The Role of Behavioural Finance in the Risk Management Framework of Banking Institutions

Dissertation submitted in part fulfilment of the requirements for the degree of Masters of Business Administration (MBA) at Dublin Business School

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22th August 2016

Research Supervisor: Andrew Quinn
Declaration:

I declare that this research is my original work and that it has never been presented to any institution or university for the award of Degree or Diploma.

In addition, I have referenced correctly all literature and sources used in this work and this work is fully compliant with the Dublin Business School’s academic honesty policy.

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Acknowledgements:

Thoroughly my journey in Ireland many people have contributed in the most diverse ways to my success and therefore I would like to gratefully acknowledge those that supported me in some important accomplishments, including this research study.

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Thank you to you all.

Evair Cabral
Abstract:

The main purpose of this paperwork is to enlighten and expand the knowledge of the behavioural finance field of study by showing the importance of understanding the financial markets behaviour and evaluate if subsequent to psychological biases findings overall risk limits should be set at board level in the risk framework of banking institutions and converted to limits applicable to the individuals responsible for managing risks.

Inspired by the studies of Kahneman and Tversky in the 1970’s, behavioural finance is a relatively new area of knowledge that has been gaining an exponential visibility especially over the past few years as a result of its managers and investors incapability of behaving according to the assumptions made in the traditional finance theory. The list includes events such as the bankruptcy of Lehman Brothers in 2008 followed by a global financial crisis having a behavioural bias at its root.

To synthetize, the field of study attempts to enrich and enhance high quality of executive’s decisions offering complementary points of view and explanations in response to the difficulties faced by the traditional corporate finance. Within this context, it is important to emphasize that the aim of behavioural finance research in risk management is not to replace, but complement the assessment of other precise frameworks.

The outcome this paperwork reveals that due to recent and continuous behavioural biases awareness, the investment community is already seeking new approaches that are less reliant on traditional investment theory in order to mitigate the role of biases in investment and managerial decisions, however there is still room for improvement, especially for large, complex and international financial institutions. Ultimately, several authors argue that we are unlikely to find a ‘cure’ for the biases, but the understanding of such behaviours along with appropriate financial planning policies can play a powerful role in avoiding behavioral biases.

Key Words: Behavioural Finance, Risk Management, Banking Institutions, Decision-Making.
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1. Chapter One - Introduction

1.1 Understanding the Concepts of Behavioural Finance and Risk Management in Banking

1.1.1 Behavioural Finance

“Follow the pattern of the physician: 
*Ask, listen, diagnose, educate, and treat*”.


Behavioural finance is a recent growing field of research inspired by the studies of Kahneman and Tversky in the 1970’s that uses ideas derived from psychology extending its analysis to the role of biases in the decision-making process (Kahneman, 2012, p. 1-3, Byrne and Utkus, 2013, p. 3 and Mendes et al. 2015, p. 10). The subject has been growing considerably over the past few years due to its managers and investors incapability of behaving according to the assumptions made in the traditional finance theory (Byrne and Utkus, 2013, p. 3, Mendes et al, 2015, p. 10 and Hyoyoun and Wook, 2013, p. 3).

Mitroi and Opoiu (2014, p. 154) clarify that behavioural finance does not eliminate but complements the standard assessment approaches – fundamental, technical and market analysis. According to Hyoyoun and Wook (2013, p. 5), the field of research attempts to investigate the impact of psychology on market participants behaviour’ and its outcomes, concentrating on how individual investors and managers make decisions: “in particular, how they interpret and act on specific information”. This new concept for finance also attempts to predict financial markets.

1.1.2 Risk Management in Banking

Baltes and Ciuhureanu (2010, p. 67) argue that “risk is a key factor for businesses, because you cannot get profit from any activity without risk”. Zigid and Hadzic (2012, p. 33) add that risk management has become one of the most relevant management functions within banks and
financial institutions. Under these circumstances, Bessis (2012, p. 7) explains that risk management in banking attempts to acknowledge and address the main risks faced by financial players in order to mitigate and limit the possibility of pitfalls.

Byrne and Utkus (2013, p. 3) add that the traditional risk management framework holds that investors behave in a rational consistent manner having little difficulty in making financial decisions. In contrast, Baker and Ricciardi (2015, p. 23) explain that successful financial planning goes beyond understanding the latest market trends and financial numbers; emotional processes, mental mistakes and individual personality traits difficult investments outcomes. Thus, investors should make decisions based on their financial objectives, but including a financial plan that involves their client’s values, needs and wants in order to mitigate behavioural biases.

1.2 Research Problem

The majority of traditional corporate finance research frequently assumes that investors and managers in the financial industry behave in a rational manner comprised of a rational set of beliefs, attitudes and preferences (Arnold, 2005; Atril, 2009; Brealey & Myers, 2003). In contrast, behavioural finance research shows that managerial biases and irrational investors affect the outcomes of the decision-making process (Kahneman, 2011; Baker and Ricciardi, 2015; Mendes et al, 2015; Byrne and Utkus, 2013).

Kahneman, (2011, p. 3-4) states that: “systematic errors, known as biases, will recur predictably in particular circumstances”. According to behavioural finance research, every major risk management disaster in the past few years has a behavioral bias at its root. The list includes events such as the bankruptcy of Lehman Brothers in 2008 followed by a global financial crisis, the explosion at BP’s Macondo Well in the Gulf of Mexico in 2010 and the nuclear meltdown at the Fukushima Daiichi power plant in 2011.

Under these circumstances, behavioural finance research attempts to enlighten and improve our understanding of the financial markets behaviour and its participants in order to avoid potential pitfalls, by applying insights from psychology and other behavioural sciences (Baker, and Ricciardi, 2015, p. 23-25). Herciu, and Ogrean, (2014) argue that the application of behavioral finance to the risk management framework it is still in a very early stage, therefore the subject it is
still a moot question.

Ultimately, Byrne and Utkus (2013, p. 1) argue that “we are unlikely to find a ‘cure’ for the biases, but if we are aware of the biases and their effect, we can possibly avoid the major pitfalls”.

1.3 Research Aim

The purpose of this research study is to consider whether behavioral biases should be applied in the risk management framework of banking institutions and if so, how this should be grasped.

Essentially, through the application of the risk management tools - comprised of a rational model, which does not consider the role of behavioural biases - managers and investors within the banking industry aim to strategically reduce companies financial risk exposure (Bessis, 2012, p.7). In contrast, Byrne and Utkus (2013, p. 3) and Mitroi and Opoiu (2014, p. 157) argue that investors rarely behave according to the traditional economics theory, therefore emotions extensively affect investment decisions.

According to Baker and Ricciardi (2015, p. 25) and Byrne and Utkus (2013, p. 1-3) although individuals cannot prevent all behavioural biases, understanding fundamental human tendencies can provide with managers and investors knowledge to make better judgement and decisions.

1.4 Research Objectives

Calmorin et al (2007, p. 30) explains that a research objective is a “statement of purpose for which the investigation is to be conducted”. Moreover, the research objectives provide an accurate scope of the actions, supporting the researcher in accomplishing the goals of the project and answering the research question. In another words, as per stated by Polonsky and Waller (2009, p. 25), “it is important that the research objectives are clear and achievable, and that they will directly assist in answering the research question”.

The major objectives of this research project are to show the importance of understanding the financial markets behaviour enabling continuing knowledge contributing to the expansion of the field and evaluate if subsequent to psychological biases findings based on observation of past
events, overall risk limits should be set at board level in the risk framework of banking institutions and converted to limits applicable to the individuals responsible for managing risks.

Furthermore, this research study attempts to identify which aspects of behavioural finance could be relevant to existent risk management frameworks and which specific findings from behavioural finance could be effectively incorporated into risk management frameworks.

1.5 Research Question and Rationale for the Topic

According to Haber (2010, p. 28), the research question presents the idea which is to be investigated in the study and form the basis for the research. In another words, the research question guides the research project allowing the researcher to find relevant content in order to draw well-grounded conclusions; Thus, it has to be relevant for the study, concise, clear and simple. Haber (2010, p. 29) adds that the “Research question or topics are not pulled from thin air……. research questions should indicate that practical experience, critical appraisal of the scientific literature, or interest in an untested theory was the basis for the generation of a research idea”.

In the spotlight of financial scandals such as the Lehman Brothers bankruptcy in 2008 originated at its root by behavioural biases, the purpose of the research question is to evaluate and consider the application of the psychological/ behavioural research findings into the risk management framework of banking institutions.

Within this context, the rationale for this research study relies on the necessity to create more efficient mechanisms that limits or avoid behavioural biases in management financial decisions; hence the primary research will be conducted around the main following question:

**Should banking institutions or regulators incorporate the findings of psychological/ behavioural finance research in their risk management frameworks?**
1.6 Sub-Research Questions

In order to enrich the content of the research project, the sub-research questions as per outlined below aim to widen the scope of the primary research question by evaluating the relevance and effectiveness of behavioural finance application into the risk management framework. It also attempts to grasp which specific findings could effectively mitigate behavioural biases in the decision-making process.

What aspects of behavioural finance could be relevant to existent risk management frameworks?

What specific findings from behavioural finance could be effectively incorporated into risk management frameworks?

How much can we really expect to do to overcome our behavioural and cognitive biases?

How can we quantify the improved outcomes from incorporating behavioural finance into risk management frameworks?

1.7 Suitability of the Researcher and Interest in the Subject

The researcher initial motivation was to choose a topic related to his MBA stream of Finance and professional background in accounting & finance. Secondly, in order to choose the research topic, the researcher have considered picking an interesting and relatively new subject in need of further research that could also provide him with relevant knowledge for his profession and future career prospections.

Thus, in the aftermath of several financial scandals in banking institutions caused by behavioural biases at its root, the researcher’s personal motivation for this present research project was to find valid data and therefore adding relevant content to the current literature which will provide managers and investors with relevant knowledge in order to support high quality of their financial decisions. Furthermore, along with the collection data process, the author expected to expand his personal and professional network with some valuable contacts which ultimately will provide him powerful insights that goes beyond his dissertation project that he can consider in his financial decisions therefore reducing the impact of emotions and contributing to mitigate the possibilities of negative performances and biased decisions.
1.8 Scopes and Limitations of the Research

Sevilla et al (2007, p. 18) explains that “…The scope of the investigation which defines where and when the study was conducted and who the subject was. The scope sets the limitations and establishes the boundaries of the study”. Furthermore, the authors define limitations as “…a phase or aspect of the investigation which may affect the result adversely but over which the researcher has no control”.

In order to gather valid and reliable data to draw relevant conclusions it is vital to acknowledge the scope and the limitations of the research. As per previously mentioned, this research project aims to consider whether behavioral biases should be applied in the risk management framework of banking corporations and if so, how this should be grasped.

Within this context, below is listed some of the limitations/scope of this research project:

- This paperwork focuses in the risk management framework of banking corporations;
- The number of interviewees might not provide sufficient information considering the subjective and empirical nature of the study;
- The request for physical access and cooperation may fail to interest the interviewees due to several reasons, including a lack of perceived value in relation to the research project and the sensitive and confidential nature of the study; and
- The conclusions and recommendations will be affected by the researcher personal interpretation and point of view.

1.9 Dissertation Organisation and Structure

This research study has been divided into 8 sections as per detailed below:

Chapter 1: Introduction

It provides an overview and background information of the research topic touching the research main purpose and its objectives; It also explains the research question and sub-questions, which constitute the basis for the research and guides the gathering of primary data. Furthermore, this section presents the suitability of the researcher and interest in the subject as well as acknowledge
the scope and limitations of the research.

Chapter 2: Literature Review

In this section it is presented valuable and relevant themes including the concepts and foundations of behavioural finance research along with its recent developments and the banking risk management framework highlighting recent studies with the trends and implications of the practical application of behavioral finance findings to the risk management framework in banking institutions.

Chapter 3: Research Methodology

The purpose of this section is to demonstrate and discuss the existing research methods according to the Research Onion Diagram Model (Saunders et al, 2012) focusing on the research methodology choices selected for the best conduction of this particular research. A detailed analysis of the methodology research choices will touch the best research philosophy, approach and strategies options in order to gather relevant primary and second data to proceed with data analysis.

Chapter 4: Data Analysis, Findings and Discussions

The aim of this chapter is to analyse and discuss the gathering of primary data, therefore it is presented an in-depth analysis of the results which supports the researcher to find relevant and valid content in order to draw well-grounded conclusions and recommendations regarding the application of behavioural finance into the risk management instruments of banking corporations.

Chapter 5: Conclusion and Recommendations

This section attempts to summarise the main findings of this research study, touching its implications and additions for the field of study by drawing relevant and valid conclusions including the limitations and recommendations for future research.

Chapter 6: Six: Self-Reflection on Own Learning Curve and Performance

In the final part of the research study it is presented a self-assessment of the researcher’s experience and learnings throughout the conduction of this research study as well as insights of the
entire process of the Master’s studies.

