Thus, Cronbach’s alpha is very good and above the advocated threshold of 0.7. Therefore, it can be concluded that the PCF latent variable has sufficient reliability (see Table 4.3). Table 4.3 shows that the corrected

item-total correlations for the PCF construct's items range from 0.600 to 0.959, indicating that no indicator is redundant.

Table 4.3 PCF Construct Item-Total Statistics after Items Removed

1. Positive Psychological Capital Factors:	Corrected Item-Total Correlation	Cronbach's Alpha
In uncertain times, I usually expect the best.	.959	.969
I always look on the bright side of things.	.831	
Overall, I expect more good things to happen to me than bad.	.959	
I have confidence in my ability to solve my investment problems in a creative way.	.810	
I am good at further developing ideas of others.	.600	
I have the ability to listen carefully to concerns and solve problems creatively.	.780	
I have the ability to make a plan for my goals for the next five years.	.600	
I feel confident analysing a long-term problem to find a solution.	.780	
I feel confident at helping to set targets/goals in my area of work.	.732	
I can think of many ways to get out of any problem.	.959	
I usually meet the goals that I set for myself.	-.815-	
My past experiences have prepared me well for my future.	.959	
I usually manage difficulties one way or another at work.	.732	
I am determined to overcome difficulties that I encounter in my investment.	.959	
When I have a setback in my job search, I usually do not have trouble recovering from it.	-.815-	

The Religiosity Factor (REL)

Religiosity factors (REL) can be defined in this context of study as a broad term of sociological. It is used to refer to the several aspects of religious activity, dedication, and belief (Edewor, 2008). The REL latent variable (see Appendix B) is assessed using an eight-item scale drawn from Canepa and Ibnrubbian (2014)

and Eid and EL-Gohary (2015). The Cronbach's alpha for the REL latent variable is 0.947. This Cronbach's alpha is excellent and above the advocated threshold of 0.7. Thus, it can be concluded that the REL latent variable has adequate reliability (see Table 4.4).

Table 4.4 REL Construct Item-Total Statistics after Items Removed

2. The Religiosity Factor:	Corrected Item-Total Correlation	Cronbach's Alpha
The Dua'aa (supplication) supports me.	.688	.947
Islam helps me to have a better life.	.915	
The Prophet Muhammad (peace-be-upon-him) is the role model for me.	.943	
I believe that Allah (God) helps me.	.927	
I perform the obligation of Zakat.	.393	
I prefer to invest in Shariah-Compliant companies.	.957	
I seek to make my investment based on Islamic jurisprudence.	.695	
I place great importance in investing in companies that rely on the Islamic banking system.	.957	

Table 4.4 shows that the corrected item-total correlations for the REL construct's items range from 0.385 to 0.870, indicating that no indicator is redundant.

The Psychological (Cognitive and Emotional) Factors (PSY)

Psychological (cognitive and emotions) factors (PSY) can be seen in this study as a branch of psychology that focuses on the method investors' use to process information and how the treatment of this information leads to their responses. The PSY latent variable (see Table 4.5.) is measured using a twenty-items scale adopted from Pennings and Smidts (2000), Barber and Odean (2001), Huberman

(2001), Muermann (2006), Chen et al. (2007), Bhandari et al. (2008), Lingesiya and Kengatharan (2014), Senthil (2015), Hon-Snir et al. (2012), Lingesiya and Kengatharan (2014) and Michael (2012).

Table 4.5 PSY Construct Item-Total Statistics after Items Removed

1. The Positive Psychological Capital Factors:	Corrected Item-Total Correlation	Cronbach's Alpha
I rely on my investment decision on the past returns of the stock as an indicator of future returns.	.381	.774
Good stocks are from firms with past consistent earnings growth.	.542	
I buy hot stocks and avoid stocks that perform poorly.	.676	
I tend to invest in the stocks of companies that have a local or regional business presence rather than those that do not.	-.675-	
I believe that I am less likely than many others to suffer from bad events.	.300	
I use predictive skills to set my investment decision-making.	.808	
I feel more confident in my own investment opinions over the opinions of my colleagues or friends.	.808	
I believe that my skills and knowledge about the stock market can help me to outperform the market.	.600	
After a prior loss, I become more risk averse.	.808	
I prefer to invest in low risk/return stocks with a steady performance.	.757	
I feel nervous when large paper losses (price drops) occur in my invested stocks.	-.861-	
I would increase the sum of my stock market holdings if in the last month the aggregate trading volume in the stock market was higher than usual.	.757	
Other investors' decisions in choosing stock types have an impact on my investment decisions.	.808	
I react quickly to the changes of other investors' decisions and follow their reactions to the stock market.	.757	
I use purchase price of stock as a reference point in stock trading.	-.861-	
I am unlikely to buy a stock if it is more expensive than last year.	-.834-	
I am able to anticipate good or poor market returns in stock markets.	.808	
I would expect the value of the index to decrease in the next month if in each of the last six months the price of shares index value increased.	.757	
I tend to treat each element of my investment portfolio separately.	.808	
I avoid selling shares that have decreased in value and readily sell shares that have increased in value.	.542	

The Cronbach's alpha for the PSY latent variable is 0.774. This Cronbach's alpha is good and above the advocated threshold of 0.7. Consequently, it can be concluded that the PSY latent variable has satisfactory reliability (see Table 4.5). The table shows that the corrected item-total correlations for the PSY construct's items range from 0.381 to 0.861, indicating that no indicator is redundant.

The Political Factor

The political factor (POL) in this study refers to investors' responses to the political circumstance in the GCC countries (Sultanate of Oman and Saudi Arabia). The POL latent variable (see Appendix B) consists of three items adopted from Yahyazadehfar *et al.* (2011).

The Cronbach's alpha for the POL latent variable is 0.843. This Cronbach's alpha is very good and above the advocated threshold of 0.7. Therefore, it can be concluded that the POL latent variable has sufficient reliability (see Table 4.6).

Table 4.6 POL Construct Item-Total Statistics after Items Removed

2. The Religiosity Factor:	Corrected Item-Total Correlation	Cronbach's Alpha
The internal political events (e.g. Arab Spring) affect my investment decisions.	.553	.843
I pay close attention to political news.	.846	
I pay close attention to the government's suggestions.	.744	

Table 4.6 shows that the corrected item-total correlations for the POL construct's items range from 0.553 to 0.846, indicating that no indicator is redundant.

The Economic Factor (ECO)

The economic factor (ECO) can be seen in this study as the extent to which investors need to take into account numerous economic factors when determining the present and expected future value of a business or investment portfolio. The ECO latent variable (see Table 4.5) is assessed using an eleven-items scale adopted from Al-Ajmi (2009), Yahyazadehfar et al. (2011) and Qureshi et al. (2012). The Cronbach's alpha for the ECO latent variable is 0.980. This Cronbach's alpha is excellent and above the advocated threshold of 0.7. Therefore, it can be concluded that the ECO latent variable has sufficient reliability (see Table 4.7).

Table 4.7 ECO Construct Item-Total Statistics after Items Removed

The Economic Factor	Corrected Item-Total Correlation	Cronbach's Alpha
Interest rates influence my investment decision in the stock market.	.913	.980
Inflation rate influences my investment decision in the stock market.	.873	
My investment decisions in the stock market are influenced by the investment substitution.	.913	
The share price affordability by the firm influences my investment decisions in the stock market.	.913	
I consider the published corporate financial statements in my investment decisions.	.873	
To setup my investment decision I use financial models for investment.	.913	
I utilize technical analyses while making investment decisions.	.873	
Increase/decrease in the company's profits affect my investment decisions.	.873	
Distribution of stock dividends influences my investment decisions.	.873	
Expectation of higher stock price influences my investment decisions.	.913	
The expected performance of the company plays an important role in my investment decisions.	.913	

Table 4.7 shows that the corrected item-total correlations for the ECO construct's items range from 0.873 to 0.913, indicating that no indicator is redundant.

The Corporate Governance and Social Factor (GOV)

This GOV latent variable in this study refers to the system of rules, practices, procedures and processes by which a country or company is directed and controlled. The GOV latent variable (see Appendix B) is assessed using a nine-item scale adopted from Al-Ajmi (2009), Bae et al (2010) and Chang and Wei

(2011). The Cronbach's alpha for the PCF latent variable is 0.880. This Cronbach's alpha is very good and above the advocated threshold of 0.7. Thus, it can be concluded that the GOV latent variable has sufficient reliability (see Table 4.8).

Table 4.8 GOV Construct Item-Total Statistics after Items Removed

Corporate Governance and Social Factors	Corrected Item-Total Correlation	Cronbach's Alpha
I consider the recommendations by reputable and trusted brokerage house in my investment decisions.	.563	.880
My investment decisions are affected by friends/co-workers' recommendations.	.669	
My investment decisions are affected by individual stock brokers' advice.	.723	
Rumours from the market affect my investment decisions.	.669	
I consider the company's shareholders' profiles for investment.	.723	
I take the governance strengths of companies into account when making investment decisions.	.606	
The firm's affiliation with a business group affects my investment decisions.	.707	
The size of a firm's shareholder ownership influences my investment decisions.	.511	
I expect a firm that pays a dividend to be better governed than a non-dividend paying firm, thus such an indicator of dividend paying firms influences my investment decisions.	.520	

Table 4.8 shows that the corrected item-total correlations for the GOV construct's items range from 0.511 to 0.723, indicating that no indicator is redundant.

The Cultural Factor (CUL)

Cultural Factor (CUL) in this study can be defined as the system of shared traditions, values, and beliefs, which manages how individuals behave in organizations. These common values have a strong effect on the individuals within

the organization and dictate how they dress, act, and perform their works. The CUL latent variable (see Appendix B) is measured using a 5-items scale adopted from Elke et al. (2000), Grinblatt and Keloharju (2001), Abu Saleh (2006) and Omo and Stanley (2011). The Cronbach's alpha for the CUL latent variable is 0.790. This Cronbach's alpha is good and above the advocated threshold of 0.7. Accordingly, it can be concluded that the CUL latent variable has suitable reliability (see Table 4.9).

Table 4.9 CUL Construct Item-Total Statistics after Items Removed

The Cultural Factor	Corrected Item-Total Correlation	Cronbach's Alpha
I respect the culture values in share investment.	538	0.790
I tend to perceive industrial and technological risks as opportunities rather than threats to those companies I invest in.	.527	
I prefer to invest in those companies that have a high degree of integrity.	.520	
I prefer to invest in those companies whose CEO is of a similar cultural origin.	.713	
I have limited market knowledge about the product/service I buy/sell from those companies I invest in.	.557	

Table 4.9 shows that the corrected item-total correlations for the CUL construct's items range from 0.520 to 0.713, indicating that no indicator is redundant.

The Ethical and Environmental Factors (ETH)

Ethical and Environmental factors (ETH) can be seen in this context of study as the extent to which investors take into account corporate social responsibility and comply with company law and profession code. The ETH latent variable (see

Table 4.10) is measured using a nine-item scale drawn from Lewis and Mackenzie (2000) and Newell and Lee (2012).

Table 4.10 ETH Construct Item-Total Statistics after Items Removed

The Ethical and Environmental Factors	Corrected Item-Total Correlation	Cronbach's Alpha
I consider corporate social investment while making investment decisions.	.772	.889
I prefer to invest in those companies that engage in corporate social investments.	.624	
I prefer to invest in those companies who care about others' interest and wellbeing.	.888	
I prefer to invest in those companies that comply with state law and professional codes.	.446	
I prefer to invest in those companies that comply with internal rules and procedures.	.491	
I prefer to invest in those companies that comply with individual principles and beliefs.	.624	
I consider the company's environmental impact of product and services in my investment decision.	.888	
The environmental record (awards/penalties) of the company affects my investment decision.	.446	
The environmental reporting influences my investment decision.	.788	

The Cronbach's alpha for the ETH latent variable is 0.889. This Cronbach's alpha is very good and above the advocated threshold of 0.7. Thus, it can be concluded that the ETH latent variable has sufficient reliability (see Table 4.10). The table also shows that the corrected item-total correlations for the ETH construct's items range from 0.446 to 0.888, indicating that no indicator is redundant.

The Decision-making Factor (DEC)

Decision-making factor (DEC) in this context of study is cognitive process resulting in the selection of a belief or action between numerous alternative likelihoods. The ETH latent variable (see Appendix B) is assessed using a five-items scale adopted from Pasewark and Riley (2010). The Cronbach's alpha for the DEC latent variable is 0.793. This Cronbach's alpha is good and above the advocated threshold of 0.7. Consequently, it can be concluded that the DEC latent variable has adequate reliability (see Table 4.11).

Table 4.11 DEC Construct Item-Total Statistics after Items Removed

The Decision-making Factor	Corrected Item-Total Correlation	Cronbach's Alpha
My investment in stocks has a high degree of safety.	.417	.793
My investment has the ability to meet interest payments.	.713	
My investment has a lower risk compared to the market generally.	.768	
My investment in stocks has demonstrated increased revenue growth in the past few years.	.713	
My investment in stocks has demonstrated increased cash flow growth in the past few years.	.768	

Table 4.11 shows that the corrected item-total correlations for the DEC construct's items range from 0.417 to 0.768, indicating that no indicator is redundant. Hence, it can be concluded that in this study, the pilot study helped the researcher to recognize and identify as many problems as possible, and address them, before the final questionnaire was executed.

4.9.2 Sampling

In addition to having a suitable research methodology, it is important to identify an appropriate sample for the study, which plays a very important role in the value of the results (Kothari, 2004). However, the real concern was to create a credible and reliable sample, in terms of its accuracy as a representative of the population being considered. Thus, it is very important to select a good sample that has a high degree of certainty, so that generalizations can be made of the entire population (external validity); this depends on the sample size and how representative it is (Vogt, 2007).

There are two main types of sampling: random/probability sample, where each case has a known random/probability sample being studied, usually the same for all cases, and a non-random/probability sample, where the likelihood of selecting a given case from the population is not identified. Simple random sampling, due to its simplicity and effectiveness, is the most commonly used sampling technique in the behavioural sciences (Patton, 2005). This is because it helps the researcher to maximize the validity of generalization (external validity), and reduces bias from the case selection process (Vogt, 2007). The existing literature suggests that for case study research, non-probability sampling is more appropriate, as it gives the researcher the liberty to select the most representative cases to explain a social phenomenon (Tansey, 2007). Based on the aforementioned, probability sampling is employed in this study.

4.9.2.1 Sampling Frame

The sampling frame, in this study, for a probability sample according to Saunders et al. (2012), is a comprehensive list of the total cases in the population from where the sample will be selected. For the purpose of this study, the sampling frame includes 20 licensed brokerage companies in the Sultanate of Oman (418,920 investors) by the end of 2015, and in the Kingdom of Saudi Arabia about 4,500,000 investors by the end of the 2015 (<http://www.argaam.com>).

4.9.2.2 Sample Size

Determining the research sample size is imperative to building the number of samples, which have to be neither small, to avoid the risk of insufficient information, nor large to avoid the risk of being ineffective (Scheaffer et al., 1986). Hence, from this point, the study to be employed is Structural Equation Modelling (SEM) to examine the research's proposed hypotheses. The SEM model fit indices mainly based on the sample size, and it helps to support the appropriate statistical power and accuracy of the parameter estimates in a SEM examination (Brown, 2006).

In the current thesis, the study is based on a 95% level of certainty. This suggests that, if the sample size of study draws from 100 cases, at least 95 of those samples would be guaranteed to represent the features of the entire population (Saunders

et al., 2009). Studies usually work to a 95% level of certainty. In terms of the accuracy of the estimates made about the population, many researchers of business and management employ a margin of plus or minus 3-5% of the true value. The actual sample size that should be employed can be calculated by the formula for both: (1) the Kingdom of Saudi Arabia, and (2) the Sultanate of Oman:

$$n^a = \frac{n \times 100}{re\%}$$

Where:

n^a is the actual sample size.

n is the required sample size

$re\%$ is the estimated response rate expressed as a percentage.

The Kingdom of Saudi Arabia

Per Saunders et al. (2009), if the margin of error is selected to be 5% and the population size is "between" 1,000,000-300,000,000, then the required sample size is 384. It is assumed that the response rate in this study is 50%, as the questionnaire will be delivered and collected by hand to the individual investors. The Saudi Arabia required sample size was calculated using the following equation:

$$n^{\alpha} = \frac{384 \times 100}{50} = 768 \text{ subjects}$$

The Sultanate of Oman

If the margin of error is selected to be 5% and the population size is "between" **1,000,000-300,000,000**, then the required sample size is 384. It is assumed that the response rate in this study will be 50%, as the questionnaire will be delivered and collected by hand to the individual investors. The Saudi Arabia required sample size was calculated using the following equation:

$$n^{\alpha} = \frac{384 \times 100}{50} = 768 \text{ subjects}$$

4.9.2.3 Sample Technique

For the current study, the researcher used a convenient sampling approach. The survey was personally administered. The researcher visited 20 licensed brokerage companies in the Sultanate of Oman so as to contact the individual investors face-to-face. Thus, the questionnaire was distributed to the investors personally and it was requested that they fill and return the questionnaire then and there. There are 418,920 individual investors trading in financial assets. A total 700 of

questionnaires were distributed, out of which 605 were collected. The response rate remained 86.4%. Out of 605 duly filled questionnaires, 15 were excluded because they had missing values (Kofman and Sharpe, 2000). Thus, for the Sultanate of Oman's data, there were 590 valid responses, representing an 84.4% response rate.

There are 4.5 million individual investors in the Kingdom of Saudi Arabia. A total of 700 questionnaires were distributed to the individual investors in person. Out of these, 645 were collected, giving a 92.14% response rate. 25 of the observations were excluded because they were incomplete (Kofman and Sharpe, 2000). Therefore, the data set included 620 valid responses, which represents an 88.5% valid response rate.

4.9.3 Missing Values and Outliers

To test the accuracy of the data of the study, missing values and outliers were examined. Missing data, according to Hair et al. (2010) may cause negative influences on study findings; it may produce biased estimates, consequently reducing the model's fit. Of the Saudi Arabia data, 620 valid responses were collected, as the researcher had excluded 25 returned questionnaires with missing values. Of the Sultanate of Oman data, 590 were collected, as the researcher had excluded 20 returned questionnaires with missing values. This left the remaining data set, in both countries, free of missing data.

WarpPLS 5.0 was employed in the study, which helped the researcher handle the outlier. Data outliers are abnormal values or values that are particularly high, either on one or a set of variables (Tinsley and Brown, 2000 as far as data analysis is concerned, outliers can produce non-optimum impacts. According to Kock (2015: 3), PLS software can conduct analyses that rank data before the SEM analysis, which greatly lowers the value distances associated with outliers and yet preserves the size of the sample.

4.9.4 Analysis

There is a selection of statistic techniques that can be used to explore differences between groups. Most of these analysis methods involve comparing the mean score for each group on one or more dependent variables (Malhotra, 2004).

T tests are parametric tests that provide suggestion for investigating the means values of parent populations (Malhotra, 2004). A t-test is means of assessing a univariate hypothesis by means of the t distribution, and can analyse group variances. A similar test is a one-way analysis of variance (ANOVA); this is suitable for the situation when researchers have two or more groups and wish to compare their mean scores on a continuous variable (Malhotra, 2004). A multivariate analysis of variance (MANOVA) is preferable when a researcher wants to compare groups on a number of different, but related, dependent variables. As discussed in the scaled item developing section in the questionnaire design, and in order to

confirm the research objectives of this study, the author argues that a t-test is more suitable to analyse the data obtained, since each of the factors affecting investors' decision-making is observed via several variables.

A variety of approaches exist to assess the correlations amongst variables, including the chi-square test, Pearson correlation, Spearman's rank order correlation (ρ), multiple regression, canonical correlation, and the structural equation modelling (SEM). Chi-square, Pearson's r and Spearman's Rank Order Correlation (ρ) are tests to investigate relationships between two variables. Multiple regressions explore the relationship of a set of independent variables on one continuous dependent variable. Multiple regressions are used for many-to-one relationships. The links between two variable sets used in investigating a many-to-many relationship can be explored by means of the canonical correlation multivariate approach. Structural equation modelling is a sophisticated multivariate technique that investigates relationships between one or more independent variables and one or more dependent variables; it allows researchers to explore interrelated relationships within a comprehensive mathematical technique. The main objective of this research is to investigate the interrelationships between factors that affect Individual investors' decision-making and to develop an up-to-date investor's decision-making model to aid the understanding of individual investors' behaviour. Structural equation modelling is considered to be the most suitable statistical technique to be used to fulfil such a research objective.

4.9.4.1 Structural Equation Modelling

Structural equation modelling (SEM) technique can be defined, according to Byrne (2010: 3), as “a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory on a given phenomenon”. This technique is employed to test a hypothesized model which describes the relationships between latent variables (outer and inner models) (Schumacker and Lomax, 2004). Thus, the SEM method has been considered to be one of the most essential mechanisms of applied multivariate statistical analyses and has been used by many studies in different fields, such as marketing, economics, education, medicine, and a diversity of other social and behavioural researchers (Pugesek et al., 2003).

Many previous studies have employed a SEM analysis in behavioural finance, such as Baranoff et al., 2007; Jamshidinaid et al., 2012; Mande et al., 2013; Cuong and Jian, 2014; Phan and Zhou, 2014; and Abdallah and Hilu, 2015. In the current thesis, SEM is employed to examine the effect of internal and external factors on individual investors' decision-making. The literature review has indicated that there are two types of statistical methodologies that estimate SEM with latent variables, including measurement models: covariance-based (CB-SEM) and partial least squares path modelling (PLS-PM) or variance-based SEM (Ringle et al., 2009).

In the current study, the researcher used the PLS-SEM technique (specifically WarpPLS 5.0) because PLS does not have an identification problem (Fornell and Bookstein, 1982), and this means that latent variables do not have the requirements of the least of five items (Chin, 2001; Westland, 2007) which are required by covariance-based SEM techniques (Kock, 2015). Furthermore, Ringle et al. (2012) highlight its usefulness when the sample size is small, the latent variables are formatively measured and the data is non-normal. PLS_SEM has the capacity to produce t-values and p-values using stable, bootstrap or jack-knife techniques (Elbaz, 2013).

According to Hox and Bechger (1998), The structural equation modelling technique delineates two key facets of the process: 1) the causal processes are offered through a set of structural equations that account for measurement error; 2) structural correlations may be presented graphically so as to offer greater clarity.

CHAPTER 5: THE QUANTITATIVE DATA AND RESULTS

5.1 Introduction

This study, so far, has discussed the relevant literature concerning the theories and previous studies relating to behaviour finance, the internal and external factors influencing individual investors' decision-making/performance, and has identified the gaps in the literature reviewed.

In this chapter, the analyses and findings of the quantitative data collection are discussed. It begins with the descriptive statistics for the main survey and each latent variable of the main model of this study, followed by the descriptive statistics of the personal information. The discriminant and convergent validity and latent variable consistency of the measurement models are then established. It also concludes with an analysis and presentation of the study results of structural relationship models.

It can be demonstrated that the findings of the current study of both countries is divided into three main sections, as follow: firstly, this section examines the influence of internal factors which, in this study, consist of three main variables, which are (1) positive psychological capital, (2) religiosity factor, and (3) psychological (cognitive and emotional) factor on individual investors' decision-making. Secondly, the study examines the influence of factors which consist of five

main latent variables: (1) political factor, (2) economic factor, (3) corporate governance and social factor, (4) cultural factor, and (5) ethical and environmental factors on individual investors' decision-making. Thirdly, this section provides a comparative study to compare the two countries of the respondents (the Kingdom of Saudi Arabia and the Sultanate of Oman) using a t-test analysis.

5.2 Descriptive Data Findings for the Main Constructs of the Research Model

In this section, descriptive data is discussed for the main questionnaire questions. The internal factors under consideration consist of three main variables, which are (1) positive psychological capital, (2) religiosity factors, and (3) psychological (cognitive and emotional) factors. It also includes the external factors, which consist of the main five latent variables: (1) political factor, (2) economic factor, (3) corporate governance and social factor (4) cultural factor, and (5) ethical and environmental factors. The descriptive statistics for the demographic information is then discussed.

5.2.1 Positive Psychological Capital

In general, the Saudi Arabia Local Individual Investors' representative responses' average in on the Positive Psychological Capital Construct (PCF) are mostly 'Neutral (3.36) on 'PCF7' "I have the ability to make a plan for my goals for the next five years", to strongly agree (4.55) on 'PCF1 'In uncertain times, I usually expect

the best". These responses signify that the respondents strongly believe in "PCF2", as the Local Individual Investors in Saudi Arabia are optimistic (see Table 5.1).

Table 5.1: Descriptive statistics of the Positive Psychological Capital Statement

(PCF); 15 Items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
PCF1=In uncertain times, I usually expect the best.	2	0.3	8	1.3	0	0.0	248	40.0	362	58.4	620	100.0	4.55
PCF2=I always look on the bright side of things.	4	0.6	13	2.1	0	0.0	359	57.9	244	39.4	620	100.0	4.33
PCF3=Overall, I expect more good things to happen to me than bad.	5	0.8	10	1.6	0	0.0	242	39.0	363	58.5	620	100.0	4.53
PCF4=I have confidence in my ability to solve my investment problems in a creative way.	7	1.1	8	1.3	0	0.0	361	58.2	244	39.4	620	100.0	4.33
PCF5=I am good at further developing the ideas of others.	13	2.1	5	0.8	1	0.2	363	58.5	238	38.4	620	100.0	4.30
PCF6=I have the ability to listen carefully to concerns and solve problems creatively.	11	1.8	5	0.8	0	0.0	360	58.1	244	39.4	620	100.0	4.32
PCF7=I have the ability to make a plan for my goals for the next five years.	6	1.0	5	0.8	366	59.0	243	39.2	0	0.0	620	100.0	3.36
PCF8=I feel confident analysing a long-term problem to find a solution.	10	1.6	5	0.8	0	0.0	364	58.7	241	38.9	620	100.0	4.32
PCF9=I feel confident helping to set targets/goals in my area of work.	9	1.5	11	1.8	0	0.0	363	58.5	237	38.2	620	100.0	4.30
PCF10=I can think of many ways to get out of any problem.	8	1.3	8	1.3	0	0.0	361	58.2	243	39.2	620	100.0	4.33
PCF11=I usually meet the goals that I set for myself.	7	1.1	9	1.5	0	0.0	361	58.2	243	39.2	620	100.0	4.33
PCF12=My past experiences have prepared me well for my future.	6	1.0	12	1.9	0	0.0	243	39.2	359	57.9	620	100.0	4.51
PCF13=I usually manage difficulties one way or another at work.	5	0.8	11	1.8	0	0.0	243	39.2	361	58.2	620	100.0	4.52
PCF14=I am determined to overcome difficulties that I encounter in my investment.	10	1.6	5	0.8	0	0.0	361	58.2	244	39.4	620	100.0	4.33
PCF15=When I have a setback in my job search, I usually do not have trouble recovering from it.	12	1.9	6	1.0	0	0.0	242	39.0	360	58.1	620	100.0	4.50

The table illustrates the descriptive statistics of the Positive Psychological Capital construct. This table gives descriptive statistics of the 15 items (UV1 to UV15) of the PCF by introducing the item's frequencies, strongly disagree (SD), disagree (D), Neutral (N), agree (A), strongly agree (SA) and the mean average.