Chapter 7: Appendices

Chapter 8: Bibliography
2. Chapter Two - Literature Review

2.1 Introduction

This first part of this chapter presents the concepts and foundations of behavioural finance research as well as its recent developments. Behavioural finance research is considered a relatively new field of study inspired by the studies of Kahneman and Tversky in the 1970’s. In summary, the discipline studies the psychology of the financial decisions extending its analysis to the role of biases in the decision-making process. (Kahneman, 2012, p. 1-3, Byrne and Utkus, 2013, p. 3 and Mendes et al. 2015, p. 10).

The second theme of this section correlates the role of behavioural finance research with traditional finance theory, which ignores the role of human behaviour on its framework; it will also show the trends and future perspectives of behavioural biases within financial markets. As an outcome it is observed that the success of financial decisions goes beyond understanding the latest market trends and financial numbers; thus the importance of acknowledging and addressing such behaviours along with traditional financial planning policies can play a powerful role in avoiding behavioral biases. (Baker and Ricciardi, 2015, p. 23-25; Byrne and Utkus, 2013, p. 3-5).

The third theme attempts to analyse the risk management in banking institutions and its approaches in order to mitigate the possibilities of incurring in potential pitfalls. The outcome of the analysis shows that risk management has made significant progress at the individual level, although there is still room for improvement, especially for large, complex and international financial institutions (Antoncic, 2014, p. 317; Dedu et al, 2012, p. 471-472).

Finally, in order to support this specific research project, the last part of this chapter attempts to examine the most recent studies in the field and demonstrate the trends of the practical application of behavioral finance findings into the risk management framework of banking institutions (Hillson et al, 2014; Rzeszutek et al, 2015)

The outcome of the secondary data review highlights the uncertainty of the environment where the subject of behavioural finance lies and the emergent necessity in creating more efficient mechanisms that limits or avoid behavioural biases in management financial decisions (Hillson et
2.2 Theme 1: Behavioural Finance Contextualization

Behavioural finance is a relatively new growing field of research in the financial markets that uses ideas derived from physiology, many of which were originated upon the seminal work of Daniel Kahneman, winner of the Nobel Prize in 2002. The premise of the area of study states that by taking psychological factors into account the effectiveness of investment, strategies can be improved (Mendes et al, 2015, p. 10; Hyoyoun and Wood, 2013, p. 5 and Singh, 2010, p. 1).

Hyoyoun and Wood (2013, p. 5) and Byrne and Utkus (2013, p. 3) argue that even though the CAPM (Capital Asset Pricing Model) and EMH (Efficient Market Hypothesis) are considered successful models in market analysis, the behavioural finance studies has been successfully developed as one alternative for standard finance due to its managers and investors incapability of behaving according to the assumptions made in the traditional finance theory. Nevins (2004, p. 8) adds that in areas where traditional methods have been disappointing, including goal setting and risk assessment, the investment community is seeking new approaches that are less reliant on traditional investment framework.

Mendes et al (2015 p. 11) state that from the methodological perspective, behavioral finance works on three levels: i) experiments with subjects under assisted laboratory conditions; ii) study of financial decisions in the real world, touching the personal, family, professional and corporate perspectives; and iii) the behaviour of financial markets.

Hyoyoun and Wood (2013, p. 5) and Singh (2010, p. 1) explain that the model emphasizes investor behaviour, leading to various market anomalies and inefficiencies. The authors add that this new pattern for finance analyses individual behaviour by integrating the fields of sociology, psychology and other behavioural finances. According to Herciu and Ogregan (2014, p. 66) behavioural research shows that managers and investors are prone to make irrational decisions based on their perception on their own biases. Doviak (2015, p. 46) adds that financial managers and investors may be less impacted if they acknowledge that their interpretation of events might frequently be inaccurate.
Under these circumstances, Hyoyoun and Wood (2013, p. 5) and Nevins (2004, p. 8-9) state that research in behavioral corporate finance studies highlights investors’ and managers’ irrationality and shows nonstandard preferences, and judgmental biases in managerial decisions. Doviak (2015, p. 46) add that even when beliefs and actions may vary among different financial managers and investors, most of the financial planners stay within the guidelines of theories they follow; problems arise when the market behaviour strain the nerves of the planner. Following these premises, Mendes et al (2015, 12-13) argue that managers and investors tend to (incorrectly) believe that the losers will eventually recover and winners will also eventually experience negative performances.

In order to acknowledge and address these issues, the behavioural finance model aims to enrich and enhance high quality of executive’s decisions offering complementary points of view and explanations in response to the difficulties faced by the traditional corporate finance. Moreover, it brings in discussion conventional ideas about corporate finance and compensation strategies via observation of past events and controlled experiments with students and market professionals: “in particular, how they interpret and act on specific information” (Mendes et al, 2015, 12 - 13, Byrne and Utkus, 2013, p. 3; Hyoyoun and Wood, 2013, p. 5; Dedu et al, 2012, p. 471 - 472).

The following figure summarises the basis of behavioural finance:

<table>
<thead>
<tr>
<th>Psychology</th>
<th>Sociology</th>
<th>Social Psychology</th>
</tr>
</thead>
<tbody>
<tr>
<td>is the scientific investigation of behavioral and cognitive processes, including how these methods are influenced by an individual’s physical, mental state and external surroundings.</td>
<td>is the systematic study of societal behavior of humans and groups. This discipline focuses primarily on the effect social relationships have on people’s attitudes and behavior.</td>
<td>is the study of the behavior of people in social groups. This field researches how persons influence and relate to one another.</td>
</tr>
<tr>
<td>Economics</td>
<td>Investing</td>
<td>Behavioral Accounting</td>
</tr>
<tr>
<td>is the science that focuses on the production, allocation, and expenditure of wealth, and with the various related problems of labor, finance, capital, and taxation.</td>
<td>to allocate money or capital into business, real estate, stocks, bonds, etc. for the purpose of obtaining an income or profit.</td>
<td>is a field that studies the behavior (psychology) of non-accountants and accountants concerning how they process accounting information and are influenced by the accounting function.</td>
</tr>
</tbody>
</table>

**Figure 1: The Underpinning of Behavioural Finance**

**Source:** Ricciardi and Simon (2000)
2.2.1 System 1 and System 2 – Daniel Kahneman, 2012

Kahneman, Daniel (2012, p. 3-4), winner of the Nobel Prize and one of the most influential references in behavioural research, states that: “systematic errors, known as biases, will recur predictably in particular circumstances”.

The author categorises the irrational approach to judgement and choice in the decision-making process in two systems, as per detailed below (Kahneman, 2012, p. 20-30 and Doviak, 2015, p. 47):

- **System 1**: Fast, frequent, automatic, stereotypic, subconscious - decisions processes are instinctual and heuristic-based (cover repetitive tasks); and

- **System 2**: Slow, infrequent, logical, calculating, conscious - decisions processes are calculated and analytical.

Kahneman covers a lot of experiments in order to explain and highlight the differences between these two processes. The author summarises that while system 1 runs automatically, system 2 instead normally run in a comfortable low-effort mode which is only one fraction of its capacity (2012, p.24); the thoughts and actions chosen by the system 2 are frequently guided by the System 1 (2012, p.21). When the system 1, comprised by impressions and intuitions is endorsed by the system 2, it turns into human beliefs and actions on personal desires (2012, p. 24).

2.2.2. Managerial Biases and Irrational Investors

Herciu and Ogregan explain that the literature constantly mixes investors and managers’ investments behaviour approaches. In summary, managerial biases are concerned about optimistic illusions and overconfidence while irrational investors relate to overreaction in a determined factor and under-reaction in another given factor (Herciu and Ogregan, 2014, p. 68 - 70).

- **Managerial Biases**:

According to the literature, managers may be overconfident when they are accessing the profitability of their investments. Within this context, some managers are concerned about the importance of shareholders in an organization, while others instead are more concerned about
satisfying all stakeholders needs in a company. Dedu et al (2012, p. 472) explain that overconfident managers over estimate cash flow on projects, use too much debt and ultimately tend to feel that their stocks are mispriced by the market.

Alongside with overconfidence, Heaton (2002, cited in Herciu and Ogregan, 2014, p. 68) explains that managerial optimism generates several predictions, such as:

-First, managerial optimism predicts the existence of biased cash flow forecasts;

-Second, managerial optimism predicts pecking order capital structure preferences;

-Third, managerial optimism predicts efforts to hedge corporate cash flow; and

-Fourth, managerial optimism predicts takeover resistance.

- Irrational Investors:

Investors may produce overreaction to something and under-reaction to something else. Within this context, Dedu et al (2012, p. 472) explain irrational investors tend to overestimate their own chances for success driving stock prices away from normal levels.

The graph below demonstrates the cognitive and behavioural attributes of investors (Herciu and Ogregan, 2014, p. 70):

![Figure 2: Investor Behaviour through the Economic Cycle](image)

*Source: Herciu and Ogregan (2004)*
In conclusion to this section, Herciu and Ogregan argue that all managers and investors act at one time irrational. The authors state that “even so, with limited governance and bounded rationality, managers or CEO’s will make decisions and take risks based on their own perspectives” (Herciu and Ogregan, 2014, p. 71 - 72).

2.2.3 Most Common Behavioural Biases Overview

As per stated by several important authors such as Kannerman (2012, p. 3 - 4) and Taleb (2008, p. 102 - 112) the behaviour of financial markets and individual’s decisions are consistently driven by various biases and distortions that might result in “incorrect” patterns of behaviour and inferior performance. Taleb (2008, p. 152) considers people to be overconfident and asymmetrical in the perception of random events. In another words, people tend to overvalue their knowledge and underestimate the probability of being wrong.

Agrawal (2012, p. 7-8) and Byrne and Utkus (2013, p. 1) argue that behavioural biases have been and will continue to influence human judgement: “we are unlikely to find a ‘cure’ for the biases, but if we are aware of the biases and their effect, we can possibly avoid the major pitfalls”.

Under these circumstances, this section attempts to provide a comprehensive overview of the most common behavioural biases and their outcomes or consequences that affects final decision-making process. The figure below presented by Agrawal illustrates a conceptual framework of the various biases, some which are presented in this section (Agrawal, 2012, p. 13):
2.2.3.1 Overconfidence Bias

Mahajan (1992, p. 330) defines overconfidence as “an overestimation of the probabilities for a set of events”. Kahneman and Riepe (1998, cited on Agrawal, 2012, p. 8) state that the overconfidence bias leads financial managers and investors to overestimate their knowledge, undervalue risks, and overestimate their ability to control events. According to Taleb (2005, p. 244) “Findings show that 80 to 90% of people think that they are above the average (and median) in many things”, which means that overconfident managers and investors tend to believe that they have privileged and superior information. Under these circumstances, they trade more and earn lower returns. Another important study on behavioural finance produced by the National Bureau of Economics shows that 98% of people believe that the overconfidence bias occurs at 60% of the time (Doviak, 2015, p. 46).

Within this context the literature clarifies that overconfident managers rely too much on their own judgement due to feelings of superiority which frequently leads to poor financial decisions and divergent outcomes. Dedu et al (2012, p. 472) state that overconfident managers tend to
overestimate cash flow on projects, use too much debt and tend to feel that their stocks are mispriced by the market. Furthermore, Agrawal (2012, p. 8) argues that the role of overconfidence is more pronounced in higher decision processes and professional experience does not have a positive effect in reducing the overconfidence bias.

2.2.3.2 Overoptimism Bias

“Optimism, it is said, is predictive of success. Predictive? It can also be predictive of failure. Optimistic people certainly take more risks as they are overconfident about the odds” (Taleb, 2005, p. 148). In summary, the optimism bias causes an individual to believe that they are less at risk of experiencing a negative event compared to others.

According to Ramnath et al. (2008, cited on Agrawal, 2012, p. 10) overoptimism is the tendency to overvalue the possibility of desired outcomes and undervalue the occurrence of unfavorable events, which means managerial under reaction to negative information on one side and overreaction to positive information on the other hand. As a result, the role of overoptimism frequently leads to investments in negative net present value projects despite of managers being highly loyal to shareholders.

2.2.3.3 Confirmation Bias

Cipriano and Gruca (2014, p. 34) argue that one of the most studied psychological biases in human processing information is the confirmation bias. The authors define it as the propensity to put too much weight on information that confirms their precedent views and too little weight on disconfirming prior concepts. In another words, Nelson (2014, p. 217-218) summarises that the confirmation bias is the tendency to perceive and seek out information that confirms one’s pre-existing beliefs, and avoids conflicting information.

The authors also highlight that the consequences of confirmation bias on market prices and investments can affect more than beliefs. It can also alter future behaviour in a way that an individual ignores accurate information received.
2.2.3.4 Herding Bias

The herding behaviour is the tendency for individuals to imitate and follow the actions of a bigger group. There are several reasons for this which goes from a natural desire to be accepted by a group to the common rationale that it is unlikely that an entire group could be wrong in their actions and assumptions (Corzo and Vaqueiro, 2014, p. 343-344; Kudryavtsev et al, 2013, p. 33).

As per Saxena et al (2016, p. 57) and Investopedia (2007) the herding bias can be explained in two ways: rational and irrational. In relation to the first aspect, the authors define rational herding as “a tendency of investors irrationally ignore their own analysis and information and conform for the market consensus, even if they do not agree with that”. The irrational herding instead happens in order to protect reputational concerns of a financial manager or investor: “Such investors normally ignore their own analysis of available information and start replicating the decisions of other investors by assuming that decisions made by them are more reliable and they had access to better source of information”.

2.2.3.5 Recency Bias

The recency bias happens when decisions and evaluations are based on recent results rather than a wider figure which frequently leads decision makers to make incorrect predictions and decisions about how the stock market behaves. Moreover, Vicky et al (2000, p. 109) and Cushing and Ahlawat (1996, p. 110) synthetizes that the recency bias is explained in the Belief-Adjustment model, which identifies certain conditions under a judge, when presented with several evidences, constitute a belief based on the most recent evidences. Vicky et al (2000, p. 109) also highlight that the recency bias effects will always exist in complex decisions domains - regardless of experience.

Furthermore, Cushing and Ahlawat (1996, p. 112) suggest that the explanation of the bias may rely on a lack of effort on the part of the decision-makers and in order to mitigate the effects of recency bias, an effort-inducing incentive (accountability) can improve managerial judgement performance.

2.2.3.6 Outcomes of Biases
As per stated by many authors, the ultimate effect of behavioural biases leads to several outcomes which involves irrational and suboptimal decisions. These inefficiencies challenge a lot of theories as they fail to achieve the expected returns. For instance, as per explained above biases such as overconfidence and overoptimism lead to the illusion of control, which translates in aggressive behaviour and quick decision-making; biases such as hearding instead, leads managers and investors to ignore their own analysis and start replicating the decisions of other people involved in the process. Ultimately, as a consequence decision-makers are unable to come out of the loop of their biased decisions (Kahneman and Riepe, 2012, p. 16; Saxena et al, 2016, p. 57; Kudryavtsev et al, 2013, p. 33).

### 2.3 Theme 2: Behavioural Finance Vs Traditional Corporate Finance

According to Baker and Ricciardi (2015, p. 23) classic theories such as the efficient market hypothesis (EMH) and the capital asset pricing model (CAPM) assumes that people make unbiased decisions and maximize their self-interests. Byrne and Utkus (2013, p. 3), Garcia (2013, p. 297) and Dedu et al (2012, p. 472) state that the traditional financial model holds that investors behave in a rational consistent manner having little difficulty in making financial decisions. Nevins (2004, p.9) explains that in the rational model assumption investors have perfect information about economic and market events to make rational decisions. Within this context, Garcia (2013, p. 299) highlights that the rational theory assumes that expectations depend on information, therefore the author argues: “thus if information is poor, your prediction will be poor as well”.

However, evidence shows that investors rarely behave according to the assumptions made in traditional theory (Garcia, 2013, p.297; Dedu et al, 2012, p. 471-472). Singh (2010, p. 1) argues that most of the time human being is governed not by rationality but its emotions. According to Garcia (2013, p.297) studies based in various disciplines such as sociology, psychology and political science suggest that in many environments, several psychological elements seems to be vital in financial decisions and affect as well the role of information.

In order to address these issues, Barros and Santos (2015, p. 87), Byrne and Utkus (2013, p. 3) and Nevins (2004, p. 8) states that the behavioural finance model has been extensively growing over
the last twenty years as an alternative way to understanding the economic and financial reality through a wider bias, some contrasting paradigms and precepts of the traditional finance theory.

Psychology has recently discovered that professionals of different areas have overconfidence in their decision-making process (Byrne and Utkus, 2003, p. 5 - 6). While the traditional theory suggests the diversification of portfolios in order to mitigate investments risks disregarding the role and impacts of emotions, overconfident investors may overestimate their ability and overlook broader factors influencing their investments leading to biased decisions. Garcia, (2013, p. 299) adds that individuals tend to retain information that is consistent with their preferences and not consider information that conflicts with them.

As a result of extensive investment pitfalls, behavioural researchers argue that the traditional finance theory should account for the observation of human behaviour, therefore the finds derived from psychology and learnings from past events should compose and discipline the decision-making process framework (Byrne and Utkus, 2013, p. 3 - 5). Baker and Ricciardi (2015, p. 23) and Nevins (2004, p. 9) clarifies that the successful financial planning goes beyond understanding the latest market trends and financial numbers; emotional processes, mental mistakes and individual personality traits difficult investments outcomes.

Under these circumstances, ideally investors should make decisions based on their financial objectives, but including a financial plan that involves their client’s values, needs and wants in order to mitigate behavioural biases. Singh (2010, p. 1) highlights that the premise of behavioural finance states that “by taking psychological factors into account the effectiveness of investment strategies can be enhanced”.

Baker and Ricciardi (2015, p. 24 - 25) summarises that in comparison to traditional finance theory, behavioural finance research does not only explains financial conditions, but also empirical predictions, hence it assumes that combined, the variables affect both individuals’ decisions and the market outcomes. Behavioural biases such as heuristics, overconfidence and risk-taking behaviour may interfere in the long-term goals achievement. Thus, even though individuals cannot avoid all behavioural biases, the understanding of such behaviours along with appropriate financial planning policies can play a powerful role in avoiding behavioral biases.

To conclude this section, Singh (2010, p. 8) argue that conventional efficient markets are not
completely out of the window. The author explains that behavioural research should not substitute conventional theory, instead, a combination of both should be developed and the conventional model should be used as the workhorse for the sensible research if used adequately. Garcia (2013, p. 309) also suggests an expansion of the frameworks sustained on assumptions that consider the aspects of human behaviour that have been perceived regarding the use and acquisition of information when making financial and investment decisions.

2.3.1 Behavioural Finance Trends and Future Perspectives

Byrne, A. and Utkus, S. (2013, p. 1) argue that “we are unlikely to find a ‘cure’ for the biases, but if we are aware of the biases and their effect, we can possibly avoid the major pitfalls”. In summary, biases and irrational behaviours are present at every level; Herciu and Ogregan (2014, p. 71-72) suggest that without effective limited corporate governance and bounded rationality, managers and investors will continue accepting risks based on their own perceptions and believes. Nevins (2004, p. 21) states that “by combining the older ideas or traditional finance with the newer thinking of behavioural finance, we believe we can meet this challenge”.

Moreover, Nevins (2004, p. 8) states that due to recent and continuous behavioural biases awareness, the investment community is already seeking new approaches that are less reliant on traditional investment theory. For the future, Mendes et al (2015, p. 25) argue that the development of behavioural finance will highly depend on the ability of researchers to intensify research programs and experiments that enables continuing knowledge contributing to the expansion of the field.

2.4 Theme 3: Risk Management in Banking Contextualization

According to Mihalcea and Androniceanu (2000, Cited in Baltes and Ciuhuneanu, 2010, p. 67) in a synthetic sense “risk is the variability of results under the pressure of factors from the environment in which the organisation operates”. Risk is composed by a combination of potential losses and uncertainty resulted by adverse scenarios.

Zigid and Hadzic (2012, p. 33) argue that risk management has become one of the most relevant
management functions within banks and financial institutions. Bessis (2012, p. 7) adds that “risk regulations address the main risks faced by financial players”.

Moreover, Baltes and Ciuhuneanu (2010, p. 69) and Zigid and Hadzic (2012, p. 33) summarises that the aim of efficient risk management is to meet the business objectives by preventing and mitigating the possibilities of losses that might occur.

Barjaktarovic (2009, cited in Zigid and Hadzic, 2012, p. 33) and Investopedia (2008) explain that the risk management process consists of six steps:

- **Definition of objectives**: Writing a plan to bring together all shareholders and identify all possible project risks by defining what the entity expects from the program.

- **Risk identification**: Every project is faced with risks, therefore it's vital to identify and determine the likelihood and consequence of each risk.

- **Risk assessment**: This step consists of an overall risk analysis and risk assessment. It is identified the company’s potential loss and its probability of loss. It is assessed the significance of each risk and it is recommended a range of tools for defining priorities for the regulation of risks.

- **Consideration of alternatives**: It is comprised of two solutions – risk financing and alignment of assets; the methods for managing risks include risk control, risk avoidance, risk reduction, risk financing methods and risk transfer methods.

- **Decision implementation**: The administrative processes of risk retention of risk transfer are put into practice.

- **Evaluation and re-examination**: It is a constant task of risk management involving continuous evaluation, monitoring and correction of operational risk management. The result end is that decision-makers should be able to minimize the impacts of the project threats and capture opportunities that occur.
In summary, identifying risk it is a vital process of banking risk management. Once the risk has been revealed, managers shall make an assessment of the probable impacts by drawing up a risk map. This consists of categorising and evaluating the probabilities of the risk impacts (Baltes and Ciuhuneanu, 2010, p. 69).

As per demonstrated below, according to Hull and Bessis, there are a wide range of risks in banking corporations, which differs according to the source of losses and market movements default on obligations’ payments to borrowers (Bessis 2012, p. 26-27; Hull, 2015, p. 383):

- Credit risk;
- Liquidity risk: funding risk;
- Interest risk rate;
- Mismatch risk;
- Market liquidity: market price risk;
- Market risk; and
- Foreign exchange risk.

Hull (2015, p.19) and Nevins (2004, p. 8) explain that the two general approaches widely used in the risk management framework of banking corporations in order to mitigate risks are risk decomposition and risk aggregation. The first one concerns about managing risks one by one; the second one instead, relies on the diversification in order to reduce risks. Hull also highlights that traditionally, credit risks have been managed through risk aggregation, but upon the advent of credit derivatives, both approaches can be used.

According to Nevins (2004, p. 8) the principle of diversification is simple and powerful. By spreading a portfolio among several investments, the ones that are performing poorly are balanced by those that are performing as expected, which translates in a more consistent and efficient pattern of returns.

In order to improve the banking risk management framework, Bessis (2012, p. 20) states that the processes of risk management should be bank-wide, with the responsible risk department providing independent oversight of risks with power to oppose decisions proposed by the business lines, for bringing risk in line with the bank’s policy.
To conclude this section, Dedu et al (2012, p. 471-472) highlight that corporations need a lot of improvement in management and corporate governance that goes from regulating personal interest with corporate risk and reward, control and communications systems. Antoncic (2014, p. 317) argues that risk management has made significant progress at the individual level, although there is still room for improvement, especially for large, complex and international financial institutions. According to the author “we still don’t know how to properly address the failure of a large international firm” in reference to the lessons from the 2008 financial crisis.

5 Theme 4: Recent Studies of Behavioural Insights for Improving Financial Decisions

This section attempts to examine the most recent studies in the field as well as demonstrating the trends of the practical application of behavioral finance findings into the risk management framework of banking organisations.

In line with recent studies in the field of research, McConnell et al (2014, p. 100-101) state that in order to acknowledge the role of behavioural biases in risk management decisions and improve the quality of its framework in banking institutions, risk managers and banking regulators will have to understand more about the controls on, and the limits of human behaviour in banking and society at large.

Shefrin (2016, p. 112) also states that “when it comes to improving risk management practices, behavioural insights are pertinent at all levels of the organization.” Moreover, the author argues that issues should be discussed both a ground-level and a bird’s-eye perspective; the ground-level focuses on the psychological issues while the bird’s-eye view provides a broader view of the risk environment.

2.5.1 Application of Behavioural Finance into the Risk Management Research - Hillson et al, 2014.

An important study produced by Hillson et al (2014, p. 114) shows that the practical application of behavioral finance to the risk management framework it is still in a very early stage, therefore the subject it is still a moot question.
Through a directed questionnaire the journal editors asked four important risk management involved figures their perspectives regarding the addition of the behavioural and psychological research into the bank and regulators’ risk management framework and if ‘reckless’ behaviour should be regulated in the new UK legislation. The gathering of data contributed with rich and relevant material to trigger further discussions and research in the field.

The outcome of Hillson’s study highlighted the uncertainty of the complex business environment where the subject lies and it leads the discussion to how it should be achieved rather than if it should be implemented or not (Hillson et al, 2014, p.114 - 115).

This current research study differentiates from the available literature in the sense that attempts not only to demonstrate the necessity of further studies on the behavioural finance field, but it also aims to identify which aspects of behavioural finance could be relevant to existent risk management frameworks and which specific findings from behavioural finance could be effectively incorporated into risk management frameworks.

2.5.2 Susceptibility of Behavioural Biases in Market Investments Research – Rzeszutek et al, 2015.

Another important study produced by Rzeszutek et al (2015) investigated the degree of susceptibility to behavioural biases in market investments. The author highlighted that behavioural biases disrupt the rationality of the decision-making process contributing to inefficient decisions outcomes.