5.2.2 Religiosity Factor (REL)

In general, the Saudi Arabia individual investors' representative response's average on the Religiosity Construct are mostly "Agree" (4.34) on 'REL1, REL3 and REL7' (REL1 = "The Dua'aa (supplication) supports me", REL3 = "The Prophet Muhammad (peace-be-upon-him) is the role model for me", and REL7 = "I seek to make my investment based on Islamic jurisprudence") to 'Strongly Agree' (4.54) on 'REL2, REL5, and REL6' ('REL2 = "Islam helps me to have a better life", 'REL5' = "I perform the obligation of Zakat", 'REL6' = "I prefer to invest in Shariah-Compliant companies"). These responses signify that the respondents believe in "REL2, REL5, and REL6", as the individual investors in Saudi Arabia consider the role of Islamic religion important to their entire life. Table 5.2 shows the descriptive statistics of the religiosity factor. This table gives descriptive statistics of the 8 items (REL1 to REL8) by introducing the item's frequencies, strongly disagree (SD), disagree (D), Neutral (N), agree (A), strongly agree (SA) and the mean.

Table 5.2: Descriptive Statistics of the Religiosity Factor Statement

(REL); 8 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
REL1=The Dua'aa (supplication) supports me.	8	1.3	5	0.8	0	0.0	363	58.5	244	39.4	620	100.0	4.34
REL2=Islam helps me to have a better life.	6	1.0	6	1.0	0	0.0	246	39.7	362	58.4	620	100.0	4.54
REL3=The Prophet Muhammad (peace-be-upon-him) is the role model for me.	5	0.8	8	1.3	1	0.2	363	58.5	243	39.2	620	100.0	4.34
REL4=I believe that Allah (God) helps me.	8	1.3	6	1.0	0	0.0	244	39.4	362	58.4	620	100.0	4.53
REL5=I perform the obligation of Zakat.	6	1.0	6	1.0	0	0.0	245	39.5	363	58.5	620	100.0	4.54
REL6=I prefer to invest in Shariah-Compliant companies.	6	1.0	5	0.8	1	0.2	247	39.8	361	58.2	620	100.0	4.54
REL7=I seek to make my investment based on Islamic jurisprudence.	5	0.8	8	1.3	0	0.0	364	58.7	243	39.2	620	100.0	4.34
REL8=I assign great importance to investing in companies that rely on the Islamic banking system.	11	1.8	4	0.6	0	0.0	243	39.2	362	58.4	620	100.0	4.52

5.2.3 The Psychological (Cognitive and Emotional) Factor (Psy)

In terms of the Psychological (cognitive and emotional) Factor, Table 5.3 demonstrates that respondents have opinions ranging from 'Agree' (3.57) on PSY7 'I place more confidence in my own investment opinions than in the opinions of my colleagues or friends' to 'Strongly Agree' (4.58) on 'PSY19' 'I tend to treat each element of my investment portfolio separately'. Table 5.3 shows the descriptive statistics of the Psychological (cognitive and emotions) Factors.

Table 5.3: Descriptive Statistics of the Psychological (Cognitive and Emotional) Factor

(Psychological); 20 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
PSY1=I base my investment decisions on the past returns of the stock, as an indicator of future returns	3	0.5	5	0.8	1	0.2	245	39.5	366	59.0	620	100.0	4.56
PSY2=Good stocks are firms with past consistent earnings growth	3	0.5	7	1.1	0	0.0	367	59.2	243	39.2	620	100.0	4.35
PSY3=I buy hot stocks and avoid stocks that perform poorly	7	1.1	6	1.0	0	0.0	245	39.5	362	58.4	620	100.0	4.53
PSY4=I tend to invest in the stocks of companies that have a local or regional business presence more than those that do not	4	0.6	6	1.0	0	0.0	245	39.5	365	58.9	620	100.0	4.55
PSY5=I believe that I am less likely than many others to suffer from bad events	4	0.6	5	0.8	1	0.2	368	59.4	242	39.0	620	100.0	4.35
PSY6=I use predictive skills to set my investment decision-making	8	1.3	3	0.5	1	0.2	486	78.4	122	19.7	620	100.0	4.15
PSY7=I feel more confident in my own investment opinions than in the opinions of my colleagues or friends	6	1.0	1	0.2	369	59.5	121	19.5	123	19.8	620	100.0	3.57
PSY8=I believe that my skills and knowledge about the stock market can help me to outperform the market	5	0.8	6	1.0	0	0.0	367	59.2	242	38.0	620	100.0	4.35
PSY9=After a prior loss, I become more risk averse	4	0.6	7	1.1	0	0.0	489	78.9	120	19.4	620	100.0	4.15
PSY10=I prefer to invest in low risk/return stocks with a steady performance	4	0.6	5	0.8	0	0.0	488	78.7	123	19.8	620	100.0	4.16
PSY11=I feel nervous when large paper losses (price drops) occur in my invested stocks	6	1.0	4	0.6	0	0.0	491	79.2	119	19.2	620	100.0	4.15
PSY12=I would increase the sum of my stock market holdings if in the last month, the aggregate trading volume in the stock market was higher than usual	7	1.1	4	0.6	0	0.0	365	58.9	244	39.4	620	100.0	4.35
PSY13=Other investors' decisions of choosing stock types have an impact on my investment decisions	3	0.5	7	1.1	0	0.0	367	59.2	243	39.2	620	100.0	4.35
PSY14=I react quickly to the changes of other investors' decisions and follow their reactions to the stock market	5	0.8	5	0.8	0	0.0	490	79.0	120	19.4	620	100.0	4.17
PSY15=I use purchase price of stock as a reference point in stock trading	3	0.5	3	0.5	0	0.0	369	59.5	245	39.5	620	100.0	4.37
PSY16=I am unlikely to buy a stock if it is more expensive than last year	2	0.3	3	0.5	0	0.0	493	79.5	122	19.7	620	100.0	4.18
PSY17=I am able to anticipate good or poor market returns in stock markets	2	0.3	3	0.5	0	0.0	369	59.5	246	39.7	620	100.0	4.38
PSY18=I would expect the value of the index to decrease in the next month if in each of the last six months the price of the shares index value increased	1	0.2	1	0.2	1	0.2	494	79.7	123	19.8	620	100.0	4.19
PSY19=I tend to treat each element of my investment portfolio separately	3	0.5	4	0.6	0	0.0	370	59.7	243	39.2	620	100.0	4.36
PSY20=I avoid selling shares that have decreased in value and readily sell shares that have increased in value	2	0.3	2	0.3	1	0.2	247	39.8	368	59.4	620	100.0	4.58

5.2.4 The Political Factor (POL)

In terms of the Political Factor, Table 5.4 shows that participants have opinions ranging from 'Agree' (4.27) on 'POL1 'The internal political events (e.g. Arab Spring) affect my investment decisions' to (4.43) on 'POL3' 'I pay close attention to the government's suggestions'. These responses signify that the respondents believe in "POL3", as the individual investors in Saudi Arabia are concerned with the political situation. Table 5.4 shows the descriptive statistics of the Political Factor.

Table 5.4: The Descriptive Statistics Political Factor

(POL); 3 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
POL1=Internal political events (e.g. Arab Spring) affect my investment decisions	5	0.8	9	1.5	0	0.0	407	65.6	199	32.1	620	100.0	4.27
POL2=I pay close attention to the political news	5	0.8	8	1.0	2	0.3	355	57.3	250	40.3	620	100.0	4.35
POL3=I pay close attention to the government's suggestions	7	1.1	6	1.0	1	0.2	305	49.2	301	48.5	620	100.0	4.43

5.2.5 The Economic Factor (ECO)

In terms of the Economic Factor, Table 5.5 shows that participants have opinions ranging from 'Agree' (4.33) on 'ECO1' "Interest rates influence my investment decisions in the stock market", and (4.33) on 'ECO4' "The share price affordability by the firm influences my investment decision in the stock market", to 'Strongly Agree' (4.54) on 'ECO8' "Increase/decrease in the company's profits affects my investment decisions".

Thus, these responses signify that the respondents believe in "ECO8" as the individual investor's decision-making is influenced by the companies' profits and losses. Table 5.5 shows the descriptive statistics of the Economic Factor.

Table 5.5: The Descriptive Statistics Economic Factor

(ECO); 11 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
ECO1=Interest rates influence my investment decision in the stock market	8	1.3	7	1.1	0	0.0	365	58.9	240	38.7	620	100.0	4.33
ECO2=Inflation rates influence my investment decision in the stock market	7	1.1	6	1.0	0	0.0	245	39.5	362	58.4	620	100.0	4.53
ECO3=My investment decisions in the stock market are influenced by the investment substitution	8	1.3	3	0.5	0	0.0	366	59.0	243	39.2	620	100.0	4.34
ECO4=The share price affordability by the firm influence my investment decisions in the stock market	4	0.6	11	1.8	1	0.2	363	58.5	241	38.9	620	100.0	4.33
ECO5=I consider the published corporate financial statements in my investment decisions	6	1.0	8	1.3	0	0.0	244	39.4	362	58.4	620	100.0	4.53
ECO6=To set up my investment decision I use financial models for investments	6	1.0	6	1.0	0	0.0	365	58.9	243	39.2	620	100.0	4.34
ECO7=I utilize technical analyses while making investment decisions	6	1.0	8	1.3	0	0.0	244	39.4	362	58.4	620	100.0	4.53
ECO8=Increase/decrease in the company's profits affects my investment decisions	5	0.8	7	1.1	1	0.2	244	39.4	363	58.5	620	100.0	4.54
ECO9=Distribution of stock dividends influences my investment decisions	6	1.0	7	1.1	0	0.0	244	39.4	363	58.5	620	100.0	4.53
ECO10=Expectation of higher stock price influences my investment decisions	4	0.6	5	0.8	0	0.0	367	59.2	244	39.4	620	100.0	4.36
ECO11=The expected performance of the company plays an important role in my investment decisions	5	0.8	6	1.5	0	0.0	364	58.7	245	39.5	620	100.0	4.35

5.2.6 The Corporate Governance and Social Factors

For the Corporate Governance and Social latent variable, Table 5.6 shows that respondents have opinions ranging from 'Agree' (4.10) on 'GOV3 "My investment decisions are affected by individual stock broker advice.'" to 'Strongly Agree' (4.56) on 'GOV9' "I expect a firm which pays a dividend to be better governed than a non-

dividend paying one, thus such indicators of dividend-paying firms influence my investment decisions”. Table 5.6 shows the descriptive statistics of Corporate Governance and social factors.

Table 5.6: The Descriptive Statistics of Corporate Governance and Social Factors

(GOV); 9 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
GOV1=I consider the recommendations by reputable and trusted brokerage houses in my investment decisions	4	0.6	19	3.1	0	0.0	365	58.9	232	37.4	620	100.0	4.29
GOV2=My investment decisions are affected by friends/co-workers' recommendations	18	2.9	12	1.9	4	0.6	344	55.5	242	39.0	620	100.0	4.26
GOV3=My investment decisions are affected by individual stockbroker advice.	8	1.3	21	3.4	3	0.5	456	73.5	132	21.3	620	100.0	4.10
GOV4=Rumours from the market affect my investment decisions	20	3.2	10	1.6	1	0.2	348	56.1	241	38.9	620	100.0	4.26
GOV5=I consider the company's shareholders profile for investment.	7	1.1	27	4.4	6	1.0	448	72.3	132	21.3	620	100.0	4.08
GOV6=I take the governance strengths of companies into account when making investment decisions	15	2.4	7	1.1	0	0.0	245	39.5	353	56.9	620	100.0	4.47
GOV7=The firm's affiliation with a business group affected my investment decisions	2	0.3	26	4.2	0	0.0	446	71.9	146	23.5	620	100.0	4.14
GOV8=The size of a firm's shareholder ownership influences my investment decisions	9	1.5	24	3.9	5	0.8	222	35.8	360	58.1	620	100.0	4.45
GOV9=I expect a firm which pays a dividend to be better governed than a non-dividend paying one, thus such indicators as a dividend-paying firm influence my investment decisions	15	2.4	32	5.2	5	0.8	108	17.4	460	74.2	620	100.0	4.56

5.2.7 The Cultural Factor

For the Cultural latent variable, Table 5.7 shows that respondents have opinions ranging from 'Disagree' (2.48) on 'CUL5' "I have limited market knowledge about the product/service I buy/sell from those companies I invest in" to 'Strongly Agree' (4.76) on 'CUL2' "I tend to perceive industrial and technological risks as opportunities rather than threats to those companies I invest in".

These signify that the Kingdom of Saudi Arabia respondents believe in the critical role of new technology and the importance of its role in the investment market.

Table 5.7 shows the descriptive statistics of the Cultural latent variable.

Table 5.7: The Descriptive Statistics of the Culture latent variable

(CUL); 5 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
CUL1=I respect the cultural values in share investments	3	0.5	7	1.1	1	0.2	120	19.4	489	78.9	620	100.0	4.75
CUL2=I tend to perceive industrial and technological risks as opportunities rather than threats to those companies I invest in.	5	0.8	3	0.5	0	0.0	121	19.5	491	79.2	620	100.0	4.76
CUL3=I prefer to invest in those companies which have a high degree of integrity	3	1.3	8	3.4	0	0.0	121	19.5	488	78.7	620	100.0	4.75
CUL4=I prefer to invest in those companies whose CEO is similar in cultural origin	2	0.3	125	20.2	247	39.8	244	39.4	2	0.3	620	100.0	3.19
CUL5=I have limited market knowledge about the product/service I buy/sell from those companies I invest in	100	16.1	358	57.7	3	0.5	82	13.2	77	12.4	620	100.0	2.48

5.2.8 The Ethical and Environmental Factors

For the Ethical and Environmental latent variable, Table 5.8 illustrates that participants have opinions ranging from 'Agree' (4.07) on 'ETH7' "I consider the company's environmental impact of products and services in my investment decision" to 'Strongly Agree' (4.62) on 'ETH5' "I prefer to invest in those companies which comply with internal rules and procedures". Table 5.8 shows the descriptive statistics of the Ethical and Environmental latent variable.

Table 5.8: The Descriptive Statistics of Ethical and Environmental Factors

(ETH); 9 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
ETH1=I consider corporate social investment while making investment decisions	5	0.8	24	3.9	0	0.0	471	76.0	120	19.4	620	100.0	4.09
ETH2=I prefer to invest in those companies which engage in corporate social investments	6	1.0	24	3.9	0	0.0	353	56.9	237	38.2	620	100.0	4.28
ETH3=I prefer to invest in those companies who care about others' interests and well-being	16	2.6	10	1.6	0	0.0	475	76.6	119	19.2	620	100.0	4.08
ETH4=I prefer to invest in those companies who comply with state law and professional codes	19	3.1	10	1.6	0	0.0	243	39.2	348	56.1	620	100.0	4.44
ETH5=I prefer to invest in those companies that comply with internal rules and procedures	25	4.0	4	0.6	0	0.0	123	19.8	468	75.5	620	100.0	4.62
ETH6=I prefer to invest in those companies who comply with individual principles and beliefs	9	1.5	18	2.9	0	0.0	355	57.3	238	38.4	620	100.0	4.28
ETH7=I consider the company's environmental impact of products and services in my investment decisions	20	3.2	9	1.5	0	0.0	472	76.1	119	19.2	620	100.0	4.07
ETH8=The environmental record (awards/penalties) of the company, affects my investment decisions	19	3.1	9	1.5	0	0.0	242	39.0	350	56.5	620	100.0	4.44
ETH9=Environmental reporting influences my investment decisions	7	1.1	23	3.7	0	0.0	473	76.3	117	18.9	620	100.0	4.08

5.2.9 The Individual Investor’s Decision-making Latent Variable

For the individual investor’s decision-making latent variable, Table 5.9 illustrates that participants have opinions ranging from ‘Agree’ (4.12) on ‘DEC4’ “My investment in stocks has demonstrated increased revenue growth in the past years” to (4.30) on DEC1, DEC3 and DEC5) (DEC1 = “My investment in stocks has a high degree of safety”, DEC3 = “My investment has a lower risk compared to the market generally”, and DEC 5 = “My investment in stocks has demonstrated increased cash flow growth in the past years”. Table 5.9 shows the descriptive statistics of the individual investors’ decision-making latent variable.

Table 5.9: The Descriptive Statistics of Individual Investors Decision-making

(DEC); 5 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
DEC1=My investment in stocks has a high degree of safety	5	0.8	20	3.2	1	0.2	353	56.9	241	38.9	620	100.0	4.30
DEC2=My investment has the ability to meet interest payments	6	0.1	9	1.5	0	0.0	482	77.7	123	19.8	620	100.0	4.14
DEC3=My investment has a lower risk compared to the market generally	7	1.1	13	2.1	0	0.0	365	58.9	235	37.9	620	100.0	4.30
DEC4=My investment in stocks has demonstrated increased revenue growth in the past few years	8	1.3	10	1.6	0	0.0	481	77.6	121	19.5	620	100.0	4.12
DEC5=My investment in stocks has demonstrated increased cash flow growth in the past few years	8	1.3	14	2.3	0	0.0	362	58.4	236	38.1	620	100.0	4.30

5.3 Descriptive Data Findings for the Personal Information

This section discusses the descriptive statistics for the demographic information which include: the respondent's gender, age, income, marital status, educational level, works experience, local or international investor, and occupation (see Table 5.11). It shows that there were 488 male individual investors (78.7%) and the remaining 132 respondents were female individual investors (21.3%).

In terms of age, Table 5.10 indicates that more than half of respondents (335 – 54.0%) were from 31-40 years old. However, only 2 respondents (0.3%) were more than 60 years old. Furthermore, Table 5.10 shows that two thirds (414) of individual investors were married (66.8%), while of the remaining respondents, 191 individual investors (30.8%) were single.

According to the educational level of the Saudi Arabia individual investors, about half of the respondents had graduated from College-University (288 – 46.5% of individual investors) and only 26 (4.2% of individual investors) claimed that they held a postgraduate degree.

Table 5.10. The Kingdom of Saudi Arabia Sampling Profile

Variable	Category	n	%
Gender	Male	488	78.7
	Female	132	21.3
Age	18 – 30 years	58	9.4
	31 – 40 years	355	54.0
	41 – 50 years	193	31.1
	51 – 60 years	32	5.2
	More than 60 years	2	0.3
Marital Status	Single	191	30.8
	Married	414	66.8
	Divorced	15	2.4
Education	High school and lower	42	6.8
	College- University	288	46.5
	Bachelor	234	37.7
	Master-PhD degree	26	4.2
	Other	30	4.8
Work Experience	Less than 2 years	193	31.1
	3 – 5 years	222	35.8
	6 – 10 years	18	2.9
	More than 10 years	187	30.2
Type of Investors	Local	501	80.8
	International	119	18.2
Income	Less than \$1000	34	5.5
	\$1000 - \$2500	81	13.1
	\$2501 - \$4000	319	51.5
	\$4001 - \$6000	144	23.2
	More than \$6000	42	6.7
Occupation	Government employed	226	36.5
	Privately employed	183	29.5
	Self employed	104	16.8
	Unemployed	107	17.2

Table 5.10 shows that about a third of individual investors (222 – 35.8%) have 3-5 years work experience. 193 (31.1%) have less than 2 years' experience.

However, only 18 (2.9% of individual investors) have 6 – 10 years work experience. Table 5.10 also shows that more than two thirds of individual investors were male, of which 501 (80.8%) were local investors and the rest of the respondents (119 – 19.2%) were international investors. In terms of the Kingdom of Saudi Arabia's individual investors' income, about half of the respondents (319 – 51.5% of individual investors) earned \$2,501 to \$4,000. Only 34 respondents (5.5% of individual investors) stated that they earned less than \$1,000 per month. Table 5.10 shows the descriptive statistics of individual investor's income. The table also shows that about a third of participants (216 – 36.5%) were government employees. It also indicates that 104 participants (16.8%) were self-employed.

5.4 Structural Equation Modelling Analysis (SEM) for the Kingdom of Saudi Arabia Model

Structural equation modelling, or SEM, is a very general, mainly linear, mainly cross-sectional statistical modelling technique. Factor analysis, path analysis and regression all represent special cases of SEM (Hox and Bechger, 1998). SEM is a largely confirmatory, rather than exploratory, technique (Marsh, et al. 2014). The use of SEM analysis is beneficial for researchers to determine whether a certain model is valid, rather than using SEM to "find" a suitable model – although SEM analyses often involve a certain exploratory element (Asparouhov and Muthén, 2009).

SEM aims to test the relationships between one or more independent and dependent variables by assessing the extent to which the hypothetical constructs are suitable or fit with the obtained data. These variables may be measured (manifest or observed) or latent. The observed variable, such as income, is measured directly, whilst the latent variable is not measured directly but through two or more observed variables – buying behaviour or personality, for instance (Kline, 2011, cited in Elbaz, 2013).

The current study employed Partial Least Squared (PLS), which produced a measurement model and paths analysis. PLS structural equation modelling analysis is divided into the following two parts: the measurement model recognizes the relationship between the observed variables and their latent variables, while the structural model is concerned with the relationships between the latent variables (Elbaz, 2013).

5.4.1 Measurement Model in PLS-SEM for the Kingdom of Saudi Arabia Model

In this study, the researcher used the analysis provided in WarpPLS 5.0 (Kock, 2015). The algorithm used was Warp3 PLS regression. The re-sampling method was Stable3. There were 620 cases in the model data, 10 latent variables and 40 indicators.

These 40 items are valid and reliable enough to be used in the structural relationship model (other items were removed as their high VIFs and p-value were larger than 0.05). The following section will illustrate the descriptive statistics for each construct for the first model of the Kingdom of Saudi Arabia (Table 5.11). This is followed by the research model's reliability / internal consistency (Cronbach's alpha and composite reliability) and construct validity (discriminant validity, convergent validity and average variance extracted (AVE)) for both the reflective and the formative measurement models. Discriminant and convergent validity (construct validity) and construct reliability will be discussed for the measurement model first.

5.4.1.1 Descriptive Statistics for the Main Constructs

Table 5.11 shows the descriptive statistics for each construct. These statistics consist of the construct's name and abbreviation, the number of items, and the construct's mean and standard deviation.

Table 5.11: Descriptive Statistics for Each Construct

Construct	Types of construct	Number of used items	Number of items Deleted	Reason of Deletion
(1) Religiosity Factor (REL)	Reflective	2	6	VIFs are Higher than 5 or 10
(2) Positive Psychological Capital (PCF)	Reflective	3	12	
(3) Psychological (Cognitive & Emotions) Factors (PSY)	Reflective	7	14	
(4) Political Factors (POL)	Reflective	3	-	
(5) Economic Factor (ECO)	Reflective	4	7	
(6) Corporate Governance and Social Factor (GoveEnviro)	Reflective	7	2	
(7) Cultural Factor (CUL)	Reflective	4	1	
(8) Ethical and environment Factor (EthEnvir)	Reflective	4	5	
(9) Decision Factor (DEC)	Reflective	4	2	

5.4.1.2 Discriminant Validity of the Measurement Model: The Kingdom of Saudi Arabia Model

According to Andreev et al. (2009), latent variable validity is employed to identify whether the observed variables/items of the latent variable definitely measures what they are expected to, from the perspective of relationships between the latent variables and between the latent variable and their relative observed variables. To assess validity, Reve (1979) stressed that there are two validity subtypes that are regularly tested: the first type is convergent validity and the other is discriminant validity.

Regarding discriminant validity, it is assumed to hold when the extracted variance is greater than the squared correlation (Henseler et al., 2009; Kock and Verville, 2012, Elbaz, 2013), and it is recommended that the measurement item's loadings on their assigned latent variables should be an order of magnitude greater than their loadings on the other constructs (Head and Ziolkowski, 2010). Discriminant validity is employed to distinguish amongst constructs that are expected to measure diverse phenomena.

Through the process of confirmatory factor analysis (CFA), some items of the latent variables were removed. This was because their Variance inflation factors (VIFs) were larger than 5. It is recommended that "VIFs be lower than 5; a more

relaxed criterion is that they be lower than 10” (Kock, 2015), p.63). Thus, these indicators were not adequate for the analysis because they would not measure the latent variables as accurately as expected.

Table 5.12 demonstrates that the factor loading of all of the remaining reflective items/observed variables is larger than 0.5 thresholds; accordingly, it can be concluded that the measurement model has adequate convergent validity. When looking at the item loadings between constructs, it can be observed that none of the indicators/items loadings are large, which means that this study has suitable discriminant and convergent validity.

A Combined loadings and Cross-loadings approach is a commonly used tool for checking the convergent validity of a construct and the discriminant validity of the instrument. Table 5.12 shows that the indicator loadings and cross-loadings are larger than 0.5. The indicator-loading value falls between -1 and 1, and if the cross loadings value is greater than 0.5 the construct is valid and the indicators are internally consistent, provided that the corresponding p-value is significant. The value across the construct must not be significant, meaning that the values across construct in a particular row should be lower than 0.50, otherwise the results would be spurious. The findings exhibited in Table 5.12 show adequate convergent and discriminant validity for the measurement questions.