The paperwork attempted to evaluate three behavioural biases, as per below (Rzeszutek et al. 2015, p. 338-339):

- Certainty effect: the tendency to overweight outcomes that are certain compared with outcomes that are very probable;

- Sunk-cost fallacy: relates to the influence of costs incurred in the past or future investments decisions; and

- Mental accounting: the process of mentally coding, categorizing and evaluating cash flow.
Through a questionnaire responded by 100 retail investors and 100 university students, the study aimed to correlate this susceptibility with certain personality traits such as impulsivity and empathy in order to explain their influence on the decision-making process. The survey comprised situational exercises measuring behavioral biases and another questionnaire measuring personality traits (Rzeszutek et al, 2015, p. 340 - 348).

The outcome of the analysis indicated that the susceptibility to behavioral biases is related to the level of expertise in market investing, therefore the degree of susceptibility observed among groups engaged in casual investments is higher when compared to regular investors. Hence, expertise or professional experience plays an important role in supporting investors to make high quality decisions. The results suggested the necessity of better educated investors in order to instruct them about the potential psychological traps (Rzeszutek et al, 2015, p. 347).
Chapter Three - Research Methodology and Research Methods

3.1 Introduction

This section discusses the existing research methods according to the Research Onion Diagram Model (appendix 1) mostly focusing on the research methodology choices selected for the best conduction of this particular research.

Blumberg, Cooper and Schindler (2011, p. 12-13) states that a good research should be “purposeful with a clearly defined focus and plausible goals, defensible ethics and replicable procedures with evidence of objectivity”. Each specific choice requires careful evaluation as they provide the structure, guidance and potential limitations (Saunders, Lewis and Thornhill, 2007, p. 101). Additionally, Brannick and Roche (1996) explains that “the research process provides a systematic, planned approach to a research project and ensures all aspects of the project are consistent with one other”.

For the aim of this research study it is of great importance to carefully choose and properly match the methodology research with the research objectives in order to guarantee relevant and reliable results considering the application of behavioural finance biases findings into the risk management framework of banking institutions.

Under these circumstances, the following detailed analysis of the methodology research choices touches the best research philosophy, approach and strategies options in order to gather relevant primary and secondary data in order to proceed with valid data analysis and further discussion.

3.2 Research Philosophy - Interpretivism

As per Saunders, Lewis and Thornhill (2007, p. 101) the research philosophy you adopt contains important assumptions about the way in which you view the world. Thus, understanding the philosophical stances is one of the keys to successfully conduct the research collecting and analysing relevant data in order to create valid findings.

There are three main ways of thinking about research philosophy: ontology, epistemology and
axiology (Saunders, Lewis and Thornhill, 2007, p. 102). Ontology deals with the nature of reality and assumptions researchers have about the way the world behaves and the commitment held to a particular view (Saunders, Lewis and Thornhill, 2007, p. 108). Epistemology concerns with the study of knowledge and what we accept as valid knowledge (Saunders, Lewis and Thornhill, 2007, p. 102). Lastly, axiology deals with the judgements about value and its role in generating valid research data (Saunders, Lewis and Thornhill, 2007, p. 110).

Considering that this present thesis research is comprised of subjective aspects of social phenomenon, the position of ontology and epistemology in this context is that reality is multiple and relative.

The research philosophy choices are classified as either Interpretivism, Realism, Positivism and Pragmatism. Hence, each choice presents its benefits and limitations. For instance, according to Saunders et al, the Interpretivism perspective states that “it is necessary to explore the subjective meanings motivating people’s actions in order to be able to understand these”. The Positivism instead, asserts that “the researcher is independent of and neither affects nor is affected by the subject of the research”, therefore limiting the research study to an objective approach. Still according to the authors, Realism is “based on the beliefs that a reality exists that is independent of human thoughts and beliefs”. Finally, the pragmatism is very different from the three others. It is considered as an “alternative”, not connected to any philosophy: “pragmatist’s view that it is perfectly possible to work with variations in your epistemology, ontology and axiology” (Saunders, Lewis and Thornhill, 2009, p. 114 - 135)

In the context of this specific research, the interpretivism approach is the most suitable choice in order to support the researchers’ necessity of understanding the differences between humans in their role as social actors, while within the positivism choice the researcher is limited to interpretation through an objective approach. Moreover, interpretivism researchers assume that the access to reality is given only through social interactions by studying what people think about, their ideas and the meanings that are relevant for them (Bryman and Bell, 2011, p. 16 and University of Derby, 2016).

Following the research question: Should banking organisations or regulators include the findings of psychological/ behavioral finance research in their risk management frameworks? the
interpretivism approach attempts to support the generation of primary data by producing rich, subjective and qualitative high quality data.

### 3.3 Research Approach - Inductive

According to the University of Derby (2016) and Bryman and Bell (2011, p. 13), the inductive approach concerns about researching data that creates theory. The process of inductive research is aimed to better understand the nature of the problem and involves to make interviews (Saunders, Lewis and Thombill, 2009, p. 138): it goes from the research question to observation and analysis which results in theory. In summary, according to Paul et al. (2012, p. 43), an inductive strategy first examines the data and then derives a theory to explain the patterns shown in the data. The deductive approach instead moves from theory to the research question: “deduction owes much to what we would think of as scientific research” (Saunders, Lewis and Thornhill, 2012, p. 108).

Given the empirical nature of this research, the generation of primary data follows the inductive method by observing data, patterns and past performance. Moreover, the inductive process concentrates on understanding dynamics and emergence focused on individual behaviour, therefore drawing generalized assumptions out of observations. The figure below summarises the steps of an inductive approach (Bryman and Bell, 2011, p.13):

![Figure 4: Inductive Approach Process](image)

As per shown above, inductive reasoning is based on experience, in order to generate theory and reach conclusions through interviews comprised of open-ended questions, this research project aims to observe the patterns and regularities in experience related to behavioural biases in financial managerial and investment decisions.
In another words, through the inductive approach the aim of this research study is to develop a deeper understanding of behavioural biases and its implications in managerial financial decisions within the banking industry.

3.4 Research Strategy – Survey

According to Saunders, Lewis and Thornhill (2007, p. 135) the research strategy choice must be guided by the research question (s) and objectives of the study. Each different choice presents its benefits and limitations; therefore, it is important to highlight that there is no research strategy superior or inferior to any other. Furthermore, it is possible to choose one or more strategies in order to meet the research objectives.

For the aim of this study, the generation of primary data follows the survey strategy method. According to Lewis and Thornhill (2007, p. 138-139) by using a survey strategy, the researcher has more control over the research process and along with sampling, the finds represents the whole population at a lower cost than gathering information for the entire population. Upon collecting the data, it is important to ensure that the sample reflects the view of the whole population.

In the context of this present research, the survey will allow the generation of significant primary data by using structured in-depth interviews with open-ended questions regarding behavioural biases and its implications, collecting data consisting largely of words.

3.5 Research Choice – Qualitative Research

According to Saunders et al. (2003), research choices can be defined as “the way in which you choose to combine qualitative and quantitative techniques and procedures”. As a consequence, there are different choices of research methods. Thus, the qualitative research method attempts to further and deepen our understanding of the social world, while the quantitative research method analyses the relationship between numerical variables using statistics techniques.

Silverman and Marvasti (2008, p. 9) states that “if you are concerned about exploring people’s life histories or everyday behaviour, then qualitative methods may be favored”. Therefore, according to the author (2008, p. 10), qualitative researchers are concerned about opinions, feelings and
experiences, highlighting the measurement and analysis of casual relationships between variables, not processes. Moreover, qualitative research concentrates on describing social interactions as they occur – no attempt is made to modify the situation. In another words, Klenke (2008, p. 10) explains that “In qualitative research, sample size does matter but does not on the same importance as in quantitative research where large sample size are the drivers of many statistical analyses”.

Considering the observational nature of this research, the gathering and generation of primary data will follow the qualitative method, comprised of in depth-interviews with open-ended questions through the survey strategy as per previously stated. Within the qualitative approach, the researcher aims to capture his respondents’ subjective perspectives regarding the role of behavioural finance in risk management instruments of banking corporations.

3.6 Time Horizons

Independently of the research methodology used, time horizons are needed for the research design. The question of time is important when conducting a research. (Saunders, Lewis and Thombill, 2009, p. 152). There are only two choices of time horizons namely cross-sectional, which are related to a short-term study, and longitudinal, which allows the research to be carried over a long period of time.

As per Saunders, Lewis and Thornhill (2009, p. 155) the cross-sectional choice studies a particular aspect or behaviour at a single point in time. Given the nature of the research question and its study objectives, this research project adopts the cross-sectional choice, hence the subjected will be explored at a given point of time and in agreement with the research objectives.
3.7 Structure of the Research Method – Framework

Sequence structure:

![Fig. 5: Research Method Framework]

Source: Evair Cabral (2016)

3.8 Data Collection

In order to guarantee the generation of relevant and valid content, this research study is comprised of both primary and secondary data. The secondary data contains the literature review, which includes views from different authors and supports the purpose of the research; The primary data was designed and generated specifically for the aim of this research.

According to Kumar (2005), two major approaches are available to gather information about a given situation. These two approaches are primary and secondary data collection. The University of Derby (2016), adds that the data collection step includes decisions on sample groups and questions to be asked in interview. In this step it is vital that all decisions are taken in accordance with the other layer choices made in order to proceed with rich data analysis and therefore drawing
valid conclusions.

As per Saunders, Lewis and Thornhill (2009, p. 272), when gathering data, it is essential to keep in mind that:

- The data will answer the research question;
- The benefits related to the use of data will be greater than the costs of gathering; and
- The researcher will be allowed to access data.

3.8.1 Secondary Data Collection

Secondary data includes both raw data and published summaries (Saunders, Lewis and Thornhill, 2009, p. 256). It refers to the data already collected for different purposes, therefore it supports the research question by structuring ideas, widen new directions to data, supports the development of new concepts and organises the best approach to the study (Bryman and Bell, 2011). In this direction, it is vital to match the secondary data collection with the specific research purpose in order to meet the objectives of the study. Saunders, Lewis and Thornhill (2009, p. 272) highlight that the secondary data should be analysed with the same caution dedicated to the primary data.

For the aim of this research, the collection of secondary data will be comprised of external resources such as books available at Dublin Business School, journals available through online resources and most recent articles on risk management and behavioural finance research developments in general.

Taking into consideration the lack of extensive studies related to the specific research topic, through the available literature, the aim of secondary data is to support the primary data findings and analysis, therefore adding relevant content to the existent literature accordingly.
3.8.2 Primary Data Collection

For the aim of this research, the generation of primary data was done through a structured interview comprised of 8 open ended questions following the main research question “Should banking institutions or regulators incorporate the findings of psychological/ behavioral finance research in their risk management frameworks?”.

Within this context, it was of great importance to produce a questionnaire with relevant questions in order to gather valid and reliable data. Pervez et al (2008, p. 67) explained that “the main advantage of primary data is that they are collected for the particular project at hand”. The choice of questionnaire was highly influenced by the research question and research objectives, considering factors such as (Saunders, Lewis and Thornhill, 2009, p. 360 - 363):

- Characteristics of the respondents;
- Importance of respondents’ answers reliability;
- Type of questions to collect the best quality of data; and
- Number of questions needed to collect sufficient data.

The following figure illustrates the stages of producing a questionnaire that generates valid and reliable data (Saunders, Lewis and Thornhill, 2009, p. 371):
More specifically, in accordance with the research strategy choice, the gathering of primary data was conducted by the survey approach through the qualitative method, therefore a structured interview comprised of 8 open-ended questions enabled interviewers to answer the same set of questions in a predetermined order. Through an in-depth interview with 5-10 financial managers, investors and risk management involved figures within the banking industry, it was considered whether behavioral biases should be applied in their risk management framework and if so, how it should be grasped.

3.9 Sampling and Population

According to Saunders, Lewis and Thornhill (2009, p. 211 - 212) the sampling techniques supports the process of selecting the population of interest for the primary data collection. The sampling selection must be in agreement with the research objectives. Thus, in order to draw valid conclusions a special attention is required in this step; the larger is the sample size, the lower is the possibility of incurring in the error of generalizing to the population.

Sampling methods are classified as either nonprobability or judgmental sampling and probability or representative sampling. Hence, each choice presents its benefits and limitations. (Saunders, Lewis and Thornhill, 2009, p. 213). For instance, in the probability sample, each participant of the population has a non-zero probability of being selected (Saunders, Lewis and Thornhill, 2009, p. 214); in the nonprobability sampling instead, the participants are selected in some nonrandom ways, which provides a range of techniques to select samples based on the researcher’s subjective judgement (Saunders, Lewis and Thornhill, 2009, p. 233).

For the aim of this research it is used the nonprobability method because the sample does not provide investors and risk management involved figures the same chances of selection, therefore the sampling was comprised of 6 respondents. The selection follows the snowball sampling method where the main respondent’s recommendations were given by lectures and professional network contacts and the selection of additional interviewers were based on referrals from the initial respondents.
3.10 Data Analysis, Editing and Coding Analysis

According to Bogdan and Biklen (1982, p. 89) “data analysis is the process of systematically searching and arranging the interview transcripts, field notes and other materials that you accumulate to increase your own understanding of them and enable you to present what you have discovered to others. Analysis involves working with data, organizing them, breaking them into manageable units, synthesizing them, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others”.

As per previously stated, the primary research gathering is comprised of qualitative data. According to Saunders, Lewis and Thornhill (2009, p. 482) qualitative data is based on meanings expressed through words, therefore the analysis requires the use of conceptualisation. Upon the completion of the interview process, the consented audio data was transcribed to written electronic format, fully available in the appendices section.

After, in order to analyse the findings it was necessary to summarise and categorise the information as a narrative to support a meaningful analysis (Saunders, Lewis and Thornhill, 2009, p. 490). In this way, the process of data organization allowed interaction with the data in order to (Saunders, Lewis and Thornhill, 2009, p. 491):

- Comprehend and analyse the information;
- Promote integration and discussion of data;
- Identify themes for further exploration;
- Develop theories based on these patterns; and
- Draw conclusions and recommendations.

3.11 Ethical Issues and Procedure

In order to generate reliable data and draw valid conclusions, it is of great importance to observe the ethical aspects and related issues for the best conduction of the research. Babbie (2010, p. 121) clarifies that “designing a research project must include serious consideration of the ethical
dimension of social science research, if your study requires the participation of human subjects, you must determine whether the likely benefits of the research will justify the time and effort you will ask of them”. Ethical issues can occur at any stage of the research therefore it is necessary to acknowledge them in order to develop the project. Saunders, Lewis and Thombill (2009, p. 160) pointed out that “the research design should not subject those you are researching to embarrassment, harm or any other material disadvantage”. Following the same premise, Blumberg, Cooper and Schindler (2011, p. 134) argue that “the goal of ethics in research is to ensure that no-one is harmed or suffers adverse consequences from research activities”.

Under these circumstances, before the interview commenced a brief introduction took place to comfort the respondent. On the questionnaire form it was be noted that the candidate could withdraw his consent at any time after the interview took place. The interviewees also had the opportunity to participate anonymously or be named.

Additionally, the participants were encouraged not to offer opinions on topics where they didn’t have enough knowledge; thus, the aim of the primary data collection was to extract reliable and valid information in order to draw well-grounded conclusions.

In summary, the ethical issues related to this specific research project concerns includes behaving ethically with the interviewers, protect their anonymity and confidentiality and give the interviewers the right to withdraw from the research. Ultimately, the researcher used the letter from college anytime where a confirmation of intention is necessary.

3.12 Research Limitations

Pervez, Ghauri and Grnhaug (2008, p. 32) argues that “the main disadvantage of primary data collection is that they can take a long time and can cost a lot to collect. Moreover, it is difficult to get access: to find companies or other target groups who are willing to cooperate and answer our questions”. Therefore, the request for physical access and cooperation could have failed to interest the candidate due to several reasons, including a lack of perceived value in relation to the research project and the sensitive and confidential nature of the study.

Additionally, the reliability and relevance of data collection highly relied on access to appropriate
sources, in especial the gathering of primary data, which presents some limitations in order to guarantee appropriate interviewers willing to provide valid content, such as:

- Concerns with confidentiality due to the nature of the topic; and
- Perceptions about the researcher’s credibility and competence;

Under these circumstances, there was a challenge in order to create sufficient scope to fully answer the research question and meet the objectives that guided the research, which if it wasn’t addressed, it could be translated in flawed conclusions (Saunders, Lewis and Thornhill, 2009, p. 144 - 145).

Ultimately, it is also important to highlight that the conclusions and recommendations for further research are affected by the researcher personal interpretation and point of view.
Chapter Four - Research Finding and Data Analysis

4.1 Introduction
The aim of this chapter is to provide an in-depth analysis of the behavioural primary data collected through structured interviews. Therefore, this section presents a detailed analysis by assessing and discussing the main results of the data gathering, interpreting and examining its implications and outcomes. As a result of this process, the researcher aims to draw well-grounded conclusions and recommendations adding valid and relevant content regarding the behavioural finance field of knowledge and specifically related to its application in the risk management framework of banking institutions.

4.2 Research Question and Objectives
As per outlined in chapter number one, the data analysis and discussion presented in this section follows the main research question “Should banking institutions or regulators incorporate the findings of psychological/behavioural finance research in their risk management frameworks?”. Within this context, the major objectives of the data analysis are to show the importance of understanding the financial markets behaviour enabling continuing knowledge contributing to the expansion of the field of study and evaluating if subsequent to psychological biases findings based on observation of past events, overall risk limits should be set at board level in the risk framework of banking organisations and converted to limits applicable to the individuals responsible for managing risks.

4.3 Interview Process and Interviewees Profile
The interview process framework and gathering of primary data were created, developed and conducted following the ‘Research Onion’ parameters (Saunders, et al. 2009, p. 201). Therefore, for the aim of the research project it was created a qualitative questionnaire comprised of 9 open-ended questions in order to create sufficient scope to fully answer the research question and meet the research objectives previously explained that guide the study project.
In this way, through an in-depth interview comprised of six respondents including a Private Financial Planner, Financial Managers and a Portfolio Analyst, all risk management involved figures within the banking industry and with diverse professional experience, nationalities and educational background, the questions aimed to evaluate whether behavioral biases should be applied in their risk management framework and if so, how it should be grasped.

In relation to the six interviewees profile, their main professional skills and expertise are detailed as it follows: Two of the respondents were Financial Managers at HSBC Brazil, both with a professional background comprised of 20+ years of experience within the banking industry and responsible for fully managing different branches respectively. Their responsibilities within HSBC bank includes strategic decision-making processes such as monitoring and interpreting cash flow and forecasting, investment and loan decisions.

In a sequence, another two respondents were a Corporate Manager and Investment Consultant at the Milan bank in Italy and a Private Financial Planner at the Generali bank in Italy, with 35+ and 30+ years of professional banking experience respectively. The Financial manager has large experience within most financial areas of expertise within the bank industry including strategic formulation of long-term business plans and reporting on factors influencing business performance while the Private Financial Planner is more focused in investment and risk decisions and stock market analysis including tasks such as developing financial management mechanisms that minimise financial risks.

The next interviewer was a Financial Planner at BNP Paribas France. His responsibilities include using hedging in order to mitigate financial risks related to the interest rates on the company’s borrowing, as well as on its foreign exchange positions. Finally, the last respondent was a Portfolio Analyst at the AIB bank Ireland. Her responsibilities include engaging with customers in order to ensure appropriate credit strategies and ensuring adherence to the bank’s credit policies and procedures in relation to compliance and risk mitigation.

Lastly, in order to simplify the presentation and evaluation of data analysis, the following codes will be used along with the primary data discussion: HSBC1, HSBC2, MILAN1, GENERALI1, AIB1 and BNP1.
Moreover, for the outcome of the interview process, the researcher aims to generate valid data for a meaningful analysis and discussion by promoting the integration of data, analysing and discussing the content, therefore drawing relevant conclusions and recommendations to the behavioural finance field of study and ultimately identifying themes for further research. Finally, a copy of the questionnaire which supported the conduction of the interview process and the data analysis as per below as well as all the interviewees transcripts are fully available in the appendix section.

4.4 Data Analysis and Discussion

For the aim of the data analysis, both the first and second questions as per below accesses and evaluates the respondents’ degree of behavioural biases awareness in their process of decision-making within their areas of expertise as well as the most common biases affecting their professional decisions.

1. **Do you think that behavioral biases play a role in your professional &/or personal decision making?**

According to five out of six respondents, behavioural biases plays a significant role in their decision-making process. Thus, the majority the interviewees demonstrated some degree of awareness of financial behavioural biases and its implications.

The Corporate Manager and Investment Consultant at the Milan bank in Italy (MILAN1) states that “I have 35+ years of experience within the banking area, and I still commit mistakes driven by biased emotions. By knowing the role of behavioural biases in my decision-making and for my team I am able to address better the main issues and avoid major pitfalls”. Furthermore, he adds that behavioural finance is frequently misunderstood and therefore several managers are reluctant to accept the discipline due to its complexity and over-intuitive aspects.

The Portfolio Analyst at AIB in Ireland (AIB1) instead does not recognize a relevant role of emotions in her job position. She argues that “there's not much risk in what I do, not much room for a personal opinion and I don't make a final decision for my customers. I make an assessment of
affordability from talking to customers and analysing their account performance but it goes through another few departments before a decision is made”.

2. If so, what range of emotions tend to affect your decision-making process? For example: optimism, overconfidence, loss aversion, or a home/cultural bias. Please provides examples if applicable.

In order to ensure a consistent and rational financial decision, most of the respondents revealed that they strongly rely on a combination of their professional experiences and personal values, which frequently is affected by behavioural biases such as optimism, overconfidence and home/cultural emotions.

As per the Corporate Manager and Investment Consultant at Milan bank (MILAN1) “overconfidence plays an important role in my financial decisions. I strongly rely on my professional experience of 35+ years within the banking industry and investment analysis and concession to medium and large companies”.

For the Private Financial Planner at Generali bank (GENERALI1) the role of optimism frequently affects his decision making process. “generally when the stock market is performing well, the stable scenario generate optimism, which leads managers and investors in general to accept risks more easily and therefore expect higher returns. However, when the stable scenario is not sustainable over a long period, a general panic is created over the first sign of a market turnover”.

Additionally, he argues that in his professional experience, the client’s memory registers only the losses of their investments: “For them, the profits are a regular outcome of the investment process, therefore they easily forget the efforts made in order to achieve the aimed positive returns”.

For the Financial Manager at HSBC Brazil (HSBC1) the home/cultural bias plays a very important role on his decision-making process. He clarifies that “when deciding which range of financial risks it is worth taking on an investment appraisal I take into account the role of my culture, the macroeconomic and political scenario and future economic perspectives of my country as well as my professional experience within the banking industry”.
According to the second Financial Manager at HSBC Brazil (HSBC2) there is a wide range of emotions that affects his decision-making process, varying according to the degree of logic included in the process. He argues that “under our current scenario characterized by political and economic instability, one of the most important emotions guiding my managerial decisions is loss aversion”. Both managers at HSBC highlight that ideally behavioural biases shouldn't interfere at all or at least play a minor role on an investment and financial decision.

Lastly, the Financial Planner at BNP Paribas France (BNP1), explains that: “In my personal experience, the overconfidence and optimism biases play a relatively important role along with other technical aspects when I am considering the best combination for risk taking vs reward. I usually tend to be very positive and overconfident in investment decisions due to my experience of 10+ years in the industry”.

3. **Do you believe a greater awareness of behavioral finance biases would contribute to a better quality decision?**
   For example, adjusting expectations for behavioral biases?
   If so, please explain - from your own perspective - why?

The purpose of the following data analysis is to evaluate the degree of the respondents’ acceptance that a greater awareness of behavioural biases can lead to a better quality control over the decision making therefore mitigating the chances of incurring in biased decisions. In summary, all respondents agree that a better decision making framework can be led by a greater awareness of behavioural finance biases and its implications.

According to the Financial Planner at BNP Paribas France (BNP1) “If we can understand better that the success of an investment decision goes beyond a careful statistical analysis, we might be able to prevent and mitigate divergent investment outcomes by limiting the role of our biased decisions.

For the Corporate Manager and Investment Consultant at Milan bank (MILAN1), the role of behavioural biases in financial decisions should definitely be wider studied in order to guide more efficient and non-biased decisions: “certainly, an attitude less dependent of external factors will be beneficial in the long run, however applying the subjective aspects of behavioural finance into the
risk management framework is a challenging task”.

The Financial Manager at HSBC (HSBC2) also agrees with a decision framework improvement led by behavioural biases awareness: “I am sure that a great awareness of behavioural biases will effectively contribute to a better quality decision, however I am concerned that biases will keep interfering in financial decisions. Thus, organisations have to establish efficient procedures and specific policies in order to mitigate the possibilities of bad outcomes caused by personal emotions as well as any sort of biases caused by inappropriate short-term compensation”.

According to the Financial Manager at HSBC Brazil (HSBC1), a greater awareness of behavioural biases is vital for a better quality of investment decisions: “I believe that the emotional aspects of past events and especially financial pitfalls should be better studied and analysed in order to support a better quality of future financial and investment decisions”.

He also adds that in practical terms, due to the delicate scenario of financial and political instability along with incessant pressures from the stock/financial market that Brazil is facing at the moment, investors are frequently influenced by short-term forms of compensation, which at last might contribute to divergent investment outcomes. Therefore, he argues that a greater awareness of behavioural biases and its implications would strongly contribute to more solid decisions especially in the long-run.

To finalise, the Private Financial Planner at Generali bank in Italy (GENERALI1) highlights that “we need urgently mechanisms that provides us a greater awareness of how emotions can influence our investment choices. Frequently, due to diverse factors our clients dismiss the “time” factor, which leads us to rush with an investment decision and operation that originally had been planned for the long run”.

4. Do you believe behavioral bias, and incentives, impact individual and institutional risk tolerances? 
If so, please explain - from your own perspective - why?