Table 5.12: Combined Loadings and Cross-Loadings

	PCF	Religious	Psy.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision	Type	SE	P Value
PCF2	(0.840)	0.077	0.354	0.020	0.033	0.026	0.299	0.106	0.077	Reflective	0.037	<0.001
PCF10	(0.822)	-0.130	-0.209	0.117	0.101	-0.101	-0.369	-0.152	-0.069	Reflective	0.037	<0.001
PCF21	(0.911)	0.046	-0.137	-0.124	-0.121	0.067	0.057	0.040	-0.009	Reflective	0.036	<0.001
REL1	-0.085	(0.919)	-0.087	0.092	0.088	-0.073	-0.226	-0.154	-0.003	Reflective	0.036	<0.001
REL11	0.085	(0.919)	0.087	-0.092	-0.088	0.073	0.226	0.154	0.003	Reflective	0.036	<0.001
PSY4	0.137	0.042	(0.770)	-0.113	-0.089	0.028	0.435	0.036	-0.036	Reflective	0.037	<0.001
PSY14	-0.116	0.222	(0.772)	-0.080	-0.289	0.040	-0.248	-0.066	0.064	Reflective	0.037	<0.001
PSY22	-0.507	0.029	(0.696)	-0.046	-0.168	0.012	-0.255	-0.091	0.056	Reflective	0.037	<0.001
PSY27	-0.115	0.062	(0.639)	-0.226	-0.199	0.112	0.182	0.263	0.228	Reflective	0.037	<0.001
PSY30	-0.005	-0.115	(0.714)	0.292	0.369	-0.120	-0.189	-0.132	-0.139	Reflective	0.037	<0.001
PSY31	0.027	-0.181	(0.791)	0.011	0.098	0.047	0.365	0.144	-0.020	Reflective	0.037	<0.001
PSY32	0.539	-0.052	(0.727)	0.149	0.268	-0.117	-0.326	-0.138	-0.126	Reflective	0.037	<0.001
POL1	-0.140	0.019	-0.060	(0.808)	-0.081	0.011	-0.052	0.007	0.119	Reflective	0.037	<0.001
POL2	0.043	0.008	-0.012	(0.909)	0.113	-0.053	-0.079	-0.059	-0.058	Reflective	0.036	<0.001
POL3	0.084	-0.025	0.067	(0.878)	-0.043	0.045	0.129	0.055	-0.050	Reflective	0.036	<0.001
ECO1	0.143	0.021	-0.211	0.072	(0.875)	-0.068	-0.275	-0.134	-0.087	Reflective	0.037	<0.001
ECO5	0.164	-0.010	-0.242	0.106	(0.863)	-0.081	-0.299	-0.080	-0.053	Reflective	0.037	<0.001
ECO6	-0.245	0.014	0.434	-0.076	(0.859)	0.056	0.348	0.091	0.081	Reflective	0.037	<0.001
ECO8	-0.064	-0.025	0.023	-0.101	(0.879)	0.092	0.229	0.123	0.059	Reflective	0.036	<0.001
GOV1	0.069	0.248	-0.440	-0.010	-0.010	(0.636)	-0.177	-0.153	-0.126	Reflective	0.037	<0.001
GOV2	-0.114	-0.086	0.333	-0.102	-0.092	(0.816)	0.180	0.146	0.108	Reflective	0.037	<0.001
GOV3	-0.089	-0.094	0.107	0.057	0.006	(0.817)	-0.266	-0.024	0.093	Reflective	0.037	<0.001
GOV4	0.102	-0.003	0.244	-0.092	-0.163	(0.848)	0.155	0.192	0.067	Reflective	0.037	<0.001
GOV5	0.010	-0.032	0.129	0.114	-0.060	(0.780)	-0.237	-0.041	0.083	Reflective	0.037	<0.001
GOV8	0.044	-0.051	-0.493	0.110	0.336	(0.545)	0.045	-0.175	-0.250	Reflective	0.038	<0.001
GOV9	0.008	0.080	-0.215	-0.051	0.142	(0.549)	0.385	-0.069	-0.126	Reflective	0.038	<0.001
CUL2	0.038	0.066	-0.050	0.000	-0.058	0.012	(0.923)	-0.023	0.023	Reflective	0.036	<0.001
CUL8	-0.091	0.037	-0.036	-0.002	0.000	0.005	(0.910)	0.039	0.000	Reflective	0.036	<0.001
CUL10	0.114	-0.135	0.031	-0.012	0.060	0.019	(0.811)	0.098	-0.104	Reflective	0.037	<0.001
CUL13	-0.096	0.032	0.115	0.026	0.009	-0.066	(0.470)	-0.202	0.135	Reflective	0.038	<0.001
ETH1	0.099	0.028	-0.020	0.099	-0.018	-0.043	-0.370	(0.861)	0.064	Reflective	0.037	<0.001
ETH2	-0.171	-0.009	0.244	-0.068	-0.006	0.041	0.104	(0.924)	0.033	Reflective	0.036	<0.001
ETH5	-0.065	-0.024	-0.409	0.114	0.173	-0.085	0.295	(0.634)	-0.187	Reflective	0.037	<0.001
ETH6	0.121	0.000	0.053	-0.101	-0.094	0.057	0.038	(0.945)	0.035	Reflective	0.036	<0.001
DEC1	-0.002	-0.026	0.191	-0.106	-0.171	0.068	0.381	0.247	(0.846)	Reflective	0.037	<0.001
DEC2	-0.047	-0.029	-0.079	0.038	0.091	-0.034	-0.180	-0.140	(0.941)	Reflective	0.036	<0.001
DEC5	0.048	0.052	-0.092	0.058	0.063	-0.027	-0.163	-0.082	(0.940)	Reflective	0.036	<0.001

Notes: PCF= Positive Psychological Capital; Politic (POL)= political; Gov Social (GOV)= Cor-Government and Social; Eth Enviro (ETH)= Ethical and Environmental; DEC= Decision; PSY= Psychological; REL=Religion; ECO= Economic; CUL= Culture.

To ensure the reliability of the indicators loadings, their loading onto their constructs must meet or exceed 0.50. Table 5.12 shows that this criterion is met for all indicators and their respective constructs. All of the standardized factor loadings included in this study were significant at the $P < 0.001$ level, and they ranged from 0.470 to 0.945, as shown in Table 5.12. The loadings suggest that the instrument has acceptable convergent validity (Hair, et al., 2010). This table can also be used to test discriminant validity by verifying the indicators load the strongest on their intended construct and that they do not load within an order of magnitude on any other construct (Gefen & Straub, 2005).

It is the basic assumption of SEM that there should not be significant correlation among the variables. If the variables are interrelated the results are spurious. To check the correlation among the latent variables we used the square roots of the AVEs to determine whether a study has discriminant validity (Kock and Verville, 2012).

Table 5.13 shows the square roots of the AVEs of the latent variables. The correlations are on the diagonal. To ensure discriminant validity for each latent construct, the square roots of the AVEs should be larger than any of the correlations involving that latent construct (Kock, 2015, cited in Elbaz, 2013). It can be concluded that the indicator loadings are significant (p -values are less than 0.05) and indicate adequate validity of the measurement model.

Table 5.13: Correlations among Latent Variables

	PCF	Religious	Psychological	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
PCF	(0.859)	-0.459	0.728	0.366	0.737	0.298	-0.167	0.296	0.364
Religious	-0.459	(0.919)	-0.495	-0.237	-0.475	-0.154	0.217	-0.181	-0.254
Psychology	0.728	-0.495	(0.731)	0.361	0.656	0.353	-0.449	0.359	0.477
Politic	0.366	-0.237	0.361	(0.866)	0.323	0.054	-0.124	0.083	0.149
Economic	0.737	-0.475	0.656	0.323	(0.869)	0.204	-0.215	0.231	0.371
GovSocial	0.298	-0.154	0.353	0.054	0.204	(0.723)	-0.261	0.229	0.242
Culture	-0.167	0.217	-0.449	-0.124	-0.215	-0.261	(0.800)	-0.224	-0.439
EthEnviro	0.296	-0.181	0.359	0.083	0.231	0.229	-0.224	(0.850)	0.311
Decision	0.364	-0.254	0.477	0.149	0.371	0.242	-0.439	0.311	(0.910)

Note: Square roots of average variances extracted (AVEs) shown on diagonal.

Table 5.13 indicates that the square roots of the AVEs of each construct are greater than the construct's highest squared correlation with any other construct. In other words, the individual square roots of the AVEs have the highest value of any of the correlations shown below or above them. This signifies that each construct has specific characteristics.

Thus, it can be established that the latent variables have appropriate discriminant validity and the study constructs measure what the questionnaire intended to measure. Furthermore, full collinearity variance inflation factors (VIFs) are acquired for all of the constructs and used to test discriminant validity and overall collinearity (see Table 5.14) (Kock, 2015).

Table 5.14: Full Collinearity for all Latent Variables

Full Collinearity (VIFs)									
Constructs	PCF	Religious	Psy.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
Full VIFs	3.150	1.412	3.383	1.217	2.456	1.203	1.509	1.210	1.486

Table 5.14 shows that the full collinearity for all 10 constructs is lower than 5. This indicates that sufficient full VIFs are met for the reflective constructs, indicating there is sufficient discriminant validity. Moreover, according to Elbaz (2013), testing discriminant validity can be established by using the indicators weight for the indicators/items, VIFs and their p-value. Table 5.15 presents the indicators' weights. This table shows that all indicators' p-values for the weights associated with the latent variables are significant (p-values of all indicators are lower than 0.05). This indicates that the formative latent variables' measurement indicators were properly constructed.

The table also provides the VIFs for all of the indicators of the latent variables. As was stated before (Table 5.14), some indicators were removed as their VIFs were larger than 10. The remaining items were all lower than 10 (Kock, 2015; Hair et al., 2011; Garza, 2011). Standard issue errors are also provided for all indicators' weights. All of the indicators have sufficient discriminant validity.

Table 5.15: Indicator Weights

	PCF	Religious	Psy.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision	Type	P	VIF	WLS	ES	
PCF2	(0.380)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	1.871	1	0.319
PCF10	(0.372)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	1.734	1	0.306
PCF21	(0.412)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.038	<0.001	2.469	1	0.375
REL1	0.000	(0.544)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.038	<0.001	1.897	1	0.500
REL11	0.000	(0.544)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.038	<0.001	1.897	1	0.500
PSY4	0.000	0.000	(0.206)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	2.496	1	0.158
PSY14	0.000	0.000	(0.206)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	3.715	1	0.159
HEU22	0.000	0.000	(0.186)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	3.106	1	0.129
PSY27	0.000	0.000	(0.171)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	1.817	1	0.109
PSY30	0.000	0.000	(0.191)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	2.650	1	0.136
PSY31	0.000	0.000	(0.211)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	2.940	1	0.167
PSY32	0.000	0.000	(0.194)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	2.396	1	0.141
POL1	0.000	0.000	0.000	(0.359)	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	1.604	1	0.290
POL2	0.000	0.000	0.000	(0.404)	0.000	0.000	0.000	0.000	0.000	Reflective	0.038	<0.001	2.556	1	0.367
POL3	0.000	0.000	0.000	(0.390)	0.000	0.000	0.000	0.000	0.000	Reflective	0.038	<0.001	2.253	1	0.343
ECO1	0.000	0.000	0.000	0.000	(0.290)	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	3.223	1	0.253
ECO5	0.000	0.000	0.000	0.000	(0.286)	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	3.139	1	0.247
ECO6	0.000	0.000	0.000	0.000	(0.284)	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	3.083	1	0.244
ECO8	0.000	0.000	0.000	0.000	(0.291)	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	3.282	1	0.256
GOV1	0.000	0.000	0.000	0.000	0.000	(0.174)	0.000	0.000	0.000	Reflective	0.039	<0.001	1.977	1	0.111
GOV2	0.000	0.000	0.000	0.000	0.000	(0.223)	0.000	0.000	0.000	Reflective	0.039	<0.001	3.412	1	0.182
GOV3	0.000	0.000	0.000	0.000	0.000	(0.223)	0.000	0.000	0.000	Reflective	0.039	<0.001	2.890	1	0.182
GOV4	0.000	0.000	0.000	0.000	0.000	(0.231)	0.000	0.000	0.000	Reflective	0.039	<0.001	3.618	1	0.196
GOV5	0.000	0.000	0.000	0.000	0.000	(0.213)	0.000	0.000	0.000	Reflective	0.039	<0.001	2.415	1	0.166
GOV8	0.000	0.000	0.000	0.000	0.000	(0.149)	0.000	0.000	0.000	Reflective	0.040	<0.001	1.783	1	0.081
GOV9	0.000	0.000	0.000	0.000	0.000	(0.150)	0.000	0.000	0.000	Reflective	0.040	<0.001	1.611	1	0.082
CUL2	0.000	0.000	0.000	0.000	0.000	0.000	(0.361)	0.000	0.000	Reflective	0.039	<0.001	4.628	1	0.333
CUL8	0.000	0.000	0.000	0.000	0.000	0.000	(0.356)	0.000	0.000	Reflective	0.039	<0.001	4.311	1	0.324
CUL10	0.000	0.000	0.000	0.000	0.000	0.000	(0.317)	0.000	0.000	Reflective	0.039	<0.001	1.729	1	0.257
CUL13	0.000	0.000	0.000	0.000	0.000	0.000	(0.184)	0.000	0.000	Reflective	0.039	<0.001	1.110	1	0.086
ETH1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.298)	0.000	Reflective	0.039	<0.001	2.579	1	0.257
ETH2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.320)	0.000	Reflective	0.039	<0.001	4.638	1	0.295
ETH5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.219)	0.000	Reflective	0.039	<0.001	1.309	1	0.139
ETH6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.327)	0.000	Reflective	0.039	<0.001	5.870	1	0.309
DEC1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.340)	Reflective	0.039	<0.001	1.896	1	0.288
DEC2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.379)	Reflective	0.039	<0.001	4.810	1	0.356
DEC5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.379)	Reflective	0.039	<0.001	4.801	1	0.356

Notes: *p*-values < 0.05 and VIFs < 2.5 are desirable for formative indicators; VIF = indicator variance inflation factor; WLS = indicator weight-loading sign (-1 = Simpson's paradox in *I.v.*); ES = indicator effect size.

5.4.1.3 Convergent Validity of the Reflective Measurement Model

Convergent validity means that a set of indicators signifies the same underlying constructs, which can be illustrated through their unidimensionality (Henseler et

al., 2009). In this section of the current study, convergent validity is examined by extracting the factor loadings and cross-loadings of all the indicators on their respective latent variables (see Table 5.16).

Table 5.16: Structural Loading and Cross Loading

	PCF	Religious	Psy.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
PCF2	(0.840)	-0.366	0.692	0.348	0.651	0.275	-0.078	0.328	0.349
PCF10	(0.822)	-0.481	0.635	0.382	0.646	0.182	-0.304	0.167	0.328
PCF21	(0.911)	-0.344	0.557	0.224	0.605	0.306	-0.060	0.266	0.265
REL1	-0.497	(0.919)	-0.491	-0.178	-0.461	-0.220	0.112	-0.284	-0.230
REL11	-0.347	(0.919)	-0.419	-0.257	-0.412	-0.063	0.288	-0.048	-0.237
PSY4	0.652	-0.357	(0.770)	0.223	0.529	0.270	-0.058	0.274	0.268
PSY14	0.386	-0.200	(0.772)	0.173	0.293	0.341	-0.572	0.270	0.439
PSY22	0.236	-0.261	(0.696)	0.148	0.235	0.271	-0.565	0.206	0.397
PSY27	0.417	-0.252	(0.639)	0.062	0.341	0.362	-0.352	0.439	0.451
PSY30	0.571	-0.452	(0.714)	0.472	0.609	0.114	-0.308	0.132	0.269
PSY31	0.704	-0.526	(0.791)	0.336	0.645	0.290	-0.141	0.355	0.319
PSY32	0.730	-0.472	(0.727)	0.411	0.683	0.163	-0.335	0.175	0.317
POL1	0.076	-0.056	0.101	(0.808)	0.071	-0.012	-0.100	-0.005	0.089
POL2	0.424	-0.273	0.419	(0.909)	0.395	0.040	-0.151	0.073	0.161
POL3	0.429	-0.273	0.397	(0.878)	0.354	0.108	-0.070	0.141	0.133
ECO1	0.625	-0.405	0.545	0.324	(0.875)	0.115	-0.263	0.102	0.285
ECO5	0.639	-0.420	0.562	0.340	(0.863)	0.126	-0.297	0.159	0.330
ECO6	0.649	-0.411	0.637	0.252	(0.859)	0.227	-0.095	0.268	0.349
ECO8	0.648	-0.415	0.538	0.207	(0.879)	0.242	-0.094	0.276	0.326
GOV1	-0.202	0.297	-0.230	-0.190	-0.259	(0.636)	-0.023	-0.111	-0.124
GOV2	0.349	-0.246	0.448	0.056	0.268	(0.816)	-0.266	0.331	0.321
GOV3	0.334	-0.280	0.491	0.152	0.291	(0.817)	-0.491	0.259	0.399
GOV4	0.407	-0.217	0.463	0.068	0.268	(0.848)	-0.239	0.383	0.305
GOV5	0.363	-0.246	0.480	0.203	0.285	(0.780)	-0.449	0.241	0.371
GOV8	0.052	-0.006	-0.065	-0.002	0.049	(0.545)	0.144	-0.105	-0.155
GOV9	0.014	0.104	-0.107	-0.119	-0.036	(0.549)	0.275	-0.051	-0.155
CUL2	-0.224	0.284	-0.490	-0.152	-0.284	-0.248	(0.923)	-0.240	-0.419
CUL8	-0.264	0.270	-0.484	-0.162	-0.286	-0.255	(0.910)	-0.194	-0.419
CUL10	0.076	-0.002	-0.205	-0.014	0.016	-0.158	(0.811)	-0.092	-0.348
CUL13	-0.090	0.105	-0.189	-0.040	-0.091	-0.167	(0.470)	-0.213	-0.151
ETH1	0.356	-0.232	0.479	0.189	0.287	0.248	-0.468	(0.861)	0.443
ETH2	0.285	-0.190	0.402	0.055	0.248	0.266	-0.240	(0.924)	0.324
ETH5	-0.076	0.077	-0.198	-0.024	-0.079	-0.125	0.328	(0.634)	-0.158
ETH6	0.353	-0.207	0.402	0.042	0.257	0.297	-0.245	(0.945)	0.336
DEC1	0.348	-0.219	0.419	0.065	0.288	0.268	-0.213	0.435	(0.846)
DEC2	0.305	-0.254	0.430	0.156	0.356	0.193	-0.500	0.184	(0.941)
DEC5	0.343	-0.221	0.452	0.178	0.364	0.206	-0.467	0.245	(0.940)

Therefore, Table 5.16 illustrates that the validity of the measurement scale was convergent because of the high item loadings (i.e., all the indicators are greater than or equal to 0.5) on their associated latent variables.

Henseler et al. (2009) and Hair et al. (2011) recommend using the AVE as a criterion for the convergent validity of reflective indicators. An AVE value should be higher than 0.5 to signify adequate convergent validity; this means that a latent construct is able to explain more than half of the variance of its indicators on average (see Table 5.17).

Table 5.17: Testing Convergent Validity Using Average Variance Extracted (AVE)

Average Variance Extracted (AVE)									
Construct	PCF	Religious	Psych	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
AVE	0.737	0.844	0.535	0.749	0.755	0.523	0.639	0.722	0.828

Table 5.17 shows the AVEs for the study latent variables. All are above the 0.50 threshold, meaning that the measurement latent variables show sufficient convergent validity.

5.4.1.4 Construct Reliability Measurement Model

According to Kock (2015), reliability is a measure of the value of a construct's instrument; the instrument itself is characteristically a set of question-statements.

A measurement instrument has respectable reliability if the question-statements (or other measures) related with each constructs are understood in the same way by different survey participants (Kock, 2015). Construct reliability concerns the internal consistency of the measurement model (Andreev et al., 2009: 6; Elbaz, 2013). For estimating internal consistency, two measures are employed: (1) Cronbach's alpha and (2) the composite reliability should be larger than 0.7 for the reliability to be considered acceptable, 0.80 to be sufficient and 0.90 to be excellent (Kock and Verville, 2012).

Table 5.18: Reliability Coefficients for the First Order Constructs

Composite Reliability Coefficients								
PCF	Religious	Psy.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
0.894	0.915	0.889	0.900	0.925	0.882	0.870	0.911	0.935
Cronbach's Alpha Coefficients								
PCF	Religious	Psy.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
0.821	0.815	0.854	0.832	0.892	0.843	0.793	0.864	0.895

Table 5.18 provides the composite reliability and Cronbach's alpha coefficients for the reflective latent variables. These composite reliability coefficients for all latent variables are high (ranging from 0.882 to 0.925) and above the 0.7 advocated threshold for each one of the constructs. Moreover, Cronbach's alpha coefficients, for all constructs, range from 0.793 to 0.895 (Cronbach's alpha for the response latent variables are the only questionable constructs among the others). Thus, it

can be concluded that the measurement instruments used in the current study have sufficient reliability.

5.4.2 Results of the Structural Model: The Kingdom of Saudi Arabia

The WarpPLS software 5.0 employed in this study provides ten model fits and quality indices (see Table 5.19). Consequently, it can be concluded that the ten criteria for the model fit and quality indices are established in this study.

Table 5.19: Model Fit and Quality Indices

Criterion	Assessment	Supported
(1) Average Path Coefficient (APC)	0.166	Supported
(2) Average R-squared (ARS)	0.538	Supported
(3) Average adjusted R-squared (AARS)	0.532	Supported
(4) Average block VIF (AVIF)	4.786	Supported
(5) Average full collinearity VIF (AFVIF)	1.829	Supported
(6) Tenenhaus GoF (GoF)	0.617	Supported
(7) Simpson's paradox ratio (SPR)	0.765	Supported
(8) R-squared contribution ratio (RSCR)	0.944	Supported
(9) Statistical suppression ratio (SSR)	1.000	Supported
(10) Nonlinear bivariate causality direction ratio (NLBCDR)	0.853	Supported

Note: Average path coefficient (APC)=0.166, $P < 0.001$; Average R-squared (ARS)=0.538, $P < 0.001$; Average adjusted R-squared (AARS)=0.532, $P < 0.001$; Average block VIF (AVIF)=4.786, acceptable if ≤ 5 , ideally ≤ 3.3 ; Average full collinearity VIF (AFVIF)=1.829, acceptable if ≤ 5 , ideally ≤ 3.3 ; Tenenhaus GoF (GoF)=0.617, small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36 ; Simpson's paradox ratio (SPR)=0.765, acceptable if ≥ 0.7 , ideally = 1; R-squared contribution ratio (RSCR)=0.944, acceptable if ≥ 0.9 , ideally = 1; Statistical suppression ratio (SSR)=1.000, acceptable if ≥ 0.7 ; Nonlinear bivariate causality direction ratio (NLBCDR)=0.853, acceptable if ≥ 0.7 .

The previous criteria of the model fit indices (see Table 5.19) can be illustrated according to Kock (2015) as follows:

Table 5.20. Model Fit and Quality Indices Illustration

Index	Description	Threshold
Average Path Coefficient (APC)	The regression values of independent variables on the dependent ones	$P < 0.05$
Average R-squared (ARS)	The variance explained in the dependent variable by the independent variables	$P < 0.05$
Average Adjusted R-squared (AARS)	Corrects the spurious increases in R-squared coefficients due to predictors that add no explanatory value in each latent variable block	$P < 0.05$
Average block VIF (AVIF)	Checks the vertical collinearity in the model's latent variable blocks	acceptable if ≤ 5
Average full collinearity VIF (AFVIF)	It checks the multicollinearity of the whole model	ideally if ≤ 3.3
Tenenhaus GoF (GoF)	A measure of a model's explanatory power and global goodness of fit	small ≥ 0.1 , medium ≥ 0.25 , and large ≥ 0.36
Sympson's paradox ratio (SPR)	A measure of the extent to which a model is free from Simpson's paradox instances	acceptable if ≥ 0.7
R-squared contribution ratio (RSCR)	A measure of the extent to which a model is free from negative R-squared contributions	acceptable if ≥ 0.9
Statistical suppression ratio (SSR)	A measure of the extent to which a model is free from statistical suppression instances	acceptable if ≥ 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)	A measure of the extent to which bivariate nonlinear coefficients of association provide support for the hypothesized directions of the causal links in a model	acceptable if ≥ 0.7

Figure 5.1 shows the findings of the path coefficient analysis, illustrating the hypothesized effects of the structural model and the relationships between the latent variables.