The aim of the following data analysis is to evaluate the respondent’s risk tolerance upon the exposition to incentives and behavioural biases. The outcome of the analysis demonstrates diverse
opinions in relation to the subject.

According to the Financial Manager at HSBC bank (HSBC2) “Financial Managers and Investors tend to accept more risks when exposed to high incentives and short forms of compensations, which ultimately might result in non-expected outcomes leading to financial pitfalls”.

In line with the first statement, the Corporate Manager and Investment Consultant at Milan bank (MILAN1) argues that “frequently, incentives affect my investments risk analysis and decision”.

According to the other Financial Manager at HSBC Brazil (HSBC1) “our decision-making process and emotions are affected daily by the media news and stock market incentives which frequently leads managers and investors to biased decisions based on poor information therefore dismissing relevant aspects of the risk management framework”.

The Private Financial Planner at Generali bank (GENERALI1) instead argues that “I believe that my personal motivations for risks are correlated to the investment necessities therefore I analyse carefully every factor and take the best decision in order to ensure the highest return. I don’t change my risk tolerance according to the stock market flows or incentives.

Lastly, for the Financial Planner at BNP Paribas (BNP1) both aspects may affect institutional risk tolerances: “the higher is the incentive one is exposed, the higher it is one’s susceptibility to accept risks. In my experience that is true especially for short form of compensations. Behavioural biases also highly affect institutional risk tolerances. Even though we have all parameters when accessing an investment decision, the role of biases will keep interfering in our willingness to accept risks”.

5. How would you classify your own willingness to accept risk? How closely do you relate risk taking to your required (or expected) level of return?

The objective of the following data analysis is to access the interviewees willingness to accept risk. Moreover, it is observed that opinions are very diverse within this topic; it changes according to personal traits, career experience and the country’s economic stability.

As per the Financial Manager at HSBC Brazil (HSBC1), the best approach on a risk-taking decision is to be conservative: “access carefully the investment options and variables, be informed
and follow every day worldwide events and news that impacts the stock market performance and investment returns always prioritising a solid investment decision over uncertainty. Moreover, from my point of view it is wiser to invest consciously by accepting a lower and more certain investment return rate rather than accepting high risks for high returns with the possibility of incurring in pitfalls”.

HSBC2 has a similar positioning in relation to risk-acceptance: “taking into consideration the complex environment we are inserted in, I believe that in order to accept risk, every aspect and variable has to be carefully evaluated, therefore mitigating the possibilities of pitfalls. Moreover, there has to be a reasonable balance between an investment decision and risk involved”.

On the other hand, the Financial Planner at BNP Paribas France (BNP1) reveals: “I am quite receptive in accepting risks. Upon analysing all technical aspects of an investment, and making sure that I am covered towards the legal and some other practical aspects, I have a high appetite for risks which means high returns also. In parallel, I always make sure to have some other more conservative investments in order to balance and mitigate the risks of the investment portfolio.

In the same direction, the Private Financial Planner at Generali bank (GENERALI1) states: “I have a high appetite for taking risks. Obviously, I evaluate carefully every circumstance and factor in order to ensure a decision of high quality. Along with this, I always clarify to my clients that high returns also mean high risks, therefore both outcomes are possible.

Lastly and following the same premise, the Corporate Manager and Investment Consultant at Milan bank (MILAN1), considers his willingness to accept risk relatively positive: “after considering the technical aspects I make a risk decision based on my professional experience of 35+ years of expertise in the financial market”. He adds that his self-confidence in taking high risks is increased due to several achievements and very little failures during his career.

6. In your opinion is risk management over-quantified? If so, please explain - from your own perspective - why?

The Financial Planner at BNP Paribas France (BNP1) agrees that risk management is over-quantified. He states that “Financial managers and investors frequently dismiss minor aspects
which after all are very important in order to achieve the expected results. Within this context, all the effort put into the investment analysis to limit the possibility of incurring in pitfalls can be lost due to factors frequently not considered such as the role of emotions.

In the same direction, the Financial Manager at HSBC Brazil (HSBC1) argues that “investors frequently cannot properly identify risks which requires more detailed attention, therefore over quantifying its contribution related to the risk project”. Furthermore, he adds that “without a proper assessment of the risks, the identification of costs, chronograms and objectives will be deficient prejudicing the success of the entire process”.

In line with the previous statement, the Corporate Manager at Milan bank (MILAN1) also suggests that the risk management is measured in general terms, therefore dismissing minor factors.

The Private Financial Planner at Generali bank (GENERALI1) instead, disagree and argues: “No, I personally never exaggerate when evaluating and explaining about the risk management framework to my clients. Most of the investment instruments are highly complex and sophisticated; therefore, it is necessary a careful analysis in relation to the investments risks in a portfolio”.

The Financial Manager at HSBC (HSBC2) also has a similar perspective. He argues that the risk management framework provides efficient guidelines in order to support risk assessment and decision.

7. How effectively do you think expected outcomes (risk & reward) are used in measuring risk exposures?

The Financial Manager at HSBC (HSBC2) suggests that the organisations in general, and especially banking institutions have been developing efficient risk vs reward frameworks in order to measure and limit the risk exposure, however, he argues that “behavioural biases will keep playing a big role in the decision making therefore it is vital to acknowledge and address its issues”.

In line with the previous statement, the corporate Manager at Milan bank (MILAN1) agrees that
organisations in general have been effective in developing risk vs reward measures, however he suggests that in his experience reward is not a predominant factor for risk taking.

With the same perspective, the Private Financial Manager at Generali bank (GENERALI1) highlights that “as we all know, unfortunately not always we achieve the expected results when taking risks. The “time” factor always play a big role on this”.

Lastly, the Financial Planner at BNP Paribas (BNP1) clarifies that “In my experience, investors sometimes dismiss the risk aspects when exposed to high rewards, especially within short-term compensations. Even though banking institutions have been developing efficient frameworks, the role of emotions will keep interfering in how expected outcomes are evaluated”.

8. **Should banking organizations attempt to combine the findings of behavioral finance research (eg. psychology) and more precise disciplines (eg. statistics) into their risk management frameworks?**

The following analysis attempts to evaluate the respondents’ perspectives in relation to the addition of behavioural finance research findings into banking risk management frameworks and discuss the benefits upon its integration. All the respondents strongly believe that further and deeper studies on managerial biases and its inclusion on risk operations framework will provide a stronger support for better quality on the risk decision and administration.

The Financial Manager at HSBC Brazil (HSBC2) states that “ideally, the combination of behavioural research findings with statistics will provide a framework that limits the role of biased emotions on the decision-making process which will be responsible for efficiently analysing and also suggesting the ideal manager profile with its financial behavioural biases framework recommended for every kind of decision-type.

With the same perspective, the Corporate Manager at Milan bank in Italy (MILAN1) agrees with the previous statement and suggests that the inclusion of behavioural aspects into the risk management framework will bring several benefits for the decision making process.

The Private Financial Manager at Generali bank (GENERALI1) also provides a similar opinion: “Yes, I genuinely believe that the psychological aspects should be included in the precise
framework of risk management. The statistics are already used by financial managements and investors to plan and evaluate an investment. The inclusion of the psychologic aspects will highly help in mitigating the possibility of incurring in major pitfalls”.

Lastly, the Financial Planner at BNP Paribas France (BNP1) reveals that “I strongly believe that the addition of behavioural biases findings to the discipline and precise risk management framework will benefit the decision making process and mitigate the role of biases in financial and investment decisions. However, it is difficult to determine which exactly findings should be included and also defining the parameters to limit its role”.

Chapter Five - Conclusions and Recommendations

5.1 Introduction

“We have met the enemy and he is us”.

- Pogo

The aim of this chapter is to summarise the main findings of this research study through touching its additions and implications to the current literature in the behavioural finance and risk management fields of study by drawing relevant and valid conclusions upon the process of interviews, data analysis and discussion with involved financial managers and investors within the banking industry. Furthermore, this chapter attempts to provide relevant recommendations and limitations for further research in the behavioural finance field of research as well as for its addition to the risk management framework.

5.2 Findings and Conclusions

In the spotlight of financial scandals originated at its root by behavioural biases such as the Lehman Brothers bankruptcy in 2008 followed by a global financial crisis, the purpose of this research study relied on the constant necessity in creating more efficient mechanisms that limits or avoid behavioural biases in management financial decisions. Upon secondary literature and primary data research it is secure to affirm that the success of financial and investment decisions goes beyond understanding the latest market trends and financial numbers; thus the combination of behavioural finance with traditional corporate finance can play a powerful role in avoiding behavioral biases. Under these circumstances, the researcher attempted to evaluate if subsequent to psychological biases findings based on observation of past events, overall risk limits should be set at board level in the risk framework of banking organisations and converted to limits applicable to the individuals responsible for managing risks.

For the aim of the research project, the secondary data research and primary data gathering, analysis and discussion was conducted following the main question: Should banking institutions or regulators incorporate the findings of psychological/ behavioural finance research in their risk
management frameworks? For instance, in order to address the research question providing a summary of the main paperwork outcomes, both the secondary and primary data findings revealed that the addition of the psychological/ behavioural aspects into the precise framework of risk management will be highly beneficial in improving the quality of the decision making, however, all the respondents presented concerns with the challenges in developing an efficient framework which limits the role of emotions in financial decisions. Hence as a result, more important than including the subject aspects into precise disciplines is creating a functional framework that effectively mitigates the role of managerial and investment biases.

Within this context, in order to acknowledge the relevant behavioural aspects to be included into existent risk management frameworks the primary data attempted to evaluate which range of emotions affects the interviewees decision making processes, which as per outlined in the secondary research findings if not properly addressed, ultimately as a consequence decision-makers are unable to come out of the loop of their biased decisions. Upon primary data analysis it was identified that one of the most present biases within the banking industry is the overconfidence bias, especially among professionals with large experience, which frequently leads to poor financial decisions and divergent outcomes due to excessive reliability on self-judgement and superiority feelings, therefore it is secure to affirm that the role of overconfidence could have positive impacts if properly incorporated into the risk management framework of banking organisations.

Additionally, the secondary data research also identified a range of diverse biases contributing to suboptimal decisions which can also have an important role in mitigating poor financial decisions such as the herding bias which leads managers and investors to ignore their own analysis and start replicating the decisions of other people involved in the process and the recency bias, which happens when decisions and evaluations are based on recent results rather than a wider figure which frequently leads decision makers to make incorrect predictions and decisions about how the stock market behaves. Ultimately, it is vital to highlight that managerial biases will keep existing, but upon its acknowledgement and proper addressment, the risk management framework may be more effective in avoiding the major pitfalls.

Next, the primary data collection aimed to evaluate and analyse the degree of the respondents’ acceptance that a greater awareness of behavioural biases could lead to a better quality control over
the decision making. In summary, according to primary data results the role of behavioural biases in financial decisions should be better studied in order to guide more efficient and non-biased decisions and therefore mitigating the chances of incurring in incoherent decisions. In line with the primary data results, the secondary research identified that corporations need a lot of improvement in management and corporate governance that goes from regulating personal interest with corporate risk and reward, control and communications systems.

As per literature review, several authors seem to have a mutual agreement that we still don’t know how to properly address failures of global organisations, even after the lessons from the 2008 financial crisis. In conclusion to this paragraph, it is observed that there is still room for improvement, especially for large, complex and international financial institutions. Ultimately is important to highlight that the aim of behavioural finance research in risk management is not to replace, but complement the assessment of other precise frameworks.

The gathering of primary data also attempted to evaluate the respondent’s susceptibility to biases upon the exposition to any sort of compensation as well as their willingness to accept risk. It was identified that financial managers and investors tend to accept more easily risks when exposed to high incentives and attractive short forms of compensations, therefore dismissing important investment aspects which ultimately might result in divergent outcomes leading to massive financial pitfalls. According to the secondary data findings and the respondent’s opinions, it is observed that banking organisations have been effective in developing functional risk vs reward measures, however taking into consideration the increasing complex global environment and ongoing competition the financial market is inserted in, the decision making process is increasingly dependent on constant attention to detail in order to effectively achieve a reasonable balance between an investment decision and risk involved.

Moreover, the literature review and primary data results show that biases and irrational investors are present at every level. The secondary data revealed that risk management has made significant progress at the individual level, however, the behavioural biases application into its framework it is still on an early stage, therefore, academics, risk managers, banking regulators and investors will have to understand more about the controls on, and the limits of human behaviour in banking and society at large in order to improve the quality of its framework in banking organisations.
In practical terms, several authors within the literature review summarise that behavioural finance issues should be discussed at both a ground-level and a managerial perspective; the ground-level should focus on the psychological issues while the managerial view is responsible for providing a broader view of the risk environment. **Without an effective limited risk management framework and bounded rationality, managers and investors will keep accepting risks based on their own perceptions and believes.** Ultimately, in the words of Byrne and Utkus (2013, p. 1) “we are unlikely to find a ‘cure’ for the biases, but if we are aware of the biases and their effect, we can possibly avoid the major pitfalls”.