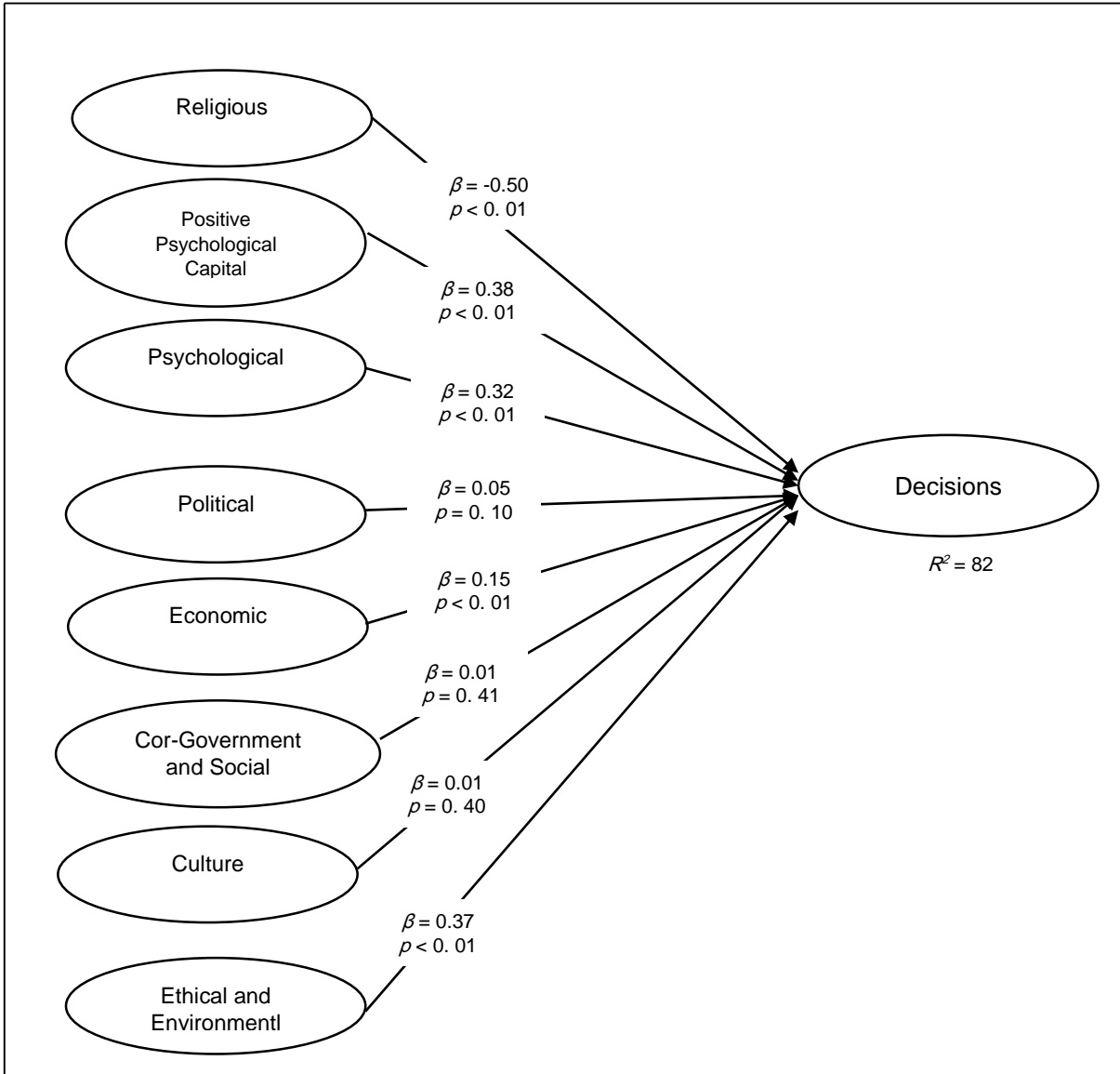


Figure 5.1. The Results of the Structure Relationship Model: The Kingdom of Saudi Arabia

Figure 5.1 and Tables 5.21 and 5.22 present the results of the partial least squared SEM analysis. Elbaz (2013) stated that measuring explanatory power includes assessing the R-squared values (R^2) and exploring the effect sizes (f^2) of a model's constructs. The power of the substantive effect of an exogenous construct can be

estimated as follows: effect size $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}})/(1 - R^2_{\text{included}})$ (Henseler et al., 2009: 303); values of 0.02, 0.15, and 0.35 can be viewed as indicating that an exogenous construct has a less, medium or large effect at the structural level (Kock, 2015). Consequently, the following discussion will address these two measures (Elbaz, 2013; Henseler et al., 2009; Hiar et al., 2011; Vinzi et al., 2010; Elias, 2011; Garza, 2011).

To simply explore the study results, the following discussion is divided into four main points: first, this section will examine the relationship of internal factors which, in this study, consist of three main variables which are: (1) positive psychological capital, (2) religiosity factors, and (3) psychological (cognitive and emotions) factors on individual investor's decision-making. Second, in this section the study will examine the relationship of External Factors which consist of five main latent variables, which are: (1) political factor, (2) economic factor, (3) corporate governance and social factors (4) Cultural Factor, and (5) ethical and environmental factors on individual investors' decision-making.

5.4.2.1 The Influence of Internal Factors on Individual Investors' Decision-making

Internal factors in this study consist of three main variables, which are: (1) religiosity factors (REL), (2) positive psychological capital (PCF), and (3) psychological (cognitive and emotional) factors (PSY). This section is concerned

with assessing three direct relationships hypothesized (H1, H2, and H3). The first hypothesis deals with the impact of the religiosity factor (REL) on the individual investor's decision-making. Table 5.21 summarizes the results that will be discussed.

Table 5.21: Results of the Direct Relations from Internal and External Factors to Individual Investors' Decision-making

Independent Variables	B	P. Value	f ²	H	Hypotheses supported/Not supported
Religiosity Factor → Decision-making	-0.50	<0.01	0.193	H1	Rejected
Positive Psychological Factor → Decision-making	0.38	<0.01	0.163	H2	Supported
Psychological Factor → Decision-making	0.32	<0.01	0.184	H3	Supported
Political Factor → Decision-making	0.05	=0.10	0.012	H4	Rejected
Economic Factor → Decision-making	0.15	<0.01	0.061	H5	Supported
Governance and Social → Decision-making	0.01	=0.41	0.004	H6	Rejected
Cultural Factor → Decision-making	0.01	=0.40	0.005	H7	Rejected
Ethical and environment Factor → Decision-making	0.37	<0.01	0.208	H8	Supported
R² Coefficient for Dependent Variables					
Dependent Latent Variables	R² Coefficient		Assessment		
Individual Investors' Decision-making	R ² = 0.82		Strong Effect		

Table 5.21 shows that the research variable (religiosity factor (REL)) has a significant and negative impact on the individual investor's decision-making (standardised estimate = -0.50, P< 0.01). Moreover, the analysis of the data collected shows that the effect size of the religiosity factor (REL) on the individual investor's decision-making is medium (f²=0.19).

The second hypothesis deals with the impact of the positive psychological capital (PCF) on the individual investor's decision-making. The analysis of the data

collected shows that the research variable (the positive psychological capital) has a significant positive impact on the individual investor's decision-making (standardised estimate = 0.38, $P < 0.01$). Moreover, the analysis of the data collected shows that the effect size of the positive psychological capital on the individual investor's decision-making is medium ($f^2=0.16$).

The third hypothesis deals with the impact of the Psychological (Cognitive and Emotional) factor (PSY) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (psychological (Cognitive and Emotions) factor (PSY) has a significant positive impact on the individual investor's decision-making (standardised estimate = 0.32, $P < 0.01$). Moreover, the analysis of the data collected shows that the effect size of the psychological (cognitive and emotional) factor on the individual investor's decision-making is medium ($f^2=0.18$).

5.4.2.2 The Influence of External Factors on Individual Investors' Decision-making

External factors in this study consist of five main variables: (1) political factor (POL), (2) economic factor (ECO), (3) corporate governance and social factor (GvEnvir), (4) cultural factor (CUL), and (5) ethical and environment factors. This section is concerned with assessing the five direct relationships hypothesized (H4, H5, H6, H7, and H8).

The fourth hypothesis deals with the impact of the political factor (POL) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (political factor (POL)) has insignificant impact on the individual investor's decision-making (standardised estimate = 0.05, $P = 0.10$). Moreover, the analysis of the data collected shows that the effect size of the political factor (POL) on the individual investor's decision-making is very small (No effect) ($f^2 = 0.01$).

The fifth hypothesis deals with the impact of the economic factor (ECO) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (economic factor (ECO)) has a significant positive impact on the individual investor's decision-making (standardised estimate = 0.15, $P < 0.01$). Moreover, the analysis of the data collected shows that the effect size of the economic factor (ECO) on the individual investor's decision-making is small ($f^2 = 0.06$).

The sixth hypothesis deals with the impact of the corporate governance and social factor (GovSocial) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (Corporate governance and social factor (GovSocial)) has an insignificant positive impact on the individual investor's decision-making (standardised estimate = 0.01, $P = 0.41$). Moreover, the analysis of the data collected shows that the effect size of the corporate governance and

social factor (GovSocial) on the individual investor's decision-making is zero (No effect) ($f^2=0.004$).

The seventh hypothesis deals with the impact of the Cultural Factor (CUL) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (Cultural Factor (CUL)) has an insignificant positive impact on the individual investor's decision-making (standardised estimate = 0.01, $P=0.40$). Moreover, the analysis of the data collected shows that the effect size of the Cultural Factor (GovSocial) on the individual investor's decision-making is zero (No effect) ($f^2=0.005$).

The eighth hypothesis deals with the impact of the ethical and environment factor (EthEnviro) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (ethical and environmental factor (EthEnviro)) has a significant positive impact on the individual investor's decision-making (standardised estimate = 0.37, $P < 0.01$). Moreover, the analysis of the data collected shows that the effect size of the ethical and environmental factor (EthEnviro) on the individual investor's decision-making is medium ($f^2=0.21$).

These independent variables' internal factors ((1) religiosity factors (REL), (2) positive psychological capital (PCF), and (3) psychological (cognitive and emotional) factor (PSY)) strongly explain the individuals investor's decision-making with an $R^2=0.82$. Accordingly, the hypotheses H2, H3, H5 and H8 have a significant positive impact on the individual investor's decision-making. It can be

concluded that these hypotheses are supported. However, the hypotheses H4, H6, H7, H10 and H15 and H12 have insignificant relationship and in turn have no effect on the individual investor's decision-making. Furthermore, the hypotheses H1, H9 and H12 have a negative impact. Thus, it can be concluded that these hypotheses are not supported.

5.4.2.5 Predictive Validity (Relevance)

Along with the previous criteria/measurement model fit and quality indices (see Section 5.3.1), it is required to assess the predictive relevance of the independent latent variables (Stone-Geisser's Q^2 test) (Table 5.22) (Roldan and Sanchez-Franco, 2012). Kock (2015) stated that a Q^2 larger than 0 means that the model has predictive relevance, whereas a Q^2 lower than 0 indicates that the model is deficient in predictive relevance. Kock (2015: 101) claimed that "the Q-squared coefficient is a nonparametric measure traditionally calculated via blindfolding. The Q-squared coefficient is sometimes referred to as a resampling analogue of the R-squared. It is often similar in value to that measure". Table 5.22 provides predictive relevance of the independent constructs.

Table 5.22: The Predictive Relevance of the Independent Constructs

Q^2 Coefficient for Independent Latent Variables		
Dependent Latent Variables	Q^2 Coefficient	Assessment
Individual investors' decision-making	$Q^2= 0.38$	Moderate Effect

Table 5.22 demonstrates that the Q-squared coefficients for the predictive relevance (validity) associated with each latent variable block in the model, through the dependent latent variables, are all greater than zero, which indicates that the model has predictive relevance. Table 5.23 provides a summary of the results.

Table 5.23: Summary of Results of the Kingdom of Saudi Arabia's Model

Number of Hypotheses	Hypothesis	Supported/ Rejected
H1	The Religiosity related factors have a positive impact on the individual investor's decision-making.	Rejected
H2	The Positive Psychological Capital related factors have a positive impact on the individual investor's decision-making.	Supported
H3	The Psychological (Cognitive & Emotions) related factors have a positive impact on the individual investor's decision-making.	Supported
H4	The Political related factors have a positive impact on the individual investor's decision-making.	Rejected
H5	The Economic related factors have a positive impact on the individual investor's decision-making.	Supported
H6	The Corporate governance and social related factors have a positive impact on the individual investor's decision-making.	Rejected
H7	The Culture related factors have a positive impact on the individual investor's decision-making.	Rejected
H8	The Ethical and environment related factors have a positive impact on the individual investor's decision-making.	Supported

5.5 Quantitative Data and Results: The Sultanate of Oman

5.5.1 Introduction

In this chapter, the analyses and findings of the quantitative data collection – for the Sultanate of Oman - will be discussed. As discussed in the first model of the Kingdom of Saudi Arabia, this section begins with the descriptive statistics for the main survey and each latent variable of the main model of this study, followed by the descriptive statistics of the personal information. The discriminant and convergent validity and latent variable consistency of the measurement models are then established. It also concludes with an analysis and presentation of the study results of the structural relationship models.

It can be demonstrated that the findings are divided into three main sections as follows: firstly, this section will examine the influence of internal factors which, in this study, consist of three main variables: (1) positive psychological capital, (2) religiosity factors, and (3) psychological (cognitive and emotional) factors on individual investors' decision-making. Secondly, in this section the study will examine the influence of external factors, which consist of five main latent variables: (1) political factor, (2) economic factor, (3) corporate governance and social factor (4) cultural factor, and (5) ethical and environmental factor on individual investors' decision-making. Third, this section highlights the demographic information of the individual investors in the Sultanate.

5.5.2 Descriptive Data Findings for the Main Constructs of the Research Model

In this section, descriptive data will be discussed for the main questionnaire questions. These variables include Internal Factors which, in this study, consist of three main variables: (1) positive psychological capital, (2) religiosity factors, and (3) psychological (cognitive and emotions) factors. It also includes the External Factors, which consist of five main latent variables: (1) Political Factor, (2) Economic Factor, (3) Corporate Governance and Social Factor (4) Cultural Factor, and (5) Ethical and Environmental Factors. The descriptive statistics for the individual investor's demographic will then be discussed.

5.5.3 Descriptive Data Findings for the Main Constructs

In this section, descriptive data will be discussed for the main questionnaire questions of the Sultanate of Oman. These variables include: Internal Factors which, in this study, consist of three main variables: (1) Positive Psychological Capital, (2) Religiosity Factor, and (3) Psychological Factors. It also includes the External Factors which consist of main five latent variables: (1) Political Factor, (2) Economic Factor, (3) Corporate Governance and Social Factors (4) Cultural Factor, and (5) Ethical and Environmental Factors. The descriptive statistics for the demographic information will then be discussed.

5.5.3.1 Positive Psychological Capital

In general, the local individual investors in the Sultanate of Oman representatives' responses' average on the Positive Psychological Capital Construct (PCF) are mostly 'Agree' (3.94) on 'PCF13' "I usually manage difficulties one way or another at work" to strongly agree (4.57) on 'PCF7' "I have the ability to make a plan for my goals for the next five years" (see Table 5.24).

Table 5.24: Descriptive Statistics of the Positive Psychological Capital Statement

(PCF); 15 Items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
PCF1=In uncertain times, I usually expect the best.	4	0.7	28	4.7	0	0.0	278	47.1	280	47.5	590	100.0	4.36
PCF2=I always look on the bright side of things.	8	1.4	28	4.7	0	0.0	321	54.4	233	39.5	590	100.0	4.26
PCF3=Overall, I expect more good things to happen to me than bad.	8	1.4	28	4.7	0	0.0	228	38.6	326	55.3	590	100.0	4.42
PCF4=I have confidence in my ability to solve my investment problems in a creative way.	13	2.2	23	3.9	0	0.0	300	50.8	254	43.1	590	100.0	4.29
PCF5=I am good at further developing the ideas of others.	13	2.2	23	3.9	0	0.0	309	52.4	245	41.5	590	100.0	4.27
PCF6=I have the ability to listen carefully to concerns and solve problems creatively.	17	2.9	19	3.2	0	0.0	309	52.4	245	41.5	590	100.0	4.26
PCF7=I have the ability to make a plan for my goals for the next five years.	17	2.9	15	2.5	4	0.7	133	22.5	421	71.4	590	100.0	4.57
PCF8=I feel confident analysing a long-term problem to find a solution.	4	0.7	32	5.4	0	0.0	371	62.9	183	31.0	590	100.0	4.18
PCF9=I feel confident about helping to set targets/goals in my area of work.	4	0.7	28	4.7	4	0.7	205	34.7	349	59.2	590	100.0	4.47
PCF10=I can think of many ways to get out of any problem.	8	1.4	15	2.5	53	0.9	238	40.3	276	46.8	590	100.0	4.29
PCF11=I usually meet the goals that I set for myself.	8	1.4	28	4.7	0	0.0	342	58.0	212	35.9	590	100.0	4.22
PCF12=My past experiences have prepared me well for my future.	8	1.4	15	2.5	13	2.2	178	30.2	376	63.7	590	100.0	4.52
PCF13=I usually manage difficulties one way or another at work.	8	1.4	28	4.7	0	0.0	508	86.1	46	7.8	590	100.0	3.94
PCF14=I am determined to overcome difficulties that I encounter in my investment.	4	0.7	32	5.4	56	9.5	293	49.7	205	34.7	590	100.0	4.12
PCF15=When I have a setback in my job search, I usually do not have trouble recovering from it.	4	0.7	32	5.4	42	7.1	101	17.1	411	69.7	590	100.0	4.50

These responses signify that the respondents strongly believe in "PCF7", as the local individual investors in Sultanate of Oman have a strategic vision. Table 5.24 illustrates the descriptive statistics of the Positive Psychological Capital construct

for the Sultanate of Oman. This table gives descriptive statistics of the 15 items (UV1 to UV15) of the PCF by introducing the item's frequencies, strongly disagree (SD), disagree (D), Neutral (N), agree (A), strongly agree (SA) and the mean.

5.5.3.2 Religiosity Factor (REL)

In general, the Sultanate of Oman individual investors representatives' responses' average on the Religiosity Construct are mostly 'Agree' (4.08) on 'REL4' "I believe that Allah (God) helps me" to 'Strongly Agree' (4.52) on 'REL3' "The Prophet Muhammad (peace-be-upon-him) is the role model for me". These responses signify that the respondents believe in "REL3", as the individual investors in the Sultanate of Oman consider the Islamic religion to carry an important and guiding role, and that a strong belief in The Prophet Muhammad (peace-be-upon-him) should remain with them their entire life.

Table 5.25: Descriptive Statistics of the Religiosity Factor Statement

(REL); 8 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
REL1=The Dua'aa (supplication) supports me.	15	2.5	17	2.9	0	0.0	245	41.5	313	53.1	590	100.0	4.40
REL2=Islam helps me to have a better life.	0	0.0	32	5.4	0	0.0	411	69.7	147	24.9	590	100.0	4.14
REL3=The Prophet Muhammad (peace-be-upon-him) is the role model for me	13	2.2	19	3.2	0	0.0	176	29.8	382	64.7	590	100.0	4.52
.REL4=I believe that Allah (God) helps me	28	4.7	4	0.7	0	0.0	322	54.6	189	32.0	590	100.0	4.08
.REL5=I perform the obligation of Zakat.	17	2.9	15	2.5	0	0.0	286	48.5	272	46.1	590	100.0	4.32
REL6=I prefer to invest in Shariah-Compliant companies.	32	5.4	0	0.0	0	0.0	321	54.4	237	40.2	590	100.0	4.24
RE7=I seek to make my investment based on Islamic jurisprudence.	15	2.5	13	2.2	46	7.8	135	22.9	381	64.6	590	100.0	4.45
REL8=I assign great importance to investing in companies that rely on the Islamic banking system.	0	0.0	32	5.4	47	8.0	292	49.5	219	37.1	590	100.0	4.18

Table 5.25 shows the descriptive statistics of the Religiosity Factor. This table gives descriptive statistics of the 8 items (REL1 to REL8) of the Mission by introducing the item's frequencies, strongly disagree (SD), disagree (D), Neutral (N), agree (A), strongly agree (SA) and the mean.

5.5.3.3 The Psychological (Cognitive and Emotional) Factor (PSY)

In terms of the Psychological Factor, Table 5.26 demonstrates that respondents have opinions ranging from 'Agree' (3.53) on 'PSY7' "I feel more confident in my own investment opinions than in the opinion of my colleagues or friends" to 'Strongly Agree' (4.61) on 'PSY15' "I use the purchase price of stock as a reference point in stock trading". Table 5.26 shows the descriptive statistics of the Psychological Factor.

Table 5.26: Descriptive Statistics of the Psychological (Cognitive and Emotional) Factors

(Psychological); 20 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
PSY1=I base my investment decisions on the past returns of the stock, as an indicator of future returns	4	0.7	22	3.7	1	0.2	248	42.0	315	53.4	590	100.0	4.44
PSY2=Good stocks are firms with past consistent earnings growth	6	1.0	19	3.2	0	0.0	375	63.6	190	32.2	590	100.0	4.23
PSY3=I buy hot stocks and avoid stocks that perform poorly	20	3.4	6	1.0	1	0.2	354	60.0	209	35.4	590	100.0	4.23
PSY4=I tend to invest in the stocks of companies that have a local or regional business presence more than those that do not	0	0.0	25	4.2	1	0.2	322	54.6	242	41.0	590	100.0	4.32
PSY5=I believe that I am less likely than many others to suffer from bad events	0	0.0	23	3.9	55	9.3	249	42.2	263	44.6	590	100.0	4.27
PSY6=I use predictive skills to set my investment decision-making	8	1.4	19	3.2	56	9.5	316	53.6	191	32.4	590	100.0	4.12
PSY7=I feel more confident in my own investment opinions than in the opinions of my colleagues or friends	2	0.3	26	4.4	0	0.0	191	32.4	371	62.9	590	100.0	3.53
PSY8=I believe that my skills and knowledge about the stock market can help me to outperform the market	11	1.9	18	3.1	0	0.0	240	40.7	321	54.4	590	100.0	4.43
PSY9=After a prior loss, I become more risk averse	5	0.8	21	3.6	0	0.0	266	45.1	298	50.5	590	100.0	4.41
PSY10=I prefer to invest in low risk/return stocks with a steady performance	8	1.4	15	2.5	0	0.0	198	33.6	369	62.5	590	100.0	4.53
PSY11=I feel nervous when large paper losses (price drops) occur in my invested stocks	4	0.7	22	3.7	0	0.0	360	61.0	204	34.6	590	100.0	4.25
PSY12=I would increase the sum of my stock market holdings if in the last month, the aggregate trading volume in the stock market was higher than usual	19	3.2	5	0.8	0	0.0	190	32.2	376	63.7	590	100.0	4.52
PSY13=Other investors' decisions of choosing stock types have an impact on my investment decisions	19	3.2	4	0.7	2	0.3	258	43.7	307	52.0	590	100.0	4.41
PSY14=I react quickly to the changes of other investors' decisions and follow their reactions to the stock market	7	1.2	21	3.6	56	9.5	277	46.9	229	38.8	590	100.0	4.19
PSY15=I use purchase price of stock as a reference point in stock trading	6	1.0	21	3.6	1	0.2	142	24.1	420	71.2	590	100.0	4.61
PSY16=I am unlikely to buy a stock if it is more expensive than last year	4	0.7	19	3.2	0	0.0	332	56.3	235	39.8	590	100.0	4.31
PSY17=I am able to anticipate good or poor market returns in stock markets	21	3.6	11	1.9	56	9.5	281	47.6	221	37.5	590	100.0	4.14
PSY18=I would expect the value of the index to decrease in the next month if in each of the last six months the price of the shares index value increased	6	1.0	21	3.6	2	0.3	390	66.1	171	29.0	590	100.0	4.18
PSY19=I tend to treat each element of my investment portfolio separately	8	1.4	15	2.5	0	0.0	215	36.4	352	59.7	590	100.0	4.51
PSY20=I avoid selling shares that have decreased in value and readily sell shares that have increased in value	6	1.0	18	3.1	2	0.3	274	46.4	290	49.2	590	100.0	4.40

5.5.3.4 The Political Factor (POL)

In terms of the Political Factor, Table 5.27 shows that participants have opinions ranging from 'Agree' (3.88) on 'POL2' "I pay close attention to the political news" to (4.37) on 'POL3' "I pay close attention to the government's suggestions". These responses signify that the respondents believe in "POL3" as the individual investors in the Sultanate of Oman are concerned with the political situation and its important role in their decision-making. Table 5.27 shows the descriptive statistics of the Political Factor.

Table 5.27: Descriptive Statistics Political Factor

(POL); 3 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
POL1=The internal political events (e.g. Arab Spring) affects my investment decisions	23	3.9	43	7.3	41	6.9	77	13.1	406	68.8	590	100.0	4.36
POL2=I pay close attention to the political news	13	2.2	53	9.0	0	0.0	447	75.8	77	13.1	590	100.0	3.88
POL3=I play close attention to the government's suggestions	43	7.3	23	3.9	0	0.0	133	22.5	391	66.3	590	100.0	4.37

5.5.3.5 The Economic Factor (ECO)

In terms of the Economic Factor, Table 5.28 shows that participants have opinions ranging from 'Agree' (4.15) on 'ECO6' "To set up my investment decision I use financial models for investment", to 'Strongly Agree' (4.52) on 'ECO5' and 'ECO7' "I consider the published corporate financial statements in my investment decisions" and "I utilize technical analyses while making investment decision". These responses signify that the respondents believe in 'ECO5' and 'ECO7' as the individual investor's decision-making is dependent on using technical analyses. Table 5.28 shows the descriptive statistics of the Economic Factor.

Table 5.28: Descriptive Statistics Economic Factor

(ECO); 11 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
ECO1=Interest rates influence my investment decision in the stock market	15	2.5	13	2.2	0	0.0	261	44.2	301	51.0	590	100.0	4.39
ECO2=Inflation rates influence my investment decision in the stock market	15	2.5	13	2.2	0	0.0	238	40.3	324	54.9	590	100.0	4.43
ECO3=My investment decisions in the stock market are influenced by the investment substitution	15	2.5	13	2.2	0	0.0	305	51.7	257	43.6	590	100.0	4.32
ECO4=The share price affordability by the firm influence my investment decisions in the stock market	15	2.5	13	2.2	0	0.0	316	53.6	246	41.7	590	100.0	4.30
ECO5=I consider the published corporate financial statements in my investment decisions	0	0.0	28	4.7	0	0.0	200	33.9	362	61.4	590	100.0	4.52
ECO6=To set up my investment decision I use financial models for investments	0	0.0	28	4.7	56	9.5	306	51.9	200	33.9	590	100.0	4.15
ECO7=I utilize technical analyses while making investment decisions	0	0.0	28	4.7	0	0.0	202	34.2	360	61.0	590	100.0	4.52
ECO8=Increase/decrease in the company's profits affects my investment decisions	0	0.0	28	4.7	0	0.0	394	66.8	168	28.5	590	100.0	4.19
ECO9=Distribution of stock dividends influences my investment decisions	0	0.0	28	4.7	0	0.0	325	55.1	237	40.2	590	100.0	4.31
ECO10=Expectation of higher stock price influences my investment decisions	15	2.5	13	2.2	0	0.0	193	32.7	369	62.5	590	100.0	4.51
ECO11=The expected performance of the company plays an important role in my investment decisions	4	0.7	19	3.2	0	0.0	332	56.3	235	39.8	590	100.0	4.21

5.5.3.6 The Corporate Governance and Social Factor

For the Corporate Governance and Social latent variable, Table 5.29 shows that respondents have opinions ranging from 'Agree' (4.06) on 'GOV8 "The size of a firm's shareholder ownership influences my investment decisions" to 'Strongly Agree' (4.51) on 'GOV1' "I consider the recommendations by reputable and trusted brokerage houses in my investment decisions". Table 5.29 shows the descriptive statistics of Corporate Governance and Social factor.

Table 5.29: Descriptive Statistics of Corporate Governance and Social Latent Variable

(GOV); 9 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
GOV1=I consider the recommendations by reputable and trusted brokerage houses in my investment decisions	28	4.7	28	4.7	0	0.0	91	15.4	443	75.1	590	100.0	4.51
GOV2=My investment decisions are affected by friends/co-workers' recommendations	28	4.7	28	4.7	0	0.0	356	60.3	178	30.2	590	100.0	4.06
GOV3=My investment decisions are affected by individual stockbroker advice.	28	4.7	15	2.5	69	11.7	251	42.5	227	38.5	590	100.0	4.07
GOV4=Rumours from the market affect my investment decisions	0	0.0	56	9.5	0	0.0	289	49.0	245	41.5	590	100.0	4.23
GOV5=I consider the company's shareholders profile for investment.	0	0.0	56	9.5	46	7.8	246	41.7	242	41.0	590	100.0	4.14
GOV6=I take the governance strengths of companies into account when making investment decisions	13	2.2	43	7.3	0	0.0	211	35.8	323	54.7	590	100.0	4.34
GOV7=The firm's affiliation with a business group affected my investment decisions	41	6.9	15	2.5	0	0.0	227	38.5	307	52.0	590	100.0	4.26
GOV8=The size of a firm's shareholder ownership influences my investment decisions	41	6.9	15	2.5	0	0.0	345	58.5	189	32.0	590	100.0	4.06
GOV9=I expect a firm which pays a dividend to be better governed than a non-dividend paying one, thus such indicators as a dividend-paying firm influence my investment decisions	28	4.7	28	4.7	0	0.0	132	22.4	402	68.1	590	100.0	4.44

5.5.3.7 The Cultural Factor

For the Cultural latent variable, Table 5.30 shows that respondents have opinions ranging from 'Agree (4.16) on 'CUL2' "I tend to perceive industrial and technological risks as opportunities rather than threats to those companies I invest in" to 'Strongly Agree' (4.53) on 'CUL1' "I respect the cultural values in share investment". These signify that the Sultanate of Oman respondents believe in respecting the host community values, and its important role in the investment market. Table 5.30 shows the descriptive statistics of Cultural latent variable.

Table 5.30: Descriptive Statistics of Cultural Latent Variable

(CUL); 5 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
CUL1=I respect the cultural values in share investments	13	2.2	28	4.7	0	0.0	141	23.9	408	69.2	590	100.0	4.53
CUL2=I tend to perceive industrial and technological risks as opportunities rather than threats to those companies I invest in.	13	2.2	28	4.7	0	0.0	361	61.2	188	31.9	590	100.0	4.16
CUL3=I prefer to invest in those companies which have a high degree of integrity	26	4.4	15	2.5	0	0.0	290	49.2	259	43.9	590	100.0	4.26
CUL4=I prefer to invest in those companies whose CEO is similar in cultural origin	26	4.4	15	2.5	0	0.0	238	40.3	311	52.7	590	100.0	4.34
CUL5=I have limited market knowledge about the product/service I buy/sell from those companies I invest in	13	2.2	28	4.7	0	0.0	333	56.4	216	36.6	590	100.0	4.21

5.5.3.8 The Ethical and Environmental Factors

For the Ethical and Environmental Factors (ETH2) latent variable, Table 5.31 illustrates that participants have opinions ranging from 'Agree' (4.11) on 'ETH2' "I prefer to invest in those companies which engage in corporate social investments" to (4.48) on 'ETH5' "I prefer to invest in those companies which comply with internal rules and procedures". Table 5.31 shows the descriptive statistics of the Ethical and Environmental latent variable.

Table 5.31: Descriptive Statistics of Ethical and Environment Responsibility Factors

(ETH); 9 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
ETH1=I consider corporate social investment while making investment decisions	13	2.2	28	4.7	56	9.5	235	39.8	258	43.7	590	100.0	4.18
ETH2=I prefer to invest in those companies which engage in corporate social investments	13	2.2	13	2.2	15	2.5	403	68.3	146	24.7	590	100.0	4.11
ETH3=I prefer to invest in those companies who care about others' interests and well-being	0	0.0	41	6.9	0	0.0	294	49.8	255	43.2	590	100.0	4.29
ETH4=I prefer to invest in those companies who comply with state law and professional codes	0	0.0	26	4.4	15	2.5	285	48.3	264	44.7	590	100.0	4.33
ETH5=I prefer to invest in those companies that comply with internal rules and procedures	0	0.0	41	6.9	0	0.0	182	30.8	367	62.2	590	100.0	4.48
ETH6=I prefer to invest in those companies who comply with individual principles and beliefs	13	2.2	28	4.7	0	0.0	223	37.8	326	55.3	590	100.0	4.39
ETH7=I consider the company's environmental impact of products and services in my investment decisions	13	2.2	28	4.7	0	0.0	192	32.5	357	60.5	590	100.0	4.44
ETH8=The environmental record (awards/penalties) of the company, affects my investment decisions	0	0.0	41	6.9	0	0.0	325	55.1	224	38.0	590	100.0	4.24
ETH9=Environmental reporting influences my investment decisions	0	0.0	41	6.9	0	0.0	282	47.8	267	45.3	590	100.0	4.31

5.5.3.9 Individual Investors Decision-making Latent Variable

For the individual investors' decision-making latent variable, Table 5.32 illustrates that participants have opinions ranging from 'Agree' (3.90) on 'DEC2' "My investment has the ability to meet interest payments" to (4.35) on 'DEC1' "My investment in stocks has a high degree of safety". Table 5.32 shows the descriptive statistics of individual investors' decision-making latent variable.

Table 5.32: Descriptive Statistics of Individual Investors Decision-making

(DEC); 5 items	SD		D		N		A		SA		Total		Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
DEC1=My investment in stocks has a high degree of safety	13	2.2	41	6.9	15	2.5	176	29.8	345	58.5	590	100.0	4.35
DEC2=My investment has the ability to meet interest payments	54	0.1	0	0.0	43	7.3	345	58.5	148	25.1	590	100.0	3.90
DEC3=My investment has a lower risk compared to the market generally	26	4.4	15	2.5	71	12.0	208	35.3	270	45.8	590	100.0	4.15
DEC4=My investment in stocks has demonstrated increased revenue growth in the past few years	39	6.6	15	2.5	15	2.5	267	45.3	254	43.1	590	100.0	4.16
DEC5=My investment in stocks has demonstrated increased cash flow growth in the past few years	26	4.4	28	4.7	15	2.5	255	43.2	266	45.1	590	100.0	4.20

5.5.4 Descriptive Data Findings for the Personal Information for the Sultanate of Oman

This section discusses the descriptive statistics for the demographic information which includes: the respondent's gender, age, income marital status, educational level, work experience, local or international investor, and occupation.

5.5.4.1 The Sultanate of Oman Respondents' Gender

Table 5.33 shows that there were 351 male individual investors (59.5%) and the rest of the respondents (239) were female (40.5%). Table 5.35 illustrates the descriptive statistics of individual investors' gender. In terms of age, Table 5.33 indicates that more than half of the respondents (315 – 53.4%) were from 31-40 years old. However, only 6 respondents (1.0%) were more than 60 years old. The

table shows that two thirds (408) of individual investors were married (69.2%), while the rest of the respondents, 171 individual investors (28.9%), were single.

Table 5.33. The Sultanate of Oman Sampling Profile

Variable	Category	n	%
Gender	Male	351	59.5
	Female	239	40.5
Age	18 – 30 years	47	8.0
	31 – 40 years	315	53.4
	41 – 50 years	203	34.4
	51 – 60 years	19	3.2
	More than 60 years	6	1.0
Marital Status	Single	171	28.9
	Married	408	69.2
	Divorced	11	1.9
Education	High school and lower	43	7.3
	College- University	305	51.7
	Bachelor	175	29.7
	Master-PhD degree	23	3.9
	Other	44	7.4
Work Experience	Less than 2 years	134	22.7
	3 – 5 years	257	43.5
	6 – 10 years	117	19.9
	More than 10 years	82	13.9
Type of Investors	Local	464	78.6
	International	126	21.4
Income	Less than \$1000	28	4.7
	\$1000 - \$2500	85	14.4
	\$2501 - \$4000	315	53.4
	\$4001 - \$6000	133	22.6
	More than \$6000	29	4.9
Occupation	Government employed	207	35.1
	Private employed	233	39.5
	Self employed	127	21.5
	Unemployed	23	3.9

According to the educational level of the Sultanate of Oman individual investors, more than half of the respondents graduated from College-University (305 – 51.7% of individual investors) and only 23 (3.9% of individual investors) claimed that they

held a postgraduate degree. Furthermore, the table shows that more than a third of the individual investors (257 – 43.5%) had 3-5 years' work experience; 134 (22.7%) had less than 2 years' experience. However, only 82 (13.9% of individual investors) had more than 10 years' work experience. Table 5.33 also shows that more than two thirds of male individual investors (464 – 78.6%) were local investors and the rest of the respondents (126 – 21.4%) were international investors.

In terms of the Sultanate of Oman individual investors' income, about half of the respondents (315 – 53.4% of individual investors) earned \$2501 to \$4000. Only 28 respondents (4.7% of individual investors) stated that they earned less than \$1000 per month. Finally, it shows that about a third of participants (233 – 39.5%) were government employed. It also indicates that 23 participants (3.9%) were unemployed.

5.5.4.1.1. Gender differences between the Kingdom of Saudi Arabia and the Sultanate of Oman

To explore the differences between males and females in both respondents' countries (the Kingdom of Saudi Arabia and the Sultanate of Oman), independent sample t-test analysis was employed. Tables 5.34 and 5.35 demonstrate the independent sample t-test hypothesis. The t-test's null hypothesis is that there is

no difference between the means of the Kingdom of Saudi Arabia and the Sultanate of Oman respondents regarding male and female.

Table 5.34 Gender Group Statistics

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
PCF	MALE	843	4.25	.591	.020
	FEMALE	367	4.47	.627	.033
REL	MALE	843	4.41	.713	.025
	FEMALE	367	4.32	.438	.023
HEU	MALE	843	4.24	.492	.017
	FEMALE	367	4.51	.426	.022
POL	MALE	843	4.26	.732	.025
	FEMALE	367	4.31	.891	.047
ECO	MALE	843	4.32	.604	.021
	FEMALE	367	4.54	.509	.027
GOV	MALE	843	4.26	.677	.023
	FEMALE	367	4.28	.811	.042
CUL	MALE	843	4.20	.660	.023
	FEMALE	367	3.99	.746	.039
ETH	MALE	843	4.27	.616	.021
	FEMALE	367	4.32	.711	.037
DE	MALE	843	4.10	.696	.024
	FEMALE	367	4.40	.854	.045

Table 5.35 shows that the t-test for the most relationships gives an associated significance of $P < 0.05$ for the positive psychological capital (PCF), religiosity (REL), Psychological (PSY), economic (ECO), cultural (CUL), and decision-making (DEC) latent variables. This means that there is a difference between male and female individual investors in the Kingdom of the Saudi Arabia and the

Sultanate of Oman, except in the corporate governance and social factors (GovSocial), political (POL), and ethical and environmental factors (EthEnviro) (see Tables 5.34-5.35).

Table 5.35. Gender Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PCF	Equal variances assumed	11.603	.001	-5.778	1206	.000	-.218	.038	-.291	-.144
	Equal variances not assumed			-5.646	661.570	.000	-.218	.039	-.293	-.142
REL	Equal variances assumed	21.195	.000	2.246	1206	.025	.090	.040	.011	.169
	Equal variances not assumed			2.687	1075.887	.007	.090	.034	.024	.156
HEU	Equal variances assumed	5.382	.021	-9.037	1206	.000	-.268	.030	-.326	-.209
	Equal variances not assumed			-9.564	799.117	.000	-.268	.028	-.322	-.213
POL	Equal variances assumed	7.253	.007	-.952	1206	.341	-.047	.049	-.143	.050
	Equal variances not assumed			-.881	590.692	.378	-.047	.053	-.151	.057
ECO	Equal variances assumed	14.956	.000	-5.875	1206	.000	-.212	.036	-.283	-.141
	Equal variances not assumed			-6.276	818.118	.000	-.212	.034	-.278	-.146
GOV	Equal variances assumed	5.510	.019	-.344	1206	.731	-.016	.045	-.104	.073
	Equal variances not assumed			-.321	598.244	.748	-.016	.048	-.110	.079
CUL	Equal variances assumed	53.505	.000	4.853	1206	.000	.209	.043	.124	.293
	Equal variances not assumed			4.627	627.062	.000	.209	.045	.120	.297
ETH	Equal variances assumed	9.137	.003	-1.086	1206	.278	-.044	.040	-.123	.035
	Equal variances not assumed			-1.027	616.068	.305	-.044	.043	-.128	.040
DE	Equal variances assumed	5.692	.017	-6.342	1206	.000	-.297	.047	-.388	-.205
	Equal variances not assumed			-5.859	587.692	.000	-.297	.051	-.396	-.197

5.5.5 Structural Equation Modelling Analysis (SEM)

5.5.5.1 Measurement Model in PLS-SEM for the Sultanate of Oman

In this section, the study used the analysis provided in WarpPLS 5.0 for the second country of the Sultanate of Oman. The algorithm used was Warp3 PLS regression. The re-sampling method was Stable3. The number of cases (rows) in the model data was 590. The number of latent variables in the model was 10. The number of indicators used in the model was 42. These 42 items are valid and reliable enough to be adopted in the structural relationship model (other items were removed as their high VIFs and p-value were larger than 0.05 – see Table 5.36).

The following section will illustrate the descriptive statistics for each construct for the second model of the Sultanate of Oman (see Table 5.51). This is followed by the research model's reliability/internal consistency (Cronbach's alpha and composite reliability) and construct validity (discriminant validity, convergent validity and average variance extracted (AVE)) for both the reflective and the formative measurement models. Discriminant and convergent validity (construct validity) and construct reliability will be discussed for the measurement model first.

5.5.5.1.1 Descriptive Statistics for the Main Constructs

Table 5.36 shows the descriptive statistics for each latent variable. These statistics consist of the 10 constructs' names and abbreviations, the number of items used and deleted, and the constructs' types and reasons why some items were deleted.

Table 5.36: Descriptive Statistics for Each Construct

Construct	Types of Construct	Number of Used Items	Number of Items Deleted	Reason of Deletion
(1) Religiosity Factor (REL)	Reflective	5	3	VIFs are Higher than 5 or 10
(2) Positive Psychological Capital (PCF)	Reflective	6	9	
(3) Psychological Factors (HEU)	Reflective	4	17	
(4) Political Factors (POL)	Reflective	3	-	
(5) Economic Factor (ECO)	Reflective	5	6	
(6) Corporate Governance and Social Factor (GoveEnviro)	Reflective	5	4	
(7) Cultural Factor (CUL)	Reflective	3	2	
(8) Ethical and Environment Factor (EthEnvir)	Reflective	5	4	
(9) Decision Factor (DEC)	Reflective	4	1	

5.5.5.1.2 Discriminant Validity of the Measurement Model

Through the process of confirmatory factor analysis (CFA) for the second model of the Sultanate of Oman, some items of the latent variables were deleted (all removed items had variance inflation factors (VIFs) larger than 10). These indicators were not adequate for the analysis because they did not measure the latent variables in the expected way. Table 5.37 shows the loading factor of all of the remaining reflective items/observed variables above the 0.5 threshold; accordingly, it can be concluded that the measurement model for the Sultanate of Oman has adequate convergent validity.

Table 5.37: Combined Loadings and Cross-Loadings

	PCF	Religiou s	PSY.	Politic	Economic	GovEnvi	Culture	EthSoci	Decision	Type	SE	P Value
PCF1	(0.786)	0.035	-0.228	0.267	-0.182	-0.354	-0.190	-0.017	-0.094	Reflective	0.038	<0.001
PCF2	(0.781)	-0.105	-0.061	-0.135	0.131	0.109	0.016	0.059	-0.041	Reflective	0.038	<0.001
PCF3	(0.796)	-0.084	0.288	0.030	-0.057	0.085	-0.070	0.007	0.147	Reflective	0.038	<0.001
PCF4	(0.863)	0.062	0.049	-0.118	0.042	0.049	0.274	-0.009	0.114	Reflective	0.037	<0.001
PCF5	(0.769)	0.046	-0.167	0.099	0.235	0.021	0.018	-0.039	-0.233	Reflective	0.038	<0.001
PCF8	(0.817)	0.040	0.104	-0.126	-0.161	0.080	-0.071	0.000	0.086	Reflective	0.038	<0.001
REL1	-0.059	(0.819)	-0.188	-0.055	-0.034	-0.082	0.193	0.037	-0.011	Reflective	0.038	<0.001
REL3	0.274	(0.854)	-0.161	0.094	-0.109	-0.193	-0.290	-0.014	0.005	Reflective	0.037	<0.001
REL4	-0.246	(0.791)	0.288	-0.072	-0.299	0.061	0.246	0.124	0.115	Reflective	0.038	<0.001
REL5	-0.132	(0.876)	0.196	-0.054	0.268	0.084	0.020	0.043	-0.056	Reflective	0.037	<0.001
REL7	0.160	(0.785)	-0.137	0.087	0.156	0.140	-0.156	-0.195	-0.048	Reflective	0.038	<0.001
PSY3	-0.115	0.002	(0.875)	-0.079	-0.022	0.078	0.106	-0.078	0.093	Reflective	0.037	<0.001
PSY8	-0.099	-0.036	(0.874)	0.084	0.040	0.052	0.065	0.043	0.048	Reflective	0.037	<0.001
PSY15	0.332	-0.077	(0.762)	0.050	0.284	0.027	-0.307	-0.071	-0.119	Reflective	0.038	<0.001
PSY16	-0.085	0.114	(0.770)	-0.055	-0.301	-0.174	0.109	0.110	-0.042	Reflective	0.038	<0.001
POL1	0.023	-0.022	-0.103	(0.919)	-0.038	-0.058	-0.082	-0.085	0.068	Reflective	0.037	<0.001
POL2	-0.131	-0.036	0.204	(0.881)	0.097	0.092	0.180	0.078	0.042	Reflective	0.037	<0.001
POL3	0.097	0.053	-0.088	(0.968)	-0.052	-0.028	-0.086	0.010	-0.103	Reflective	0.037	<0.001
ECO2	0.187	0.008	-0.167	-0.094	(0.848)	0.058	-0.348	-0.060	-0.137	Reflective	0.037	<0.001
ECO3	-0.294	-0.016	0.364	-0.036	(0.778)	0.014	0.296	0.102	0.083	Reflective	0.038	<0.001
ECO7	0.043	0.030	-0.016	-0.082	(0.802)	0.224	-0.167	-0.162	0.198	Reflective	0.038	<0.001
ECO8	0.148	-0.084	-0.191	0.053	(0.774)	-0.291	0.050	0.142	-0.199	Reflective	0.038	<0.001
ECO9	-0.102	0.060	0.025	0.171	(0.774)	-0.019	0.208	-0.011	0.061	Reflective	0.038	<0.001
GOV	0.083	-0.004	0.018	0.024	-0.049	(0.946)	-0.069	0.068	-0.128	Reflective	0.037	<0.001
GOV2	-0.176	0.140	0.170	0.103	0.109	(0.894)	0.065	-0.010	-0.127	Reflective	0.037	<0.001
GOV3	-0.212	-0.114	0.126	0.060	-0.082	(0.831)	0.166	-0.085	0.285	Reflective	0.038	<0.001
GOV5	0.041	-0.005	-0.194	-0.119	-0.007	(0.841)	0.023	-0.060	0.015	Reflective	0.037	<0.001
GOV6	0.264	-0.027	-0.133	-0.078	0.027	(0.831)	-0.180	0.080	-0.018	Reflective	0.038	<0.001
CUL1	-0.055	-0.040	0.049	0.093	-0.003	-0.055	(0.935)	-0.022	0.114	Reflective	0.037	<0.001
CUL2	0.144	0.072	-0.219	0.058	0.041	-0.217	(0.743)	0.052	-0.344	Reflective	0.038	<0.001
CUL3	-0.060	-0.018	0.125	-0.139	-0.030	0.228	(0.930)	-0.020	0.160	Reflective	0.037	<0.001
ETH1	0.051	-0.247	-0.032	0.101	-0.038	-0.060	-0.016	(0.845)	0.293	Reflective	0.037	<0.001
ETH2	-0.251	0.058	0.160	-0.250	-0.042	0.160	0.374	(0.756)	-0.054	Reflective	0.038	<0.001
ETH4	0.232	-0.002	-0.200	0.107	0.142	-0.115	-0.214	(0.879)	-0.156	Reflective	0.037	<0.001
ETH5	-0.253	0.182	0.283	-0.122	0.101	0.265	0.037	(0.756)	0.103	Reflective	0.038	<0.001
ETH9	0.149	0.032	-0.146	0.113	-0.152	-0.188	-0.121	(0.901)	-0.164	Reflective	0.037	<0.001
DEC1	-0.176	0.090	-0.004	0.031	0.055	-0.051	0.080	-0.033	(0.895)	Reflective	0.037	<0.001
DEC2	0.104	-0.135	0.034	0.014	-0.013	-0.059	-0.146	0.004	(0.921)	Reflective	0.037	<0.001
DEC3	-0.054	0.037	-0.084	0.051	0.129	0.122	0.199	-0.074	(0.841)	Reflective	0.037	<0.001
DEC4	0.118	0.014	0.048	-0.092	-0.162	-0.003	-0.116	0.097	(0.898)	Reflective	0.037	<0.001

When looking at the item loadings between constructs, it can be observed that none of the indicators/items loadings are large, which means that this study has suitable discriminant and convergent validity (see Table 5.37). The table also shows that the indicator loadings and cross-loadings are larger than 0.5. Additionally, their p-values are significant (less than 0.05), indicating an adequate convergent and discriminant validity for the measurement questions.

Furthermore, Table 5.38 shows the square roots of the AVEs of the latent variables. The correlations are on the diagonal. To ensure discriminant validity for each latent construct, as discussed above, the square roots of the AVEs should be larger than any of the correlations involving that latent construct.

Table 5.38: Correlations among Latent Variable

	PCF	Religious	Psych.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
PCF	(0.803)	-0.072	0.228	-0.071	0.390	-0.081	0.595	-0.029	-0.007
Religious	-0.072	(0.826)	-0.061	0.273	-0.033	-0.076	-0.099	-0.098	0.303
Psy.	0.228	-0.061	(0.822)	-0.035	-0.134	-0.066	0.004	-0.001	0.095
Politic	-0.071	0.273	-0.035	(0.923)	-0.060	0.448	-0.074	-0.091	0.324
Economic	0.390	-0.033	-0.134	-0.060	(0.796)	-0.057	0.294	-0.092	-0.027
GovSocial	-0.081	-0.076	-0.066	0.448	-0.057	(0.870)	0.018	0.154	-0.077
Culture	0.595	-0.099	0.004	-0.074	0.294	0.018	(0.874)	-0.107	0.032
EthEnviro	-0.029	-0.098	-0.001	-0.091	-0.092	0.154	-0.107	(0.830)	-0.086
Decision	-0.007	0.303	0.095	0.324	-0.027	-0.077	0.032	-0.086	(0.889)

Note: Square roots of average variances extracted (AVEs) appear diagonally.

Table 5.38 indicates that the square roots of the AVEs of each reflective construct are greater than the latent variable's highest squared correlation with any other

construct. It can be said that the individual square roots of the AVEs have the highest value of any of the correlations shown below or above them. Accordingly, it can be established that the reflective latent variables have appropriate discriminant validity. In addition, Table 5.39 shows that the full collinearity for all the 10 latent variables of the Sultanate of Oman is lower than 5. This indicates that sufficient full VIFs are met for the reflective constructs, indicating there is sufficient discriminant validity.

Table 5.39: Full Collinearity for all Latent Variables of the Sultanate of Oman

Full Collinearity (VIFs)									
Construct	PCF	Religious	Psy.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
Full VIFs	1.985	1.298	1.181	1.679	1.587	1.519	1.729	1.108	1.294

Moreover, according to Elbaz (2013), testing discriminant validity can be established by using the indicators weight for the indicators/items, VIFs and their p-value. Table 5.40 presents the indicators' weights. Table 5.40 shows that all indicators' p-values for the weights associated with the latent variables are significant (p-values of all indicators are lower than 0.05). This indicates that the formative latent variables' measurement indicators were properly constructed. The table also provides the VIFs for all of the indicators of all of the latent variables. As was stated before (Table 5.36), some indicators were removed as their VIFs were larger than 10. The remaining items were all lower than 10 (Kock, 2015; Hair et al., 2011; Garza, 2011). Standard issue errors are also provided for all indicators' weights. All of the indicators have sufficient discriminant validity.