To synthesize the paperwork and conclude this section, the research study underpins the idea that behavioural finance is real and therefore behavioural biases do play both a subconscious and consciously role in the decision making. **The challenge now brings the discussion of the study project to the level of how to effectively address that recognition of the role of biases in the decision-making and include these findings into the risk management framework of banking institutions.** In order to meet this next challenge, it will be necessary to look at the role of regulators and especially how to encourage and promote a sustainable the decision making process of investors and involved figures within the banking industry and stock market. Ultimately, the **researcher suggests that further discussions regarding the addition of behavioural finance in the risk management framework of banking institutions should be considered at a regulatory/ law level.**

### 5.3 Recommendations and Limitations for Further Research

Upon data analysis and conclusion, it is possible to relate a range of practical actions and a number of initiatives that can enable future research and the unceasing progress of the behavioural field of study and specifically within its application into the risk management framework. For instance, the gathering of data contributed with rich and valid material to trigger further discussions and research in the field therefore following this premise, the researcher aims to allow recommendations that provides relevant content and suggestions for researchers to conduct further studies on similar subjects.

Within this context, some of the relevant recommendations for further research in the field are:
1- In order to enable the continuous expansion of the behavioural research field of study, it is of great importance that academics, financial managers and investors acknowledge the role of emotions in the decision making and understand that the successful financial planning and execution goes beyond understanding the latest market trends and financial numbers; emotional processes, mental mistakes and individual personality traits impacts on investments outcomes. In this sense, the future development of behavioural finance will highly depend on the ability of researchers to intensify research programs and experiments that enables continuing knowledge contributing to the expansion of the field.

2- With the aim of incessantly improving the banking risk management framework, it is of great importance for financial managers and investors to develop a broader mentality and their understanding regarding the role of behavioural biases within the stock market and banking industry. As per outlined in the literature review, even though individuals cannot avoid all behavioural biases, the understanding of such behaviours along with appropriate financial planning policies can play a powerful role in avoiding behavioral biases. Ultimately, the greater quality of information decision-makers have, the better investment predictions and financial decisions will be.

3- Banking corporations and the stock market in general need a lot of improvement in management and corporate governance that goes from regulating personal interest with corporate risk and reward, control and communications systems, in especial large organisations. The secondary data revealed global corporations still don’t know how to properly address risk management and corporate governance failures, even after the lessons from the 2008 financial crisis. Within this context, it is of great importance to highlight that the aim of behavioural research is not to substitute traditional finance, but to complement traditional corporate finance therefore improving the quality of the decision making process and mitigating the role of biases in financial decisions.

4- The outcome of the research project shows that behavioural biases do play a role in
the decision making, therefore the challenge now is how we can effectively address that recognition and include these findings accordingly into the risk management framework of banking institutions. In order to accomplish this task, \textit{it will be necessary to look deeply at the role of regulators and especially at how to encourage and promote a sustainable decision making process} of investors and involved figures within the banking industry and stock market.

To finalise, it is important to highlight that some challenges for further research in behavioural finance will keep existing, but as per outlined before the proper acknowledgement of its limitations will enable its continuous development. Within this context, given the empirical nature where the field of research lies, the addition of more content to the existent literature will strongly rely on methods that observes data, patterns and past performance.

Furthermore, due to the sensitive and confidential nature of several aspects related to the field of study, several managers and investors within the financial industry and stock market might hesitate in providing enough scope for further analysis and discussion regarding the subject, therefore the aptitude of gathering valid content will highly rely on the researcher’s ability in demonstrating the importance and relevance of the behavioural finance field of research.
Chapter Six - Self-Reflection on Own Learning

The final chapter presents a self-assessment of the researcher’s experience and learnings throughout the conduction of this research study as well as his insights regarding the entire Master’s studies process. Thus, this chapter is divided in two main parts: the first part accesses and evaluates the impacts of the learning styles on his personal development and the second part presents the knowledge and skills obtained by the researcher while conducting his dissertation study and finally his insights about the Masters of Business Administration program.

6.1 Introduction

“A defining condition of being human is that we have to understand the meaning of our experience”.

Jack Mezirow

According to Cottrell (2010, p. 188), the art of reflection is a fundamental exercise that help us to understand ourselves better by becoming aware of our hidden emotions and factors that affect our performance and progress and it helps us to develop our insight and judgement skills.

Within this context, the aim of a thesis project goes beyond finding valid academic material and adding relevant content to the current literature in order to achieve high grades; the journey also involves the development and improvement of important skills such as time management, problem-solving, flexibility and a lot of persistence. The researcher’s experience proves that facing all these challenges to the conclusion of the study project is only possible if one is committed and passionate by the topic choice.

Thoroughly the conduction of this research project the author improved his critical thinking skills which involved expanding the ability to make important decisions by frequently using problem-solving strategies in order to achieve the research project goals. For instance, the researcher learned how to improve and keep the focus over time as well as organizing several different tasks accordingly in order to ensure their completion in a timely manner. Additionally, the author gained a much broader perspective in terms of vital theoretical knowledge and practical
skills in the fields of behavioural finance and risk management and the direct impacts and outcomes of behavioural biases on its framework.

6.2 Learning Styles

Everyone has different techniques of learning style. For instance, some people find that they have a dominant style of learning while others have a mix of learning styles. As per Bevis (1989, p. 78), learning is a change in behaviour, perception, insights, attitude, or a combination of these that can be repeated when the need is aroused. Capinera (2008, p. 457) also states that a learning style can be defined as a change in behaviour with experience. The author adds that this definition would not exclude responses such as growth and maturation, or other processes that are triggered by events such as mating or feeding.

Megginson and Whitaker (1998) clarify that within a fast-changing work environment we need to become very skilled at learning in order to respond quickly and appropriately. The figure below summarizes the learning cycle:

![Figure 7: The Learning Cycle](source: Megginson and Whitaker (1998))
Kolb (1974), responsible for suggesting the first learning style framework, clarifies that the learning process is not static but a continuous cycle in life. Moreover, he summarises that there is not one and only definition of learning. In order to achieve an efficient learning process, Kolb states that each learner has to access and go through four main stages: Concrete experience (feeling); Reflective observation (watching and analysing); Abstract conceptualization (thinking); and Active experimentation.

Following the learning process cycle, Kolb (1974, p. 31) also presents the learning style techniques’ which is comprised of four different styles:

- Convergers: rational and data oriented method;
- Divergers: imaginative and associate characteristics;
- Assimilator: imaginative abilities; and
- Accomodator: takes an active part in any experience.

The figure below illustrates Kolb (1974) learning cycle and styles:

![Figure 8: Learning Cycle and Styles](source: Kolb (1974))
Furthermore, Honey and Mumford (1986, 1992) present a similar learning style framework as per figure below:

![Figure 9: Four Possible Learning Styles](image)

**Source:** Honey and Mumford (1986, 1992)

### 6.3 Reflection on Learning Background

Taking into consideration that learning is a never-ending process and also as per Kolb (1974) stated, every learning style presents its benefits and limitations, the researcher is constantly looking for alternatives and more efficient ways of enhancing his overall learning skills. From the various styles above explained, the author classifies himself as a converger, due to his great strength in applying practical ideas based on his rational being and data-oriented way of processing information. Within this mentality, the researcher has been addressing the solution for any academic issue in a very practical and straightforward way in order to achieve his desired outcomes.

Since the very first moment when the topic choice was made, the entire process of planning, organizing the gathering of primary data and translating ideas into a professional academic paperwork was presented with several challenges which had to be acknowledged and properly addressed in order to ensure the successful conclusion of the dissertation project. The researcher did not have an extensive knowledge regarding the dissertation topic at the beginning of the
research project, therefore it was highly interesting and rewarding to discover relevant content in relation to behavioural biases and its inclusion in the risk management framework of banking institutions.

Additionally, due to the lack of sufficient studies in the behavioural finance field, especially within its application at the risk management framework and also the subjective aspects of the study project, the researcher had to look for additional/diverse sources outside of Dublin Business School campus in order to gather relevant data, which also involved expanding the author’s network therefore improving his communication and researching skills.

Furthermore, the researcher faced some challenges in order to guarantee appropriate interviewers willing to provide valid content due to concerns with the confidentiality nature of the study and also the lack of perceived value in relation to the research project. Hence, the author had to ensure a sufficient scope to fully answer the research question and meet the objectives which guide the research project, which if not properly addressed, it could be translated in flawed conclusions.

Overall, the dissertation experience provided the researcher with relevant knowledge for his future career and prospections. Moreover, the researcher developed a strong knowledge related to the main research techniques, literature review researching and writing, methods of data collection and primary data gathering and especially how to receive constructive criticism of his lecturer and peers. Lastly, the author has also been able to push himself beyond his limits which helped him to increase his self-awareness as well as his capacity of keeping the commitment and focus over time in order to achieve his dissertation goals.

6.4 Masters of Business Administration’s experience and learning

“One’s destination is never a new place but rather a new way of looking at things”

Henry Miller

Thoroughly the Masters of Business Administration course the researcher was able to improve his intellectual and work-related skills which highly supported him to find a suitable job position in order to build a solid career within the financial and accounting industry. Overall, the course was both enriching and very challenging for the author providing relevant and valid content for the
researcher’s career and future prospections. Within this scenario, the researcher is aware that studying is not only about achieving high grades, but also meeting colleagues with diverse background and life experiences, building a mutual beneficial network and being able to extract the best of every single experience inside and outside the school campus.

The researcher genuinely believes in the power of the education in changing lives, redefining preconceptions and breaking down stereotypes: the more an individual has the opportunity to study, the more one also acquires a better understanding about the world and the responsibility as an individual in leaving a contribution for the next generations. In this sense, Dublin Business School offers a multicultural environment, with adequate infrastructure and academics support which incentives scholars to constantly make the best use of it. Furthermore, the lectures are highly qualified and well prepared to deal with any student enquiries.

In a very fast-changing global scenario, companies demand skilled, flexible and active-thinkers employees in order to lead international management practices. Under these circumstances, the MBA course provided the researcher with a broader view of a how a business operates as well as relevant knowledge regarding the best professional practices needed in order to become a strong professional which is highly focused on the achievement of a company’s goals. To conclude, the researcher thinks he has achieved his degree’s goal of developing and improving his critical-thinking abilities; now the author feels more comfortable in critically evaluating different scenarios and coming up with creative solutions and better ideas in order to solve problems analytically as well as articulating his skills and competences to achieve personal and professional objectives.

6.5 Scope of Future Application for Learning

As per stated previously, the Masters in Business Administration provided the author with several practical experiences and theoretical knowledge as well as many challenges involving the improvement of his problem-solving skills, which will keep benefiting him in the future. Moreover, for the researcher, the entire MBA experience went beyond only achieving high grades: the researcher met interesting and highly qualified people from all over the world with the most
diverse knowledge and backgrounds, which ultimately enabled him to build a beneficial network which will also keep benefiting him personally and professionally in the near future.

One of the researcher greatest achievements thoroughly the academic journey was the improvement of his critical-thinking skills and building more confidence in carrying complex projects. These accomplishments which will keep supporting him in his personal life as well as in his career prospections. Upon being exposed to several both enriching and challenging experiences, the researcher is now also considering not to limit his studies to this MBA course; he is willing to continuously seek for complementary qualifications that meets his career aspirations.

Overall, the researcher has achieved his degree’s goals; all the knowledge acquired during the MBA lecturers along with his professional and educational background resulted in a stronger professional more confident and competitive for the financial industry: now he feels more comfortable in critically evaluating different scenarios and coming up with better solutions and new ideas in order to solve problems analytically as well as articulating his new skills and competences in order to meet his personal and professional objectives.
7. Bibliography


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8. Appendices

Appendix 1: Research Onion

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Appendix 2: Research Questionnaire Model

The Role of Behavioural Finance Research in Risk Management Instruments of Banking Corporations

Dear Interviewer,

Thank you very much for your interest in taking part in this research study. Your contribution will be of great importance in increasing awareness of how behavioral biases do, and do not, impact risk management frameworks and decision making. The objective of the following questions is to encourage you to express your opinions based upon your professional and personal experiences. Questions 1-4 are optional, and I will respect your confidentiality if required.

Thank you very much again,

Kind Regards,

Evair Cabral
Masters Business Administration in Finance
Research Questionnaire

1) What is your age?
   a) 18-24 years’ old
   b) 25-34 years’ old
   c) 35-44 years’ old
   d) 45-54 years’ old
   e) 55 or older

2) What is your gender?
   a) Masculine
   b) Feminine

3) What is your profession?

4) What is your educational background?

5) Do you think that behavioral biases play a role in your professional &/or personal decision making?
   a) Yes
   b) No
6) If so, what range of emotions tend to affect your decision-making process?

For example: optimism, overconfidence, loss aversion, or a home/cultural bias.

Please provides examples if applicable.

7) Do you believe a greater awareness of behavioral finance biases would contribute to a better quality decision?

For example, adjusting expectations for behavioral biases?