Table 5.40: Indicator Weights

	PCF	Religious	Psych.	Politic	Economic	GovEnvi	Culture	EthEnviro	Decision	Type	SE	P Value	VIF	WLS	ES
PCF1	(0.203)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.441	1	0.160
PCF2	(0.202)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	3.769	1	0.158
PCF3	(0.206)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.286	1	0.164
PCF4	(0.223)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	3.513	1	0.192
PCF5	(0.199)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	3.163	1	0.153
PCF8	(0.212)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.747	1	0.173
REL1	0.000	(0.240)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.155	1	0.197
REL3	0.000	(0.250)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.495	1	0.214
REL4	0.000	(0.232)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.040	1	0.183
REL5	0.000	(0.257)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.910	1	0.225
REL7	0.000	(0.230)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	1.923	1	0.181
PSY3	0.000	0.000	(0.324)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.639	1	0.283
PSY8	0.000	0.000	(0.323)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.600	1	0.283
PSY15	0.000	0.000	(0.282)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.176	1	0.215
PSY16	0.000	0.000	(0.285)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.242	1	0.219
POL1	0.000	0.000	0.000	(0.359)	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	4.555	1	0.330
POL2	0.000	0.000	0.000	(0.344)	0.000	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.744	1	0.303
POL3	0.000	0.000	0.000	(0.378)	0.000	0.000	0.000	0.000	0.000	Reflective	0.039	<0.001	6.944	1	0.366
ECO2	0.000	0.000	0.000	0.000	(0.268)	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	4.199	1	0.227
ECO3	0.000	0.000	0.000	0.000	(0.246)	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.214	1	0.191
ECO7	0.000	0.000	0.000	0.000	(0.253)	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	3.195	1	0.203
ECO8	0.000	0.000	0.000	0.000	(0.245)	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.376	1	0.189
ECO9	0.000	0.000	0.000	0.000	(0.245)	0.000	0.000	0.000	0.000	Reflective	0.040	<0.001	2.107	1	0.189
GOV	0.000	0.000	0.000	0.000	0.000	(0.250)	0.000	0.000	0.000	Reflective	0.040	<0.001	5.632	1	0.237
GOV2	0.000	0.000	0.000	0.000	0.000	(0.236)	0.000	0.000	0.000	Reflective	0.040	<0.001	3.942	1	0.211
GOV3	0.000	0.000	0.000	0.000	0.000	(0.220)	0.000	0.000	0.000	Reflective	0.040	<0.001	2.775	1	0.183
GOV5	0.000	0.000	0.000	0.000	0.000	(0.222)	0.000	0.000	0.000	Reflective	0.040	<0.001	2.805	1	0.187
GOV6	0.000	0.000	0.000	0.000	0.000	(0.220)	0.000	0.000	0.000	Reflective	0.040	<0.001	3.210	1	0.183
CUL1	0.000	0.000	0.000	0.000	0.000	0.000	(0.408)	0.000	0.000	Reflective	0.039	<0.001	4.636	1	0.381
CUL2	0.000	0.000	0.000	0.000	0.000	0.000	(0.325)	0.000	0.000	Reflective	0.040	<0.001	1.393	1	0.241
CUL3	0.000	0.000	0.000	0.000	0.000	0.000	(0.406)	0.000	0.000	Reflective	0.039	<0.001	4.556	1	0.378
ETH1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.246)	0.000	Reflective	0.040	<0.001	2.597	1	0.207
ETH2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.220)	0.000	Reflective	0.040	<0.001	1.925	1	0.166
ETH4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.255)	0.000	Reflective	0.040	<0.001	4.006	1	0.224
ETH5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.220)	0.000	Reflective	0.040	<0.001	1.979	1	0.166
ETH9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.262)	0.000	Reflective	0.040	<0.001	4.292	1	0.236
DEC1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.283)	Reflective	0.040	<0.001	3.099	1	0.253
DEC2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.291)	Reflective	0.040	<0.001	5.061	1	0.268
DEC3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.266)	Reflective	0.040	<0.001	2.536	1	0.223
DEC4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.284)	Reflective	0.040	<0.001	4.653	1	0.255

Notes: *p*-values < 0.05 and VIFs < 2.5 are desirable for formative indicators; VIF = indicator variance inflation factor; WLS = indicator weight-loading sign (-1 = Simpson's paradox in I.v.); ES = indicator effect size.

5.5.5.1.3 Convergent Validity of the Reflective Measurement Model

In this section, convergent validity is tested by extracting the factor loadings and cross-loadings of all the items on their respective latent variables (see Table 5.41).

Table 5.41: Structural Loading and Cross Loading

	PCF	Religious	Psychology	Politic	Economic	GovEnvi	Culture	EthEnviro	Decision
PCF1	(0.786)	0.063	0.042	0.020	0.223	-0.253	0.390	-0.088	-0.005
PCF2	(0.781)	-0.211	0.145	-0.169	0.392	0.001	0.479	0.065	-0.110
PCF3	(0.796)	-0.102	0.457	0.007	0.176	0.011	0.441	0.007	0.109
PCF4	(0.863)	-0.051	0.171	-0.089	0.362	-0.087	0.634	-0.046	0.062
PCF5	(0.769)	-0.079	0.012	-0.047	0.425	0.006	0.519	-0.054	-0.179
PCF8	(0.817)	0.031	0.259	-0.063	0.301	-0.067	0.395	-0.023	0.071
REL1	-0.067	(0.819)	-0.202	0.144	0.061	-0.109	0.017	-0.084	0.234
REL3	-0.037	(0.854)	-0.085	0.222	-0.111	-0.193	-0.177	-0.093	0.261
REL4	-0.205	(0.791)	0.148	0.225	-0.265	0.007	-0.143	0.030	0.346
REL5	-0.020	(0.876)	0.056	0.192	0.080	-0.040	-0.059	-0.040	0.212
REL7	0.029	(0.785)	-0.176	0.354	0.092	0.033	-0.043	-0.222	0.201
PSY3	0.169	-0.081	(0.875)	-0.016	-0.163	-0.038	0.042	-0.053	0.133
PSY8	0.169	-0.083	(0.874)	0.038	-0.180	0.034	0.038	0.047	0.116
PSY15	0.375	-0.139	(0.762)	-0.057	0.159	-0.044	0.053	-0.047	-0.045
PSY16	0.044	0.108	(0.770)	-0.093	-0.238	-0.183	-0.130	0.050	0.095
POL1	-0.108	0.250	-0.096	(0.919)	-0.107	0.354	-0.107	-0.153	0.335
POL2	-0.013	0.194	0.096	(0.881)	0.019	0.456	0.031	-0.023	0.326
POL3	-0.074	0.308	-0.089	(0.968)	-0.073	0.433	-0.122	-0.075	0.240
ECO2	0.250	-0.045	-0.223	-0.120	(0.848)	-0.044	0.074	-0.074	-0.193
ECO3	0.306	-0.060	0.131	-0.083	(0.778)	-0.029	0.305	-0.010	0.048
ECO7	0.286	0.019	-0.124	0.059	(0.802)	0.053	0.204	-0.170	0.102
ECO8	0.341	-0.082	-0.191	-0.207	(0.774)	-0.198	0.268	0.008	-0.162
ECO9	0.375	0.037	-0.115	0.116	(0.774)	-0.013	0.334	-0.118	0.109
GOV	-0.064	-0.095	-0.029	0.399	-0.065	(0.946)	-0.022	0.215	-0.177
GOV2	-0.130	0.032	0.005	0.477	-0.033	(0.894)	-0.026	0.103	-0.101
GOV3	-0.138	-0.087	0.049	0.502	-0.194	(0.831)	0.037	0.039	0.179
GOV5	-0.040	-0.104	-0.190	0.277	-0.016	(0.841)	0.083	0.092	-0.121
GOV6	0.022	-0.080	-0.128	0.290	0.060	(0.831)	0.012	0.214	-0.095
CUL1	0.537	-0.088	0.051	0.008	0.226	0.002	(0.935)	-0.135	0.143
CUL2	0.501	-0.050	-0.162	-0.182	0.335	-0.134	(0.743)	-0.063	-0.221
CUL3	0.527	-0.114	0.087	-0.044	0.229	0.148	(0.930)	-0.078	0.112
ETH1	0.015	-0.205	0.046	0.009	-0.135	0.111	-0.035	(0.845)	0.142
ETH2	-0.040	-0.083	0.026	-0.208	-0.015	0.169	0.038	(0.756)	-0.127
ETH4	0.056	-0.080	-0.130	-0.096	0.088	0.085	-0.105	(0.879)	-0.184
ETH5	-0.115	0.021	0.150	0.014	-0.130	0.255	-0.160	(0.756)	0.002
ETH9	-0.052	-0.052	-0.067	-0.101	-0.188	0.045	-0.170	(0.901)	-0.178
DEC1	-0.081	0.322	0.042	0.316	-0.046	-0.113	-0.003	-0.117	(0.895)
DEC2	0.005	0.196	0.133	0.265	0.007	-0.117	-0.026	-0.074	(0.921)
DEC3	0.098	0.255	-0.017	0.354	0.081	0.055	0.206	-0.144	(0.841)
DEC4	-0.042	0.305	0.171	0.221	-0.132	-0.088	-0.051	0.024	(0.898)

Therefore, Table 5.41 illustrates that the validity of the measurement scale was convergent because of high item loadings (i.e. all the indicators are greater than or equal to 0.5) on their associated latent variables.

As discussed above, it is also recommended to use the AVE as a criterion for the convergent validity of reflective indicators. An AVE value should be higher than 0.5 to signify adequate convergent validity. This means that a latent construct is able to explain more than half of the variance of its indicators on average (see Table 5.42).

Table 5.42: Testing Convergent Validity Using Average Variance Extracted (AVE)

Average Variance Extracted (AVE)									
Construct	PCF	Religious	Psychol.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
AVE	0.644	0.682	0.676	0.853	0.633	0.756	0.764	0.688	0.791

Table 5.42 shows the AVEs for the study latent variables. All are above the 0.50 threshold, which means the measurement latent variables of the Sultanate of Oman show appropriate convergent validity.

5.5.5.1.4 Construct Reliability Measurement Model

Also, as mentioned above, construct reliability concerns the internal consistency of the measurement model (Andreev et al., 2009). Two measures are used to

estimate internal consistency: Cronbach's alpha and the composite reliability should be greater than 0.7 for the reliability to be considered acceptable, 0.80 to be adequate and 0.90 to be excellent.

Table 5.43: Reliability Coefficients for All the Latent Variables

Composite Reliability Coefficients								
PCF	Religious	Psychol.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
0.916	0.914	0.893	0.946	0.896	0.939	0.906	0.917	0.938
Cronbach's Alpha Coefficients								
PCF	Religious	Psychol.	Politic	Economic	GovSocial	Culture	EthEnviro	Decision
0.889	0.883	0.839	0.913	0.855	0.919	0.840	0.885	0.911

Table 5.43 provides the composite reliability and Cronbach's alpha coefficients for the reflective latent variables. These composite reliability coefficients for all the latent variables are high (ranging from 0.893 to 0.946) and above the 0.7 advocated threshold for each one of the latent variables. Furthermore, Cronbach's alpha coefficients, for all latent variables, range from 0.772 to 0.919 (Cronbach's alpha for the response latent variables is the only questionable construct). Thus, one can claim that the measurement instruments employed and adopted in this study have adequate composite and Cronach's alpha reliability.

5.5.5.2 Results of the Structural Model for the Sultanate of Oman

In this section, the purpose of the structural model is to examine the fit of the hypothesized research model of the Sultanate of Oman. Figure 5.2 shows the hypothesized structural model, illustrating the latent variables of the current study and their indicators. First, regarding the Sultanate of Oman, in this section the study examines the influence of Internal Factors which, in this study, consist of three main variables: (1) Positive Psychological Capital, (2) Religiosity Factors, and (3) Psychological (cognitive and emotions) Factors on Individual Investors' Decision-making. Second, in this section the study also examines the influence of External Factors which consist of five main latent variables: (1) Political Factor, (2) Economic Factor, (3) Corporate Governance and Social Factors, (4) Cultural Factor, and (5) Ethical and Environmental Factors on individual investors' decision-making. Therefore, the WarpPLS software 5.0 employed in this study provides ten model fits and quality indices (see Table 5.44). Consequently, it can be concluded that the ten criteria for the model fit and quality indices are established in this study.

Table 5.44: Model Fit and Quality Indices for the Sultanate of Oman

Criterion	Assessment	Supported
(1) Average Path Coefficient (APC)	0.166	Supported
(2) Average R-squared (ARS)	0.538	Supported
(3) Average adjusted R-squared (AARS)	0.532	Supported
(4) Average block VIF (AVIF)	4.786	Supported
(5) Average full collinearity VIF (AFVIF)	1.829	Supported
(6) Tenenhaus GoF (GoF)	0.617	Supported
(7) Simpson's paradox ratio (SPR)	0.765	Supported
(8) R-squared contribution ratio (RSCR)	0.944	Supported
(9) Statistical suppression ratio (SSR)	1.000	Supported
(10) Nonlinear bivariate causality direction ratio (NLBCDR)	0.853	Supported

Note: Average path coefficient (APC)=0.166, $P < 0.00$; Average R-squared (ARS)=0.538, $P < 0.001$; Average adjusted R-squared (AARS)=0.532, $P < 0.001$; Average block VIF (AVIF)=4.786, acceptable if ≤ 5 , ideally ≤ 3.3 ; Average full collinearity VIF (AFVIF)=1.829, acceptable if ≤ 5 , ideally ≤ 3.3 ; Tenenhaus GoF (GoF)=0.617, small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36 ; Simpson's paradox ratio (SPR)=0.765, acceptable if ≥ 0.7 , ideally = 1; R-squared contribution ratio (RSCR)=0.944, acceptable if ≥ 0.9 , ideally = 1; Statistical suppression ratio (SSR)=1.000, acceptable if ≥ 0.7 ; Nonlinear bivariate causality direction ratio (NLBCDR)=0.853, acceptable if ≥ 0.7 .

Figure 5.2 shows the findings of the path coefficient analysis, illustrating the hypothesized effects of the structural model and the relationships between the latent variables.

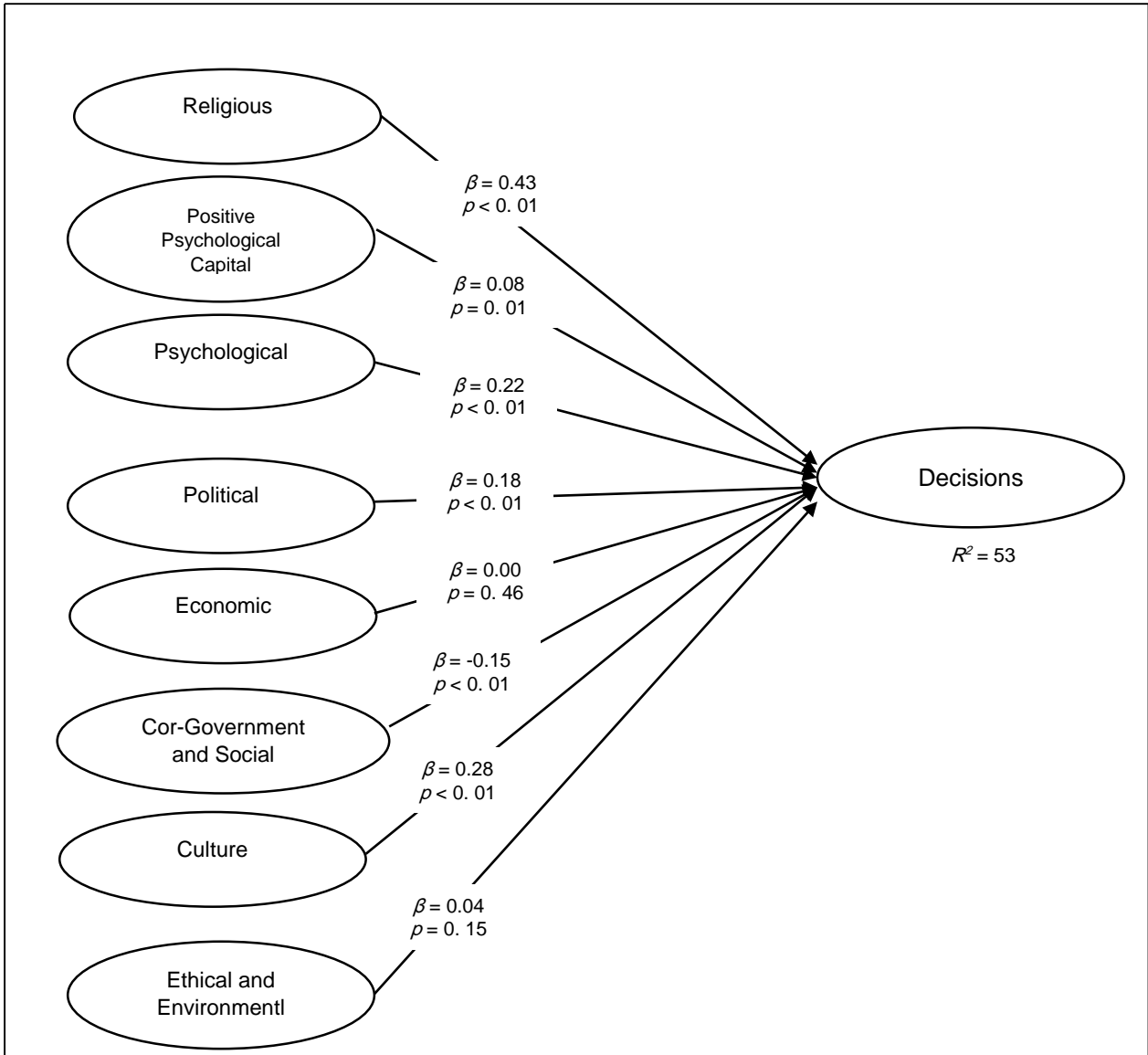


Figure 5.2. The Results of the Structure Relationship Model for the Sultanate of Oman

By achieving a sufficient evaluation of the measurement model (providing sufficient evidence for both reliability and validity for the research measurement model), the next step is to assess the structural model estimates. Figure 5.2 and Table 5.45

present the results of the SEM analysis. Assessing explanatory power involves evaluating the R-squared values (R^2) and exploring the effect sizes (f^2) of a model's latent variables. Thus, the following discussion will address these two issues.

As provided in the first model of this chapter (Saudi Arabia's Model, see Figure 5.1, Section 5.4.2), the following discussion is divided into five main points to examine the structural relationship of the Sultanate of Oman's Model: first, this section examines the influence of Internal Factors which, in this study, consist of three main variables: (1) Positive Psychological Capital, (2) Religiosity Factors, and (3) Psychological (cognitive and emotions) Factors on individual investors' decision-making. Second, this section will examine the influence of External Factors which consists of the five main latent variables: (1) Political Factor, (2) Economic Factor, (3) Corporate Governance and Social Factor (4) Cultural Factor, and (5) Ethical and Environmental Factor on individual investors' decision-making.

5.5.5.2.1 The Influence of Internal Factors on Individual Investors' Decision-making for the Sultanate of Oman Model

Internal Factors in this study consist of three main variables: (1) Religiosity Factor (REL), (2) Positive Psychological Capital (PCF), and (3) Psychological (cognitive and emotions) Factor (PSY). This section is concerned with assessing three hypothesized direct relationships (H1, H2, and H3). The first hypothesis deals with the impact of the Religiosity Factor (REL) on the individual investor's decision-

making. The analysis of the data collected shows that the research variable (Religiosity Factor (REL)) has a significant and positive impact on individual investors' decision-making (standardised estimate = 0.43, $P < 0.01$). Moreover, the analysis of the data collected shows that the effect size of the Religiosity Factor (REL) on the individual investor's decision-making is medium ($f^2=0.26$).

The second hypothesis deals with the impact of the Positive Psychological Capital (PCF) on the individual investor's decision-making in the Sultanate of Oman. The analysis of the data collected shows that the research variable (The Positive Psychological Capital) has a significant positive impact on the individual investor's decision-making (standardised estimate = 0.08, $P = 0.03$). Moreover, the analysis of the data collected shows that the effect size of the Positive Psychological Capital on the individual investor's decision-making is small ($f^2=0.02$).

The third hypothesis deals with the impact of the Psychological (cognitive and emotional) Factor (PSY) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (Psychological (cognitive and emotional) Factor (PSY)) has significant positive impact on the individual investor's decision-making (standardised estimate = 0.22, $P < 0.01$). Additionally, the analysis of the data collected shows that the effect size of the Psychological (cognitive and emotional) Factor (PSY) on the individual investor's decision-making is small ($f^2=0.09$).

5.5.5.2.2 The Influence of External Factors on Individual Investors' Decision-making in the Sultanate of Oman Model

As indicated before, the External Factors in this study consist of five main variables: (1) Political Factor (POL), (2) Economic Factor (ECO), (3) Corporate governance and social Factors (GvEnvir), (4) Cultural Factor (CUL), and (5) Ethical and environment Factors. This section is concerned with assessing the five direct relationships that have been hypothesized (H4, H5, H6, H7, and H8). Table 5.45 summarizes the results that will be discussed as follows:

Table 5.45: Results of the Direct Relations from Internal and External Factors to Individual Investors' Decision-making

Independent Variables	B	P. Value	f ²	H	Hypotheses supported/Not supported
Religiosity Factor → Decision-making	0.43	<0.01	0.26	H1	Supported
Positive Psychological → Decision-making	0.08	=0.03	0.01	H2	Supported
Psychological Factor → Decision-making	0.22	<0.01	0.09	H3	Supported
Political Factor → Decision-making	0.18	<0.01	0.07	H4	Supported
Economic Factor → Decision-making	0.00	=0.46	0.00	H5	Rejected
Governance and Social → Decision-making	-0.15	<0.01	0.01	H6	Rejected
Cultural Factor → Decision-making	0.28	<0.01	0.12	H7	Supported
Ethical and environment Factor → Decision-making	0.04	=0.15	0.00	H8	Rejected
R² Coefficient for Dependent Variables					
Dependent Latent Variables	R² Coefficient		Assessment		
Individual Investors' Decision-making	R ² = 0.53		Strong Effect		

As has been shown in Table 5.45, the fourth hypothesis deals with the impact of the Political Factor (POL) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (Political Factor

(POL)) has a significant and positive impact on the individual investor's decision-making (standardised estimate = 0.18, $P < 0.01$). Additionally, the analysis of the data collected shows that the effect size of the Political Factor (POL) on the individual investor's decision-making is small ($f^2=0.01$).

The fifth hypothesis deals with the impact of the Economic Factor (ECO) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (Economic Factor (ECO)) has an insignificant impact on the individual investor's decision-making (standardised estimate = 0.004, $P = 0.46$). Also, the analysis of the data collected shows that the Economic Factor (ECO) has no effect on the individual investor's decision-making, and one can say that the effect size of this relationship is nothing ($f^2=0.001$).

The sixth hypothesis deals with the impact of the corporate governance and social Factors (GovSocial) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (Corporate governance and social Factor (GovSocial)) has a significant negative impact on the individual investor's decision-making (standardised estimate = -0.15, $P < 0.01$). Furthermore, the analysis of the data collected shows that the effect size of the Corporate governance and social Factor (GovSocial) on the individual investor's decision-making is zero effect (No effect) ($f^2=0.012$).

The seventh hypothesis deals with the impact of the Cultural Factor (CUL) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (Cultural Factor (CUL) has a significant positive impact on the individual investor's decision-making (standardised estimate = 0.28, $P < 0.01$). Moreover, the analysis of the data collected shows that the effect size of the Cultural Factor (CUL) on the individual investor's decision-making is small ($f^2 = 0.12$).

The eighth hypothesis deals with the impact of the Ethical and environmental Factors (EthEnviro) on the individual investor's decision-making. The analysis of the data collected shows that the research variable (Ethical and environment Factor (EthEnviro)) has insignificant impact on the individual investor's decision-making (standardised estimate = 0.04, $P = 0.15$). Moreover, the analysis of the data collected shows that the Ethical and environmental Factors (EthEnviro) has no effect on the individual investor's decision-making, and it can be stated that the effect size of this relationship is nothing ($f^2 = 0.004$).

These independent variables' Internal Factors ((H1) Religiosity Factors (REL), (H2) Positive Psychological Capital (PCF), and (H3) Psychological (PSY)) and External Factors ((H4) Political Factors (POL), (H5) Economic Factor (ECO), (H6) Corporate governance and social Factors (GvEnvir), (H7) Cultural Factor (CUL), and (H8) Ethical and environment Factors) strongly explain the individual investor's decision-making with an $R^2 = 0.82$. Accordingly, the hypotheses H1, H2, H3, H4, H6

and H7 have an insignificant impact on the individual investor's decision-making. It can be concluded that these hypotheses are supported. However, the hypotheses H5 and H8 have an insignificant relationship and in turn have no effect on the individual investor's decision-making. Thus, it can be concluded that these hypotheses are not supported.

5.5.5.3 Predictive Validity (Relevance)

Table 5.46 demonstrates that the Q-squared coefficients (Stone-Geisser's Q^2 test) for the predictive relevance (validity) associated with each latent variable block in the model, through the dependent latent variables, are all greater than zero, which indicates that the model has predictive relevance (Hiar et al., 2011). Kock (2015) stated that a Q^2 larger than 0 means that the model has predictive relevance, whereas a Q^2 lower than 0 indicates that the model is deficient in predictive relevance. Kock (2015: 101) claimed that "the Q-squared coefficient is a non-parametric measure traditionally calculated via blindfolding. The Q-squared coefficient is sometimes referred to as a resampling analogue of the R-squared. It is often similar in value to that measure". Table 5.46 provides predictive relevance of the independent constructs.

Table 5.46: The Predictive Relevance of the Independent Constructs

Q² Coefficient for Independent Latent Variables		
Dependent Latent Variables	Q² Coefficient	Assessment
Individual Investors' Decision-making	Q²= 0.54	Moderate Effect

Table 5.47 provides a hypotheses summary of the results of the Sultanate of Oman Model.

Table 5.47: Summary of Results of the Sultanate of Oman

Number of Hypothesis	Hypothesis	Supported/ Rejected
H1	The Religiosity related factors have a positive impact on the individual investor's decision-making	Supported
H2	The Positive Psychological Capital related factors have a positive impact on the individual investor's decision-making	Supported
H3	The Psychological (cognitive and emotions) related factors have a positive impact on the individual investor's decision-making	Supported
H4	The Political related factors have a positive impact on the individual investor's decision-making	Supported
H5	The Economic related factors have a positive impact on the individual investor's decision-making	Rejected
H6	The Corporate governance and social related factors have a positive impact on the individual investor's decision-making	Rejected
H7	The Culture related factors have a positive impact on the individual investor's decision-making	Supported
H8	The Ethical and environment related factors have a positive impact on the individual investor's decision-making	Rejected
H9	There are no differences between the Kingdom of Saudi Arabia and the Sultanate of Oman individual investors regarding the relationship variables of the study	Partially Supported

5:5.6 Comparison between the Kingdom of the Saudi Arabia and the Sultanate of Oman Using Independent Sample T-Test Analysis

This section deals with the H9 “there are no differences between the Kingdom of Saudi Arabia and the Sultanate of Oman individual investors regarding the relationship variables of the study.” To compare the two countries of respondents (The Kingdom of Saudi Arabia and the Sultanate of Oman), an independent sample t-test analysis was employed. Tables 5.48 and 5.49 show the independent sample t-test hypothesis.

Table 5.48: Countries Group Statistics

	Two Countries	N	Mean	Std. Deviation	Std. Error Mean
PCF	Saudi Arabia	620	4.33	.581	.023
	Sultanate of Oman	590	4.31	.638	.026
REL	Saudi Arabia	620	4.46	.605	.024
	Sultanate of Oman	590	4.29	.671	.028
PSY	Saudi Arabia	620	4.29	.430	.017
	Sultanate of Oman	590	4.35	.543	.022
POL	Saudi Arabia	620	4.35	.554	.022
	Sultanate of Oman	590	4.20	.962	.040
ECO	Saudi Arabia	620	4.43	.566	.023
	Sultanate of Oman	590	4.35	.601	.025
GOV	Saudi Arabia	620	4.29	.548	.022
	Sultanate of Oman	590	4.24	.869	.036
CUL	Saudi Arabia	620	3.99	.573	.023
	Sultanate of Oman	590	4.30	.770	.032
ETH	Saudi Arabia	620	4.26	.608	.024
	Sultanate of Oman	590	4.31	.684	.028
DE	Saudi Arabia	620	4.23	.572	.023
	Sultanate of Oman	590	4.15	.914	.038

Table 5.49 Independent Sample T-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PCF	Equal variances assumed	24.254	.000	.401	1208	.689	.014	.035	-.055	.083
	Equal variances not assumed			.400	1183.802	.689	.014	.035	-.055	.083
REL	Equal variances assumed	36.098	.000	4.564	1208	.000	.168	.037	.096	.240
	Equal variances not assumed			4.552	1180.774	.000	.168	.037	.095	.240
PSY	Equal variances assumed	23.401	.000	-2.056	1208	.040	-.058	.028	-.113	-.003
	Equal variances not assumed			-2.045	1122.518	.041	-.058	.028	-.113	-.002
POL	Equal variances assumed	57.141	.000	3.280	1208	.001	.147	.045	.059	.235
	Equal variances not assumed			3.239	931.464	.001	.147	.045	.058	.236
ECO	Equal variances assumed	46.841	.000	2.420	1208	.016	.081	.034	.015	.147
	Equal variances not assumed			2.416	1193.603	.016	.081	.034	.015	.147
GOV	Equal variances assumed	43.390	.000	1.330	1208	.184	.055	.042	-.026	.137
	Equal variances not assumed			1.316	985.339	.189	.055	.042	-.027	.138
CUL	Equal variances assumed	.054	.816	-8.054	1208	.000	-.313	.039	-.389	-.237
	Equal variances not assumed			-7.997	1086.280	.000	-.313	.039	-.390	-.236
ETH	Equal variances assumed	16.744	.000	-1.234	1208	.218	-.046	.037	-.119	.027
	Equal variances not assumed			-1.230	1175.204	.219	-.046	.037	-.119	.027
DEC	Equal variances assumed	19.516	.000	1.819	1208	.069	.079	.044	-.006	.165
	Equal variances not assumed			1.800	980.717	.072	.079	.044	-.007	.166

The t-test's null hypothesis is that there is no difference between the means of the Kingdom of Saudi Arabia and the Sultanate of Oman respondents. Table 5.48 shows that the t-test for the most relationships gives an associated significance of $P < 0.05$ for the religiosity (REL), psychological (PSY), economic (ECO), cultural

(CUL), and political (POL) latent variables. This means that there is a difference between the Kingdom of the Saudi Arabia and the Sultanate of Oman individual investors except in the positive psychological capital (PCF), Corporate governance and social factors (GovSocial), decision-making (DEC), and ethical and environmental factors (EthEnviro) (see Table 5.49). The reason behind the variance and similarity will be discussed in the following chapter (Discussion Chapter). Thus, it can be concluded that H9 is partially supported.

5.6 Summary

This chapter describes the responses of the study's participants regarding the internal and external factors, both positive and negative, affecting the individual investor's decision-making. In addition, this study provides a comparative study between the two countries adopted in this study (the Kingdom of Saudi Arabia and the Sultanate of Oman). The PLS-SEM statistical analysis (WarpPLS 5.0) has validated the study's conceptual framework model and it is established that both the internal and external factors are influencing the respondents on both countries. Moreover, the results found there to be a difference between the two countries regarding most of the factors affecting the investor's decisions. The model of the study has been tested using the PLS-SEM model, and it is found to be valid for explaining the internal and external factors, both positive and negative, influencing the individual investor's decision-making in the Kingdom of Saudi Arabia and the Sultanate of Oman.

CHAPTER SIX: SUMMARY

6.1 Introduction

Based on the main aim of the study, which has been to examine the impact of both the internal and external factors on individual investors' decision-making in the stock market of both the Sultanate of Oman and the Kingdom of Saudi Arabia, as discussed in the literature review in this study, a conceptual framework has derived to explain the relationship between the study variables. First, the conceptual framework examines the relationship of Internal Factors, which consists of three main variables: (1) Positive Psychological Capital, (2) Religiosity Factors, and (3) Psychological (cognitive and emotional) Factors on individual investors' decision-making. Second, the study will examine the relationship of External Factors which consists of five main latent variables: (1) Political Factor, (2) Economic, (3) Corporate Governance and Social (4) Culture, and (5) Ethical and Environmental Factors on individual investors' decision-making. Moreover, the study provides a comparative study to compare the two countries of respondents (the Kingdom of Saudi Arabia and the Sultanate of Oman). T-test analysis was employed to do so, and the conceptual framework was then tested quantitatively.

This chapter discusses the results of the quantitative study (as presented in Chapter 5), in an attempt to provide a comprehensive picture of what has been learned about perspective theories, individual investors' decision-making and GGC

stock security markets. These discussions relate to findings based on the literature review and the context of the study.

More significantly, the study results are integrated with the relevant literature in these fields. Furthermore, this chapter discusses the applicability of perspective theories to individual investors' decision-making in stock security market.

6.2 Internal Factors That Influence the Investor's Financial Decision-making in both the Kingdom of Saudi Arabia and the Sultanate of Oman

6.2.1 The Influence of Internal Factors on Decision-making

This section covers the first objective of the study, which was to identify the main internal factors that influence the individual investor's financial decision-making. In this study, Internal Factors consist of three main variables: (1) Religiosity Factors (REL), (2) Positive Psychological Capital (PCF), and (3) Psychological (cognitive and emotional) Factors (PSY).

The analysis of the data collected in this study concluded that the religiosity factor (REL) has a significant and negative impact on individual investors' decision-making in the Kingdom of Saudi Arabia. This result is not in line with Ford and Richardson (1994), who found that religion plays a significant role in influencing the judgment, emotional and motivational qualities of Sri Lankan leaders' decision-

making. In addition, Renneboog and Spaenjers (2012) revealed the same results as Ford and Richardson when they found religion played a significant role in investment decisions. However, Arruñada (2010) agreed with Saudi Arabia's results, which indicate that religion induces risk tolerance, resulting in a negative relation between investment and religiosity. In contrast to Saudi Arabia's result, the analysis of the data collected in this study of the Sultanate of Oman concluded that the religiosity factor (REL) has a significant and positive impact on the individual investor's decision-making. The Sultanate of Oman's result is in line with the previously mentioned work of El Ghouli et al. (2012), who contended that religion plays a positive role in corporate governance, and thus enhances the investor's confidence in the firm. This finding suggests a positive role of religion in investment decisions.

In Saudi Arabia's model, the analysis of the data collected shows that positive psychological capital has a significant and positive impact on individual investors' decision-making. This finding is in line with the result obtained from the Sultanate of Oman's model, which revealed that the positive psychological capital has a significant positive impact on individual investors' decision-making. This backs up previous research that has found that trust and optimism cause more market participation. These results indicate a positive relationship between positive psychological capital and investors' decision-making (Guiso et al., 2008). Also, Kaya (2012) confirmed that optimism as an indicator of positive psychological capital contributes to investors' decision-making. Furthermore, an old study of

Goetzmann and Peles (1997) suggested that a positive psychological capital positively influences investors' decision-making, which also agreed with Konana and Balasubramanian (2005) and Puri and Robinson (2007).

In the Saudi Arabia model, the analysis of the data collected shows that the research variable (Psychological [cognitive and emotional] Factors [PSY]) has a significant and positive impact on individual investors' decision-making. Similarly, in the Sultanate of Oman, the analysis of the data collected shows that the research variable (Psychological [cognitive and emotional] Factors [PSY]) has a significant positive impact on individual investors' decision-making. The result is consistent with Kogut and Kulatilaka (1994); Goetzmann and Peles (1997); Nasic and Weber (2007); and Gigerenzer and Brighton (2009), who found that an investor's risk-taking behaviour can be predicted by his optimism and over confidence. In other words, they found evidence in support of the significant and positive role of psychological (cognitive and emotional) in investment decisions. Furthermore, Gigerenzer and Gaissmaier (2011) argued that investors often depend on simple psychological in an adaptive approach, and the judgments will be more precise by ignoring part of the information.

6.3 External Factors That Influence Investors' Financial Decision-making in Both the Kingdom of Saudi Arabia and the Sultanate of Oman

6.3.1 The Influence of External Factors to Decision-making

This section covers the second objective of the study, which is to identify the main internal factors that influence the investor's financial decision-making. As has been mentioned before, in this study, external factors consist of five main variables: (1) Political Factor (POL), (2) Economic Factor (ECO), (3) Corporate Governance and social Factors (GvEnvir), (4) Cultural Factor (CUL), and (5) Ethical and environment Factors.

In the Kingdom of Saudi Arabia, the analysis of the data collected shows that the research variable (Political Factor [POL]) has an insignificant impact on the individual investor's decision-making. The result isn't consistent with Castells and Solé-Ollé (2005), who reported a significant link between investing decisions and the political environment. Gartzke and Boehmer (2001) found evidence in support of the view that political instability adversely affects investment decisions, and Durnev (2010) indicated a positive link between political factors and investment decisions at both corporate and an individual level. Regarding the Sultanate of Oman's result, the analysis of the data collected also shows that the research variable (Political Factor [POL]) has a significant and positive impact on individual investors' decision-making.

In Saudi Arabia's results, the analysis of the data collected shows that the research variable (Economic Factor (ECO)) has a significant and positive impact on the individual investor's decision-making. This result is in line with Greene and Villanueva (1991); Serven and Solimano (1992); Panetta, F. (2002); and Konana and Balasubramanian (2005), who concluded that macroeconomic factors play an important role in the investment decisions by altering the risk return profile of the investment avenues. In contrast to the previous results, in the Sultanate of Oman, the analysis of the data collected shows that the research variable (Economic Factor [ECO]) has an insignificant impact on individual investors' decision-making.

Regarding the effect of the Corporate Governance and social Factors (GovEnvir) on individual investors' decision-making in Saudi Arabia, the analysis of the data collected shows that the research variable (Corporate Governance and social Factors (GovEnvir) has an insignificant positive impact on the individual investor's decision-making. This result is not in line with La Porta et al. (2000), who found that "where laws are protective of outside investors and well enforced, investors are willing to finance firms, and financial markets are both broader and more valuable." This argument favours the positive impact of good governance on individual investors' investing decisions. However, in the Sultanate of Oman's findings, the analysis of the data collected shows that the research variable (Corporate Governance and social Factor [GovEnvir]) has a significant and negative impact on the individual investor's decision-making.

Moreover, in The Kingdom of Saudi Arabia's result, the analysis of the data collected shows that the research variable (Cultural Factor [CUL]) has an insignificant impact on individual investors' decision-making. This result is in line with Riahi-Belkaoui (1998), who found that cultural forces do not influence the individual investor's investment decisions, but rather the macro level environment. Meanwhile, in the Sultanate of Oman model the analysis of the data collected shows that the research variable (Cultural Factor [CUL]) has a significant and positive impact on individual investors' decision-making. This result is in line with O'Barr and Conley (2000) and Sevdalis and Harvey (2007), who examined the cultural impact on investment decisions and concluded that cultural influence is pervasive in investing decisions.

Finally, regarding the impact of external factors on individual investors' decision-making in both countries, the analysis of the data collected shows that the research variable (ethical and environment factors has a significant and positive impact on the individual investor's decision-making in the Kingdom of Saudi Arabia. In contrast, the results regarding the Sultanate of Oman revealed that the research variable (Ethical and environmental Factor [EthSocia]) has an insignificant impact on individual investors' decision-making.

6.4 The Level of Internal and External Factors' Effect Size

This section covers the third objective of the study: to examine which factors have, more or less, an influence on the investor's decision-making in both countries: the Kingdom of Saudi Arabia and the Sultanate of Oman.

6.4.1 The Internal Factors' Effect Size

Saudi Arabia's model illustrated that the research variable (Religiosity Factor) has the greatest effect size ($f^2=0.193$), followed by Psychological (cognitive and emotional) factors ($f^2=0.184$) and, finally, the positive psychological factor has the smallest effect amongst the internal factors ($f^2=0.16$). Regarding the Sultanate of Oman model, the results revealed that the research variable (Religiosity Factor) has the greatest effect size ($f^2=0.26$), while the positive psychological factor has the smallest affect amongst the internal factors ($f^2=0.01$) which, it can be said, has no effect size.

6.4.2 The External Factors' Effect Size

Regarding the external factors, in The Kingdom of Saudi Arabia's model, the results revealed that the research variable (Ethical and environment Factors) has

the greatest effect size ($f^2=0.21$), while the governance factor has the smallest affect amongst the external factors ($f^2=0.004$), which means this factor has no effect amongst the external factors. Regarding the Sultanate of Oman model, the results demonstrated that the research variable (Cultural Factor) has the greatest effect size ($f^2=0.12$). While the economic factor has the smallest affect amongst the internal factors ($f^2=0.000$), at this point it can be concluded that the economic factor has no effect size amongst the external factors in the Sultanate of Oman's individual investors.

6.6 Demographic Information between the Sultanate of Oman and the Kingdom of Saudi Arabia

This section covers the fourth objective of the study, which was to highlight the variance of the demographic information of both the Sultanate of Oman and the Kingdom of Saudi Arabia. The analysis of the data collected shows that male individual investors dominated the stock market exchange in the Kingdom of Saudi Arabia (78%), compared to 132 female individual investor respondents. Likewise, in the Sultanate of Oman, more than half the investors were male, (about 59.5%), while the remaining 40.5% were female.

Further analysis was employed using the independent sample t-test to explore the differences between males and females in both respondents' countries (the Kingdom of Saudi Arabia and the Sultanate of Oman). The study findings show

that most relationships gives an associated significance of $P < 0.05$ for the positive psychological capital (PCF), religiosity (REL), Psychological (PSY), economic (ECO), culture (CUL), and decision-making (DEC) latent variables. This means that there is a difference between male and female individual investors in the Kingdom of the Saudi Arabia and the Sultanate of Oman except in the corporate governance and social factors (GovSocial), political (POL), and ethical and environmental factors (EthEnviro) (see Tables 5.36-5.37).

As for the other demographic information, in the Kingdom of Saudi Arabia's model, the analysis of the data collected indicates that more than half the respondents were from 31-40 years' old. Only 2 respondents (0.3%) were more than 60 years' old. As in the previous findings, in the Sultanate of Oman, about half the respondents (315 – 53.4%) were from 31-40 years' old, and only 6 respondents (1.0%) were more than 60 years' old.

Regarding the respondents' marital status, in the Kingdom of Saudi Arabia, the data collected shows that two-thirds (414) of the individual investors were married (66.8%), while the rest of the respondents, 191 individual investors (30.8%), were single. As in the previous findings, the Sultanate of Oman's results show that two-thirds (408) of individual investors were married (69.2%), while the rest of the respondents, 171 of individual investors (28.9%), were single.

According to the educational level of the Kingdom of Saudi Arabia's individual investors, the analysis of the data collected illustrates that about half of the respondents graduated from College-University (288 – 46.5% of individual investors) and only 26 (4.2% of individual investors) claimed that they held a postgraduate degree. In terms of the educational level of the Sultanate of Oman's individual investors, more than half of the respondents graduated from College-University (305 – 51.7% of individual investors) and only 23 (3.9% of individual investors) claimed that they held a postgraduate degree.

As for the fifth demographic information (work experience), in the Kingdom of Saudi Arabia's findings, about a third of individual investors (222 – 35.8%) have work experience from 3-5 years, and 193 (31.1%) have less than 2 years' experience. However, only 18 (2.9%) of the individual investors have 6 – 10 years' work experience. Regarding the Sultanate of Oman's findings, more than a third of individual investors (257 – 43.5%) have 3-5 years' work experience, followed by 134 (22.7%) having less than 2 years' experience. However, only 82 (13.9%) of individual investors have more than 10 years' work experience.

Moreover, in Saudi Arabia's findings, the analysis of the data collected shows that more than two-thirds of male individual investors (501 – 80.8%) were local investors and the rest of the respondents (119 – 19.2%) were international investors. Further, in the Sultanate of Oman's findings, more than two-thirds of

male individual investors (464 – 78.6%) were local investors and the rest of the respondents (126 – 21.4%) were international investors.

The analysis of the data collected (demographic “occupation”) in the Kingdom of Saudi Arabia demonstrates that a third of participants (216 – 36.5%) were government employed. It also indicates that 104 participants (16.8%) are self-employed. However, the data collected of the Sultanate of Oman shows that about the third of participants (233 – 39.5%) were government employed. It also indicates that 23 participants (3.9%) are unemployed.

6.7 The Comparative Study between the Kingdom Saudi Arabia and the Sultanate of Oman

This section covers the six objectives of the study, which compares findings between the Kingdom of Saudi Arabia and the Sultanate of Oman. The analysis of the data collected from both countries shows that there is a difference between the Kingdom of Saudi Arabia’s and the Sultanate of Oman’s individual investors except in the culture and Psychological (cognitive and emotional) factors.

The independent sample t-test (see Section 5.5.6 and Table 5.50) shows that the t-test for most of the study constructs gives an associated significance of $P < 0.05$ for the religiosity (REL), Psychological (PSY), economic (ECO), culture (CUL), and political (POL) latent variables. This means that there is a difference between the

Kingdom of Saudi Arabia and the Sultanate of Oman individual investors, except in the positive psychological capital (PCF), Corporate governance and social factors (GovSocial), decision-making (DEC), and ethical and environmental factors (EthEnviro). This finding does not agree with Fearon (2003) who found that the Kingdom of Saudi Arabia and the Sultanate of Oman have similar characteristics (such as, culture, religion, social norms and language) and almost similar political and economic features to the other GCC countries.

This result is in line with Canepa and Ibnrubbian (2014), whose study has shown the irrationality of investors in the GCC countries. One of these aspects relates to the effect of religion on the stock market and behavioural moods of investors. Religious factors are of interest in this region, as more than 90 per cent of the population is Muslim.

This implies that religious tenets have an important bearing on portfolio choices of investors, as it was found that Shariah-compliant stocks have higher returns and volatility than their non-Shariah compliant counterpart. Furthermore, the study of Balcilar et al. (2013) also showed evidence of herding behaviour of investors in GCC countries. With such evidence of irrationality of investors and the inefficiency of the stock markets, this research thus promotes the understanding of investors in the Sultanate of Oman and the Kingdom of Saudi Arabia from a behavioural finance approach.

Moreover, there is a difference between the Kingdom of Saudi Arabia and the Sultanate of Oman regarding the effect of (B) External Factors: (1) Political (POL), (2) Economic Factor (ECO), (3) Corporate Governance and social factors (GovEnvir), and (4) Ethical and environment Factors (EthSocia) on individual investors' decision-making. This result isn't in line with what has been mentioned by Werker (2012), and it is therefore argued that there are some unique features of the GCC countries, and the two countries under study in particular, that are worth discussing, as this provides additional motivation for undertaking this study. For one thing, these economies are over reliant on oil revenue. Oil revenues, for example, account for 84% of government revenue in the Sultanate of Oman, and 80% of government revenue (45% of the GDP and 90% of export earning) in the Kingdom of Saudi Arabia.

The difference between the two countries with respect to factors affecting individual investors' decision-making is attributed to the difference in the legal and regulatory environment. Although the main religion of the two countries is Islam, and the two nations share common religious values, there is a considerable difference in their formal and informal institutions, legal system, financial environment and social values. The Sultanate of Oman has adopted the modern legal system, which is a mix of Sharia Law and Anglo-Saxon law, whereas the Kingdom of Saudi Arabia tends towards a more conservative legal system.

The population dynamics of these two neighbouring countries are also significantly different; the proportion of expatriate workers is significantly low compared to the Kingdom of Saudi Arabia. The Sultanate of Oman gives full economic and social independence to women whereas the mobility of Saudi women is very limited so that their contribution to the economy is also negligible. The Sultanate of Oman has adopted a liberal and open investment policy to attract international investors and it gives full liberty to expatriate workers to invest their savings in the financial markets. The financial environment is also considerably different in the two countries. For instance, interest is strictly prohibited in the Kingdom of Saudi Arabia whereas Oman is liberal towards conventional banking. The Sultanate of Oman is more diverse in terms of business compared to the Kingdom of Saudi Arabia. The differences between the Sultanate of Oman and the Kingdom of Saudi Arabia's economic, social and financial environments cause the differences between the two countries with respect to factors affecting the investment decisions of the individual investors.

6.8 Summary

This chapter has discussed the research quantitative findings according to the main aim and objectives of the thesis. It has integrated the research quantitative findings and linked them to previous studies. It has covered the key factors (i.e. internal and external) that affect the individual investor's decision-making in both countries (the Kingdom of the Saudi Arabia and the Sultanate of Oman). It has

also discussed the differences between the Kingdom of Saudi Arabia and the Sultanate of Oman. The vast majority of the study findings of both models are in agreement with previous studies of behavioural finance factors and investment decision-making. This discussion approves the reliability of these results and the influences of the main behavioural finance factors (Internal and External) on the individual investor's decision-making.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

7.1 Introduction

In this chapter, an overview of the study is given and the key findings are then highlighted. It also discusses the study implications, placing particular emphasis on the study's theoretical and practical contributions. Further, based on the study's findings, general recommendations are suggested to individual investors on the stock markets of both the Kingdom of Saudi Arabia and the Sultanate of Oman on successful financial decision-making of their investments. Finally, the limitations of the research are acknowledged and suggestions for future research proposed.

7.2 Conclusion

The GCC countries have witnessed an increased level of activities and participation on the stock exchange. The level of awareness on investments in stocks (and bonds) has also improved. With the increased awareness and participation in the stock markets, the depth of potential loss as a result of external shocks could be significant. For instance, the impact of the global financial crisis of 2008 on the stock markets was quite significant, and a lot of individual investors (and their families) were severely affected in the GCC countries. However, there

is lack of information of the full extent of the impact of the financial crisis on individual investors in the GCC countries, the Kingdom of Saudi Arabia and the Sultanate of Oman included. The general market losses can be deduced from the fall in the stock indexes. For instance, the Kingdom of Saudi Arabia Stock Index (TASI) fell by 56 percent while the Sultanate of Oman stock index (MSM 30) fell by 61 percent from 2007 to 2008 (MSM Report, 2009; Tadawul Report, 2009).

In addition, the stock markets have been observed to be sensitive to oil price movements, as these economies depend on oil revenue (Dhaoui and Khraief, 2014). Several studies in the GCC countries have demonstrated the relationship between stock returns and the changing of the price of oil (Hammoudeh and Li, 2005).

This study, however, is intended to go beyond external shocks (world economic shocks) by examining the actual individual participants of the stock markets, and how their behavioural traits might (whether explicitly or implicitly) reduce or exacerbate the impact of such shocks. Thus, it is anchored within behavioural finance that proposes that investors are irrational in their decision-making and that the application of psychology (and sociology) could provide some valuable explanations of the human behaviour within the financial markets (Shiller, 2005).

Behavioural finance promotes the notion that investors are subject to behavioural biases and, thus, their financial decisions can be less than fully rational (Byrnes

and Brooks, 2008). These propositions are contrary to traditional finance theories that assume investors make rational decisions and attempt to maximize their expected returns (Siegel, 2007). These traditional finance theories have been criticized in terms of their explanatory power and the validity of their assumptions (Takahashi and Terano, 2003). Several studies in behavioural finance support the concept that individual investors perform in an irrational way in some of their investment decisions, and thus financial models fail to explain the real investors' behaviour (Kiyilar and Acar, 2009).

The literature review provided the foundation for constructing the hypothesis and development of the conceptual framework (see, Chapter Three). It was observed that most studies have examined the behavioural constructs on investors' trade activities in isolation from each other (such as overconfidence on investor decision) and (in some cases) the cross effects between them (such as the cross effect between overconfidence and risk tolerances). However, no study has attempted to integrate both internal and external factors to examine investor decision-making. In deciding the internal and external factors to investigate in this study, the major criterion for selection was the appropriate literature that implied associations between investors' decision-making with the behavioural constructs. In addition, the behavioural constructs' measurements should have had validated scales from previous studies.

Therefore, based on the literature review and the identified gap, this study takes a holistic approach and adopts the perspective theories in order to investigate the influence of selected behavioural factors on individual investors' decisions. Three main internal factors, identified to be relevant to the context of the study, have been selected. These internal factors consist of positive psychological capital, religiosity factors, and psychological (cognitive and emotional) factors. The influence of these internal constructs on an individual investor's decision-making is investigated.

The research population is made up of individual investors in the Kingdom of Saudi Arabia and the Sultanate of Oman stock exchanges. A questionnaire was employed to collect data from 620 individual investors in the Kingdom of Saudi Arabia and 590 individual investors in the Sultanate of Oman. These were the total number of valid questionnaires included in the data analysis. The data analysis (see Chapter Five for additional discussion) was based on the partial least square structural equation modelling in order to test the eighteen hypotheses discussed in Chapter Three.

In general, the findings of the study showed that both internal and external factors influence the individual investor's decision-making in both countries. However, the influence or association was not always in the same direction or pattern. In particular, it was found that while religiosity factors have a significant influence on individual investors' decision-making in both Saudi Arabia and Oman, the impact was negative in the Kingdom of Saudi Arabia but positive in the Sultanate of Oman.

The analysis of the data revealed that positive psychological capital and psychological (cognitive and emotional) factors have a positively significant effect on investors' decision-making in both countries.

With regard to the external factors, the results showed that political factors have an insignificant influence on investors' decision-making in the Kingdom of Saudi Arabia, in contrast to the positively significant impact in the Sultanate of Oman. These results are consistent with other studies (for example, Durnev, 2010) but contrary to others (Castells and Solé-Ollé, 2005; Gartzke and Boehmer, 2001). Economic factors, on the other hand, revealed a positively significant impact in the Kingdom of Saudi Arabia but are insignificant in the Sultanate of Oman. There are some studies that support those findings for economic factors in the Kingdom of Saudi Arabia (Greene and Villanueva, 1991; Konana and Balasubramanian, 2005; Panetta, 2002; Serven and Solimano, 1992). The corporate governance and environmental factor constructs were found as positively insignificant in the Kingdom of Saudi Arabia but negatively significant in the Sultanate of Oman. La Porta et al. (2000) found contrasting results in the impact of the governance and environmental factors.

Further, cultural factors are found to have a positively significant impact on individual investors' decision-making in the Sultanate of Oman; this contrasts with the Kingdom of Saudi Arabia where such factors are insignificant. Contrary to cultural factors' influence on investors' decision-making, ethical and social factors

have a positively significant impact in the Kingdom of Saudi Arabia but an insignificant impact in the Sultanate of Oman. These results show some general consistency with other studies on cultural factors (O'Barr and Conley, 2000; Riahi-Belkaoui, 1998; Sevdalis and Harvey, 2007) and ethical and social factors (Sparkes, 2001).

In addition, the study found that religiosity factors had the highest influence in both the Kingdom of Saudi Arabia and the Sultanate of Oman, while positive psychological factors had the least effect among the internal factors. With respect to external factors, the study has revealed that ethical and environmental factors have the greatest influence in the Kingdom of Saudi Arabia while cultural factors have the highest influence in the Sultanate of Oman. The corporate governance factor has the least impact in the Kingdom of Saudi Arabia compared to the economic factor in the Sultanate of Oman.

Thus, the research objectives have been addressed through the data analysis and discussion of the results. Further, besides fulfilling the research objectives, this study makes both theoretical and practical contributions to the field of behavioural finance. The literature review (see Chapter Two) showed that there currently exists a literature gap that this study contributes to filling. In addition, this study enhances our knowledge and understanding of the theoretical application of the 'new' finance paradigm. Further, exploring the influence of the internal and external factors (in a

holistic way) in investors' decision-making has a methodological implication and contribution.

The general practical contribution of this study could be illustrated through its identification of the cognitive and emotional (internal) and external factors that influence the individual investors in the GCC countries, and the Kingdom of Saudi Arabia and the Sultanate of Oman in particular. The understanding of these factors could, for instance, help investors on the GCC stock markets with how to tackle any (potential) future shocks in the proper way. The research contributions are discussed in more detail below.

7.3 The Research Contribution

7.3.1 Theoretical Contributions

The research's contribution to theory is twofold. Firstly, this study has made an attempt to enhance our knowledge and understanding of the relationships between behavioural factors and investors' decision-making. It takes a holistic approach in exploring both internal and external factors at the same time. A review of the literature showed that while there are a good number of studies that investigate the behavioural factors affecting individual investors' decisions on the stock market, a holistic approach encompassing both internal and external factors as applied in this study has not been done before. The majority of empirical studies

focus on one or a selected few of the factors that affect investors' decision-making (for example, Nguyen and Schuessler, 2012; Seppälä, 2009). The factors used in previous studies have either focussed on behavioural bias factors (such as overconfidence, herding) or external factors that affect investors' decision-making. It is appreciated that some studies have investigated the impact of both behavioural biases and external factors on individual investors' decision-making (for example, Al-Tamimi, 2006; Barber and Odean, 2008; Heath et al., 1999; Lipe, 1998; Mahmood et al., 2011). However, what has not been addressed by these studies is the broader set of variables, such as positive psychological capital and religious factors, and the external factors that could influence individual investors' decision-making; such studies have also failed to take a holistic approach. Thus, the contribution of this study lies in the fact that it combines all these parameters simultaneously, and it helps to highlight that there is a cross effect among these parameters, such as investor decision-making.

Some studies, for example the study by Nagy and Obenberger (1994), which examined seven factors that influence investors' thoughts, did not consider a number of other factors that influence investors' decision-making (for example, religious, psychological and political factors), while the study by Aregbeyen and Mbadiugha (2011), which examined the effects of economic, social, cultural and psychological factors on the investment decision, did not consider the influence of other factors, such as political and environmental factors.

Within the context of the GCC countries, many studies have concentrated on the macro-level factors, such as oil prices, market efficiency and political factors, to investigate the stock market behaviour and vulnerability (Hammoudeh and Choi, 2006). Consequently, these studies have not considered the full range of internal behavioural factors nor the external factors that could influence individual investors' decision-making on the stock market in GCC countries (see, for example, Shu et al., 2004; Elango and Hussein, 2008; AL-Tamimi et al., 2011; Al-Ajmi and Kim, 2012; 2014; Jamaani and Roca, 2015). These studies focused on particular (macroeconomic) factors that affect the aggregate market behaviour, for instance, the effect of oil price volatility or global political events.

Only five studies (to the author's knowledge) have attempted to study the effect of behavioural factors on individual investors' decision-making in GCC countries. The study, for example, by Al-Tamimi (2005) examined the role of internal factors on the individual investor's decision-making while Al-Anood and Al-Tamimi (2009) investigated the influence of financial literacy on individual investors' decision-making in the GCC stock markets, incorporating factors examined in the Al-Tamimi (2005) study. Further, Al-Ajmi (2008) investigated the influence of corporate financial reporting on individual investors' decisions in the Bahrain stock market, while Balcilar et al. (2013) examined investor-herding behaviour in the GCC stock markets. In addition, Bley (2011) investigated investor reaction to the good and bad news (price alteration) in the GCC stock markets. Thus, the extant literature about the GCC financial markets has not considered many important factors (such

as religious and the positive psychological capital) that could potentially affect individual investors' investment decisions.

It is important that market participants understand or acknowledge the potential outcome of their decisions made under the influence of behavioural biases and external factors (El-Sabagh et al., 2011; Al-Ajmi and Kim, 2012; Jamaani and Roca, 2015). This study, thus, contributes to filling this research gap. The study also provides a framework for use by academics, researchers and individual investors.

The methodological contribution of the study is in the combined use of parameters simultaneously which affect investors' decision-making. The study has simultaneously examined all the parameters using Partial Least Square Structured Equation Modelling. Thus, this study contributes to the behavioural finance field by providing a complete and verified research model concerning investors' decision-making. Further, the use of a competing models approach to compare the Kingdom of Saudi Arabia and the Sultanate of Oman enabled the fitting of the data to the research model for each country. This enhanced the comparison of findings between the two countries and, as a result, the validity and applicability of the research models. The competing model strategy enabled the study to highlight the differences between the Kingdom of Saudi Arabia and the Sultanate of Oman individual investor characteristics and provided some statistical validity for the subsequent interpretation of findings. The study contributes to the field of

behavioural finance since it provides evidence supporting the significance of some subjective factors and their impact on investors' decision-making. The next section discusses its practical contribution.

7.3.2 Practical contributions

The practical contribution of this research can be illustrated through its identification of the cognitive and emotional biases (internal), and external factors that influence the individual investors in the Kingdom of Saudi Arabia and the Sultanate of Oman. These two countries have similar characteristics to other GCC countries, and indeed other countries around the world (for instance, largely Muslim populated countries).

The results from this study should expand our understanding of the significant factors that influence financial decision-making on the stock markets. Understanding these factors could provide an explanation as to the observed reaction and impact of external shocks. For instance, during the 2008 global financial crisis, the GCC stock markets were also negatively affected and many investors (their family and friends) suffered huge losses. The losses suffered, however, could have been exacerbated by some behavioural traits characterizing the investors. For instance, the positive psychological factors and psychological (cognitive and emotional) factors that have been found to be positively and significantly influential upon investors could have increased the market reactions

and thus the losses. Therefore, one possible practical application of this study would be to help the investors in the Kingdom of Saudi Arabia and the Sultanate of Oman understand these behavioural traits and thus possibly learn to tackle any future potential shocks in an appropriate way. A better understanding of the investors' behaviour and outcomes is important for financial advisors, also, so that they may provide appropriate investment advice. This study could provide a framework to assist financial advisors to better understand their clients' decision-making processes.

Further, despite that the Kingdom of Saudi Arabia and the Sultanate of Oman having similar characteristics (such as, culture, religious, social norms and language) and almost similar political and economic features to the other GCC countries (Fearon, 2003), the implications of the findings in this study could not be applied to the other GCC countries. Accordingly, testing the influence of the internal and external factors upon the individual investor in the Kingdom of Saudi Arabia and the Sultanate of Oman wouldn't represent possibly similar effects on the investors in the rest of the GCC countries. Hence, trends and more predictive results couldn't be ascertained for the rest of the GCC by reference to the identified significant factors that influence investors. Further, investors wishing to trade across countries within the GCC can improve their investment decisions by understanding the key cognitive and emotional, demographic and other external factors. An awareness of these internal and external factors should result in more

rational decision-making that is not significantly impacted upon by behavioural biases.

Moreover, as very little is known about the investors' behaviour in the GCC countries, this research makes a contribution and could be used as a starting point for the understanding of the investors' behaviour and specific investors' characteristics in both countries (the Kingdom of Saudi Arabia and the Sultanate of Oman). The study could be considered a first step towards examining individual investors' decision-making in a systematic way rather than a simplistic way.

Furthermore, it is very important to know how investors make investment decisions in peculiar or unique environments and the expected outcomes of their decisions under the influence of such factors. For instance, it is largely unknown how cognitive and emotional biases in countries having a majorly Muslim population could affect investment decisions, as Islam teaches against greed and encourages the promotion of the wellbeing of the group rather than the individual. Further, the Islamic religion places certain restrictions such as the prohibition of gambling and of investing in businesses that are considered sinful or socially irresponsible, such as companies that produce alcohol or weapons. Thus, this study contributes to understanding the uniqueness of the investors within these regions.

In addition, some practices associated with stock trading, which are argued to make the markets more efficient, such as margin trading or short selling, are not

allowed (Gait and Worthington, 2007) in such regions. Hence, considering these features, the study gives us an understanding of the behavioural factors, from a holistic approach, that influence investors' decision-making in such countries. This has implications for international or foreign investors who want to participate in the stock markets in GCC countries. Further, this has implications on the policy-making of governments – for instance, how governments should promote investment and participation in the stock markets in the GCC.

Further, through revealing investor characteristics and behaviour in decision-making, this study could offer a framework for use by companies and individuals/families with regard to characteristics that improve investment decisions. Another practical implication of the study would be to motivate more research in the field of behavioural finance to encourage structural equation modelling, which simultaneously examines many parameters.

7.4 Study Recommendations

The study's findings reveal that the religiosity factor has a positive impact on the individual investor's decision-making. Individual investors in the Sultanate of Oman are fortified by religion, which plays an important role in influencing the judgment, emotional and motivational qualities of the investor's decision-making. However, in the Kingdom of Saudi Arabia the results showed that there is a negative relationship between religion and investment, as religion induces risk tolerance.

Thus, investors in the Kingdom of Saudi Arabia should increase their confidence and rely on this factor at an acceptable level, whilst employing their skills and knowledge in certain circumstances to improve the investment results. In addition to the religiosity factor, the study findings in both countries found that positive psychological capital positively influences individual investors' decision-making. Thus, individual investors should increase their sense of trust and optimism, as this will encourage more market participation.

Furthermore, the study findings illustrated that psychological (cognitive and emotional) related factors have positive impacts on the investment decision. Hence, individual investors in both GCC countries should be optimistic and highly confident. For example, individual investors ignoring part of the information can lead to more accurate judgments than weighting and adding all information, which will help them to predict risk-taking behaviour to improve the investment results. During periods of ambiguity, overconfidence in investors can be useful, as it will allow them to do difficult tasks and help them to forecast future trends. Consequently, a suitable piece of advice for the individual investors in the Kingdom of Saudi Arabia and the Sultanate of Oman is that overconfidence is great for their investment decisions if they can employ it in clever and appropriate ways.

In the Kingdom of Saudi Arabia and Sultanate of Oman, the results show that politically related factors have an insignificant impact on the individual investor's decision-making. This is a sign of political stability, which is characterized by the

two countries. In addition, the findings for the Sultanate of Oman indicate that the corporate governance and environment factor have a negative impact on the individual investor's decision-making. Thus, the GCC countries' governments – the Kingdom of Saudi Arabia and the Sultanate of Oman in particular, and also individual investors – should know that much is still required to be done to banish the perception that good governance is a luxury, and one that will compromise the financial performance of a firm. Therefore, durable criteria of good governance are an absolute necessity for the sustainable growth and development of the individual investors, organizations and economies in these countries.

In the Sultanate of Oman's model, the findings found that the culturally related factors have a positive impact on individual investors' decision-making. Thus, it should be known that cultural differences, such as life experiences and education level, may influence investors' behaviours accordingly, and it is believed that behavioural inclinations can vary among different cultures. Furthermore, it is important to enhance the investor's culture by developing positive investment behaviour. The study findings also indicated that ethical and social-related factors have a positive impact on individual investors' decision-making. This supports the consideration that, for the individual investors, socially responsible investing is a determining factor in investment decisions, and that investors should invest in socially responsible companies. Thus, the recommendation given to individual investors, groups and companies is that they should consider wisely before making

investment judgements, but should not care too much about previous losses when making later decisions on their investments.

7.5 Study limitations

The study is restricted by the fact that it employs self-evaluated behavioural biases, traits, and decision-making of each respondent. This increases the subjectivity of the data. Future studies should accumulate greater quantities of objective information in relation to these vital parameters.

Further, the study examined individual investors' decision-making. The decision-making of individual investors could be different to that of professional investors (Sharma, 2006). Thus, the results obtained in this study might not be applicable to professional investors in the same country. Further, there is another limitation related to the size of the population. While the number of successful questionnaires is high, there is still a possibility that different results could have been obtained had the study gotten an even higher number of respondents.

In addition, there is a possible limitation arising from the time period. This research has been carried out in the period after the 2008 global financial crisis. The perspectives of individual respondents in terms of stock investments before and after the financial crisis could be different (Bachmann and Bayer, 2014). This could

become an important factor, especially if the individual investor suffered some significant financial losses during the period. This could change the risk attitude and perspective of investments.

Other limitations could relate to the research methodology. The development of the research model to capture the parameters has inherent limitations. Further, the positivist research philosophy has implied limitations. For instance, there could be some factors that cannot fully be captured in a statistical model (Tijjani et al., 2014).

The analysis of the data collected from both the Kingdom of Saudi Arabia and the Sultanate of Oman's models illustrated that there are many differences between the Kingdom of Saudi Arabia's and the Sultanate of Oman's individual investors, except in the culture and psychological (cognitive and emotional) factors. This result is not consistent with Fearon (2003), who found that the Kingdom of Saudi Arabia and the Sultanate of Oman have similar characteristics (culture, religious, social norms and language, for example) and almost similar political and economic features to the other GCC countries with the rest of GCC. Thus, more in-depth investigation is required to determine the logical explanations for these results. For example, a qualitative study may be useful in interpreting and explaining this unexpected result.

7.6 Directions for Future Research

This thesis has provided numerous insights into investor behaviour in the Kingdom of Saudi Arabia and the Sultanate of Oman, and consequently provides an important contribution to behavioural finance literature. It is imperative that this thesis provides a foundation for future research by, for example, extending it to include the rest of the GCC. This could provide further insights, as the argument that the GCC countries share similar characteristics and, thus, should be affected by the same factors could be proved.

In addition, further research could expand the scope of this research by applying the model to other countries outside the GCC. As it's a holistic approach, which considers both internal and external factors, its application to other financial markets should help develop our understanding of the behavioural factors. Comparative studies could thus be made based on the same model and approach.

Further, future research could delve deeper into the behavioural factors' cross effects or cross relationships – how internal factors influence external factors and vice versa, for instance. This could provide a richer insight into the behavioural factors that exacerbate or limit other factors, and help to develop our understanding of the influence of the various factors involved in investors' decision-making.

Another direction for future research could be the application of the model to professional investors, instead of individual investors. This is relevant considering that some factors might be more applicable to individual investors than professional investors; financial literacy and experience, for instance, become particularly important (Nofsinger, 2007; Sharma, 2006). A comparative analysis between professional and individual investors could thus be carried out.

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Appendix (A)



Alamir Al-Alawi
PGR Student
Faculty of Business

Ref: FoB/UPC/FREC/FREC1314.44/clc
Date: 1 October, 2014

Dear Alamir

Ethical Approval Application No: FREC1314.44
Title: Holistic Approach of the Factors Affecting Investor's Performance in GGC Market

The members of the Faculty Research Ethics Committee appreciate the effort you have made in addressing all the queries raised on your first submission and is now fully satisfied that the project complies with Plymouth University's ethical standards for research involving human participants.

We would however suggest that due care should be taken to improve upon the grammar in the pre-notification email/letter before it is sent out to participants.

Approval is for the duration of the project. However, please resubmit your application to the committee if the information provided in the form alters or is likely to alter significantly.

We would like to wish you good luck with your research project.

Yours sincerely

(Sent as email attachment)

Dr James Benhin
Chair
Faculty Research Ethics Committee
Faculty of Business

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Appendix (B): Questionnaire

**TOMORROW'S
SCIENCE & TECHNOLOGY
TODAY
WITH
PLYMOUTH
UNIVERSITY**

PhD Questionnaire Form
Factors Affecting Investor's
Decision Making

University of
Plymouth
Plymouth Business
School

Holistic Approach to the Factors Affecting Investor's Decision-making in the GCC Markets: Evidence from Oman and Saudi Arabia

By:
Alamir Al-Alawi
Alamir.Al-Alawi@plymouth.ac.uk

Dear Respondent,

I am a PhD researcher at the School of Management, Plymouth Business School, University of Plymouth. I'm undertaking a research project on "Holistic Approach to the Factors Affecting Investors' Decision-making in the GCC Markets: Evidence from Oman and Saudi Arabia".

I would very much appreciate your participation in this research, which would involve completing the attached survey questionnaire. Your completed questionnaire will enable me to create a holistic approach which considers measurement of the internal and external factors affecting investors' decision-making.

Your participation is crucial for the success of my research project. The information you provide will be kept confidential and will only be used for academic purposes. The research design does not involve identifying you specifically. You

may obtain a summary of the research findings by contacting me on the email above.

Once again, I would very much appreciate your participation in this important survey.

Many Thanks,

Alamir Al-Alawi

To what extent do you think that the following factors have affected your investment decisions? Please tick one response of the following: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly

Part 1: Internal Factors					
1. Positive Psychological Capital Factors:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
In uncertain times, I usually expect the best.	1	2	3	4	5
I always look on the bright side of things.	1	2	3	4	5
Overall, I expect more good things to happen to me than bad.	1	2	3	4	5
I have confidence in my ability to solve my investment problems in a creative way.	1	2	3	4	5
I am good at further developing the ideas of others.	1	2	3	4	5
I have the ability to listen carefully to concerns and solve problems creatively.	1	2	3	4	5
I have the ability to make a plan for my goals for the next five years.	1	2	3	4	5
I feel confident analysing a long-term problem to find a solution.	1	2	3	4	5
I feel confident at helping to set targets/goals in my area of work.	1	2	3	4	5
I can think of many ways to get out of any problem.	1	2	3	4	5
I usually meet the goals that I set for myself.	1	2	3	4	5
My past experiences have prepared me well for my future.	1	2	3	4	5
I usually manage difficulties one way or another at work.	1	2	3	4	5
I am determined to overcome difficulties that I encounter in my investment.	1	2	3	4	5

When I have a setback in my job search, I usually do not have trouble recovering from it.	1	2	3	4	5
2. Religiosity Factor:					
The Dua'aa (supplication) supports me.	1	2	3	4	5
Islam helps me to have a better life.	1	2	3	4	5
The Prophet Muhammad (peace-be-upon-him) is the role model for me.	1	2	3	4	5
I believe that Allah (God) helps me.	1	2	3	4	5
I perform the obligation of Zakat.	1	2	3	4	5
I prefer to invest in Shariah-Compliant companies.	1	2	3	4	5
I seek to make my investment based on Islamic jurisprudence.	1	2	3	4	5
I give great importance to invest in companies that rely on the Islamic banking system.	1	2	3	4	5
3. Psychological (Cognitive and Emotions) Factor:					
I rely on my investment decision on the past returns of the stock, as an indicator of future returns.	1	2	3	4	5
Good stocks are firms with past consistent earnings growth.	1	2	3	4	5
I buys hot stocks and avoid stocks that perform poorly.	1	2	3	4	5
I tend to invest in the stocks of companies that have a local or regional business presence more than those that do not.	1	2	3	4	5
I believe that I am less likely than many others to suffer from bad events.	1	2	3	4	5
I use predictive skills to set my investment decision-making.	1	2	3	4	5
I feel more confident in my own investment opinions over the opinions of my colleagues or friends.	1	2	3	4	5
I believe that my skills and knowledge about stock market can help me to outperform the market.	1	2	3	4	5
After a prior loss, I become more risk averse.	1	2	3	4	5
I prefers to invest in low risk/return stocks with a steady performance.	1	2	3	4	5
I feel nervous when large paper losses (price drops) occur in my invested stocks.	1	2	3	4	5
I would increase the sum of my stock market holdings if in the last month the aggregate trading volume in the stock market was higher than usual.	1	2	3	4	5
Other investors' decisions of choosing stock types have an impact on my investment decisions.	1	2	3	4	5

I react quickly to the changes of other investors' decisions and follow their reactions to the stock market.	1	2	3	4	5
I use the purchase price of stock as a reference point in stock trading.	1	2	3	4	5
I am unlikely to buy a stock if it was more expensive than last year.	1	2	3	4	5
I am able to anticipate good or poor market returns in stock markets.	1	2	3	4	5
I would expect the value of the index to decrease in the next month if in each of the last six months the price of the shares index value increased.	1	2	3	4	5
I tend to treat each element of my investment portfolio separately.	1	2	3	4	5
I avoid selling shares that have decreased in value and readily sell shares that have increased in value.	1	2	3	4	5
Part 2: External Factors					
The internal political events (e.g. Arab Spring) affect my investment decisions.	1	2	3	4	5
I play close attention to the political news.	1	2	3	4	5
I play close attention to the government's suggestions.	1	2	3	4	5
2. Economic Factors					
Interest rate influence my investment decision in the stock market.	1	2	3	4	5
Inflation rate influences my investment decision in the stock market.	1	2	3	4	5
My investment decisions in the stock market are influenced by the investment substitution.	1	2	3	4	5
The share price affordability by the firm influences my investment decisions in the stock market.	1	2	3	4	5
I consider the published corporate financial statements in my investment decisions.	1	2	3	4	5
To set up my investment decision I use financial models for investment.	1	2	3	4	5
I utilize technical analysis while making investment decision.	1	2	3	4	5
Increase/decrease in the company's profits have affected my investment decisions.	1	2	3	4	5
The distribution of stock dividends influences my investment decisions.	1	2	3	4	5
The expectation of higher stock price influences my investment decisions.	1	2	3	4	5

The expected performance of the company play an important role in my investment decisions.	1	2	3	4	5
3. Corporate Governance and Social Factors:					
I consider the recommendations by a reputable and trusted brokerage house in my investment decisions.	1	2	3	4	5
My investment decisions are affected by friends/co-workers' recommendations..	1	2	3	4	5
My investment decisions are affected by individual stock brokers' advice.	1	2	3	4	5
Rumours from the market affected my investment decisions.	1	2	3	4	5
I consider the company's shareholders profile for investment.	1	2	3	4	5
I take the governance strengths of companies into account when making investment decisions.	1	2	3	4	5
The firm's affiliation with a business group affects my investment decisions.	1	2	3	4	5
The size of firm's shareholder ownership influences my investment decisions.	1	2	3	4	5
I expect a firm that pays a dividend to be better governed than one that is non-dividend paying, thus such indicators of dividend-paying firms influence my investment decisions.	1	2	3	4	5
4. Cultural Factors:					
I respect the culture values in share investment.	1	2	3	4	5
I tend to perceive industrial and technological risks as opportunities rather than threats to those companies I invest in.	1	2	3	4	5
I prefer to invest in companies that have a high degree of integrity.	1	2	3	4	5
I prefer to invest in companies whose CEO is of a similar cultural origin.	1	2	3	4	5
I have limited market knowledge about the product/service I buy/sell from those companies I invest-in.	1	2	3	4	5
5. Ethical AND Environmental Factors:					
I consider corporate social investment while making investment decisions.	1	2	3	4	5
I prefer to invest in those companies that engage in corporate social investments.	1	2	3	4	5
I prefer to invest in those companies that care about others' interests and wellbeing.	1	2	3	4	5

D) Masters/PhD Degree E) Others

Years of your experience in the market?

A) Less than 3 B) 3-5 C) 6-10 D) more than 10

I invest in more than one securities market:

Yes No

Occupational Type?

A) Government Employed B) Private Organization Employed

C) Self Employed E) Unemployed

Thank you very much for your participation