If so, please explain - from your own perspective - why?

8) Do you believe behavioral bias, and incentives, impact individual and institutional risk tolerances?

If so, please explain - from your own perspective - why?

9) How would you classify your own willingness to accept risk?

How closely do you relate risk taking to your required (or expected) level of return?

10) In your opinion is risk management over-quantified?

If so, please explain - from your own perspective - why?

11) How effectively do you think expected outcomes (risk & reward) are used in measuring risk exposures?

12) Should banking organizations attempt to combine the findings of behavioral finance research (eg. psychology) and more precise disciplines (eg. statistics) into their risk management frameworks?
Appendix 3: Research Questionnaire – Financial Manager at HSBC Bank Brazil (HSBC1)

Research Questionnaire

1. **What is your age?**
   d) 45-54 years’ old

2. **What is your gender?**
   a. Masculine

3. **What is your profession?**
   Financial Manager at HSBC Bank (Brazil)

4. **What is your educational background?**
   Secondary School (Accounting Technician)

5. **Do you think that behavioral biases play a role in your professional &/or personal decision making?**
   c) Yes

6. **If so, what range of emotions tend to affect your decision-making process?**
   For example: optimism, overconfidence, loss aversion, or a home/cultural bias. Please provides examples if applicable.

   In order to ensure a consistent and rational managerial & financial decision, I strongly rely on a combination of my past experiences and values. The home/cultural bias play a very important role as well on my decision-making process at HSBC bank.

   In another words, when deciding which kind of financial risks it is worth taking on an investment appraisal I take into account the role of my culture, the macroeconomic and
political scenario and future economic perspectives of my country as well as my professional experience within the banking industry.

7. Do you believe a greater awareness of behavioral finance biases would contribute to a better quality decision?  
   For example, adjusting expectations for behavioral biases?  
   If so, please explain - from your own perspective - why?

Absolutely Yes - the role of behavioural biases in financial decisions should be better studied in order to guide more efficient and non-biased decisions. Within this context, I believe that the emotional aspects of past events and especially financial pitfalls should be better studied and analysed in order to support a better quality of future financial and investment decisions.

In practical terms, due to the delicate scenario of financial instability Brazil is facing at the moment aligned with incessant pressures from the stock/financial market, investors are frequently influenced by short-term compensation practices which can potentially develop into negative future consequences. Under these practical circumstances, a greater awareness of behavioural biases would contribute to more solid decisions in the long-run.

8. Do you believe behavioral bias, and incentives, impact individual and institutional risk tolerances?  
   If so, please explain - from your own perspective - why?

Yes - our decision-making process and emotions are affected daily by the media and stock market incentives, which frequently leads us to financial fast and biased decisions based on poor information not taking into account relevant aspects on risk decisions.

9. How would you classify your own willingness to accept risk?  
   How closely do you relate risk taking to your required (or expected) level of return?

In my opinion, the best approach on a risk-taking decision is to be conservative: access carefully the investment options and variables, be informed and follow every day the worldwide events which impact the stock market performance and investment returns prioritizing a solid investment decision over uncertainty. Moreover, from my point of view it is wiser to invest consciously by accepting a lower and more certain investment return rate rather than accepting high risks for high returns with the possibility of incurring in pitfalls.
10. In your opinion is risk management over-quantified? If so, please explain - from your own perspective - why?

Yes - investors frequently cannot properly identify risks which requires more detailed attention, over quantifying its contribution related to the risk project. Without a proper assessment of the risks, the identification of costs, chronograms and objectives will be deficient prejudicing the success of the entire process.

11. How effectively do you think expected outcomes (risk & reward) are used in measuring risk exposures?

I am not able to properly answer this question.

12. Should banking organizations attempt to combine the findings of behavioral finance research (eg. psychology) and more precise disciplines (eg. statistics) into their risk management frameworks?

Absolutely yes.
Appendix 4: Research Questionnaire – Financial Manager at HSBC Bank Brazil (HSBC2)

Research Questionnaire - Financial Manager at HSBC Bank (Brazil)

1. What is your age?
   e. 55 or older

2. What is your gender?
   a. Masculine

3. What is your profession?
   Financial Manager at HSBC Bank (Brazil)

4. What is your educational background?
   Degree in Business Administration - Banking Stream

5. Do you think that behavioral biases play a role in your professional &/or personal decision making?
   a. Yes

6. If so, what range of emotions tend to affect your decision-making process?
   For example: optimism, overconfidence, loss aversion, or a home/cultural bias. Please provides examples if applicable.

   There is a wide range of emotions that affects my decision-making process, varying according to the degree of logic included in the process. Under our current scenario characterized of political and economic instability, one of the most important emotions guiding my managerial decisions is loss aversion. Ideally behavioural biases shouldn't interfere at all or at least play a minor role on an investment and financial decision.
7. Do you believe a greater awareness of behavioral finance biases would contribute to a better quality decision?
For example, adjusting expectations for behavioral biases?
If so, please explain - from your own perspective - why?

Absolutely. I am sure that a great awareness of behavioural biases will effectively contribute to a better quality decision, although I am concerned that biases will continue interfering in financial decisions. Thus, organisations have to establish efficient procedures and specific policies in order to mitigate the possibilities of bad outcomes caused by personal emotions as well as any sort of biases caused by inappropriate short-term compensation.

8. Do you believe behavioral bias, and incentives, impact individual and institutional risk tolerances?
If so, please explain - from your own perspective - why?

Yes, generally financial managers and investors tend to accept more risks when exposed to high incentives and good forms of compensations, which ultimately might result in non-expected outcomes leading to investment and financial pitfalls.

9. How would you classify your own willingness to accept risk?
How closely do you relate risk taking to your required (or expected) level of return?

Taking into consideration the complex environment we are inserted in, I believe that in order to accept risk, every aspect and variable has to be carefully evaluated, therefore mitigating the possibilities of pitfalls. Moreover, there has to be a reasonable balance between an investment decision and risk involved.

10. In your opinion is risk management over-quantified?
If so, please explain - from your own perspective - why?

I don't think so.

11. How effectively do you think expected outcomes (risk & reward) are used in measuring risk exposures?

I believe the organisations in general, and especially bank organisations have been developing efficient risk vs reward frameworks in order to measure and limit the risk
exposure, however, behavioural biases will keep playing a big role in the decision making therefore it is vital to acknowledge and address its issues.

12. **Should banking organizations attempt to combine the findings of behavioral finance research (eg. psychology) and more precise disciplines (eg. statistics) into their risk management frameworks?**

Yes, I strongly believe that further and deeper studies on managerial biases of risk operations will provide a stronger support for better quality on the risk decision and administration.

Ideally, the combination of behavioural research and statistics will provide a framework that limits the role of biased emotions on the decision-making process and also analyses and suggests the ideal manager profile with its financial behavioural biases framework recommended for every kind of decision-type.
Appendix 5: Research Questionnaire – Corporate Manager and Investment Consultant at Milan Bank Italy (MILAN1)

**Research Questionnaire**

1. **What is your age?**
   
e. 55 or older

2. **What is your gender?**
   
a. Masculine

3. **What is your profession?**

   Corporate Manager and Investment Consultant of Medium/Large Companies

4. **What is your educational background?**

   Degree in Business Administration – Banking stream and 37+ years of experience within the banking industry.

5. **Do you think that behavioral biases play a role in your professional &/or personal decision making?**

   a. Yes

6. **If so, what range of emotions tend to affect your decision-making process?**

   For example: optimism, overconfidence, loss aversion, or a home/cultural bias.

   Please provides examples if applicable.
Overconfidence plays an important role in my financial decisions. I strongly rely on my professional experience of 35+ years within the banking industry and investment analysis and concession to medium and large companies.

7. **Do you believe a greater awareness of behavioral finance biases would contribute to a better quality decision?**

   For example, adjusting expectations for behavioral biases?

   If so, please explain - from your own perspective - why?

   Certainly, an attitude less dependent of external factors will be beneficial in the long run, however applying the subjective aspects of behavioural finance into the risk management framework is a challenging task.

8. **Do you believe behavioral bias, and incentives, impact individual and institutional risk tolerances?**

   If so, please explain - from your own perspective - why?

   Frequently, incentives affect my investments risk analysis and decision

9. **How would you classify your own willingness to accept risk?**

   Relatively positive: After considering the technical aspects I make a risk decision based on my professional experience of 35+ years of expertise in the financial market.

   The positive predisposition increases the confidence because of the multiple achievements and very rare fails during my career.

   **How closely do you relate risk taking to your required (or expected) level of return?**

   It is measured mainly accounting for risk factors.
10. In your opinion is risk management over-quantified?

   If so, please explain - from your own perspective - why?

   Yes, but is mainly generalized without considering specific cases.

11. How effectively do you think expected outcomes (risk & reward) are used in measuring risk exposures?

   Generally, it is not a predominant factor.

12. Should banking organizations attempt to combine the findings of behavioral finance research (eg. psychology) and more precise disciplines (eg. statistics) into their risk management frameworks?

   Absolutely yes, especially in the risk management framework.
Appendix 6: Research Questionnaire – Private Financial Planner at Generali Bank Italy (GENERALI1)

Research Questionnaire

1) What is your age?
   d. 45-54 years’ old

2. What is your gender?
   a) Masculine

3. What is your profession?

   Private Financial Planner

4. What is your educational background?

   Diploma Istituto Tecnico Commerciale
   1984-1986 Directors Assistant of Saronno Hospital
   1986-2004 Financial Planner Assistant at Milan bank specialized in financial consultancy to individuals at local branches
   2004-2006 Private Financial Planner at Milan bank specialized in assets 1Mi +
   2006-now Private Financial Planner at Generali bank

5. Do you think that behavioral biases play a role in your professional &/or personal decision making?
   a. Yes
6. If so, what range of emotions tend to affect your decision-making process?

For example: optimism, overconfidence, loss aversion, or a home/cultural bias.

Please provide examples if applicable.

Positive performance – generally when the stock market is performing well, the stable scenario generate optimism, which leads managers and investors in general to accept risks more easily and therefore expect higher returns. However, when the stable scenario is not sustainable over a long period, a general panic is created over the first sign of a market turnover.

In my experience, the client’s memory registers only the losses of their investments. For them, the profits are a normal outcome of the investment process, therefore they forget easily the efforts to achieve the aimed results.

7. Do you believe a greater awareness of behavioral finance biases would contribute to a better quality decision?

For example, adjusting expectations for behavioral biases?

If so, please explain - from your own perspective - why?

Yes, we need urgently mechanisms that provides us a greater awareness of how emotions can influence our investment choices. Frequently, due to diverse factors our clients dismiss the “time” factor, which leads us to rush with an investment decision and operation that originally had been planned for the long run.

8. Do you believe behavioral bias, and incentives, impact individual and institutional risk tolerances?

If so, please explain - from your own perspective - why?

I believe that my personal motivation for risks are correlated to the investment necessities and I analyse carefully every factor and take the best decision in order to ensure the highest return. I don’t change my risk tolerance according to the stock market flows.
9. How would you classify your own willingness to accept risk?

How closely do you relate risk taking to your required (or expected) level of return?

I have a high appetite for taking risks. Obviously, I evaluate carefully every circumstance and factor in order to ensure a decision of high quality. Along with this, I always clarify to my clients that high returns also mean high risks, therefore both outcomes are possible.

10. In your opinion is risk management over-quantified?

If so, please explain - from your own perspective - why?

No, I personally never exaggerate when evaluating and explaining about the risk management framework to my clients. The investment instruments are highly complex and sophisticated; therefore, it is necessary a careful analysis in relation to the investments risks in a portfolio.

11. How effectively do you think expected outcomes (risk & reward) are used in measuring risk exposures?

As we all know, unfortunately not always we achieve the expected results when taking risks. The “time” factor always play a big role on this.

12. Should banking organizations attempt to combine the findings of behavioral finance research (eg. psychology) and more precise disciplines (eg. statistics) into their risk management frameworks?

Yes, I genuinely believe that the psychological aspects should be included in the precise framework of risk management. The statistics are already used by financial managements and investors to plan and evaluate an investment. The inclusion of the psychologic aspects will highly help in mitigating the possibility of incurring in major pitfalls.
Appendix 7: Research Questionnaire – Financial Planner at BNP Paribas (BNP1)

Research Questionnaire

1. What is your age?
   d. 35-44 years’ old

2. What is your gender?
   a. Masculine

3. What is your profession?
   Financial Planner

4. What is your educational background?
   Degree in Accounting and MSC in Accounting

5. Do you think that behavioral biases play a role in your professional &/or personal decision making?
   d) Yes

6. If so, what range of emotions tend to affect your decision-making process?

   For example: optimism, overconfidence, loss aversion, or a home/cultural bias.

   Please provide examples if applicable.

   I do believe that emotions interfere in one’s decision-making process. In my personal experience, the overconfidence and optimism biases play a relatively important role along with another technical aspects when I am considering the best combination for risk taking
vs reward. I usually tend to be very positive and overconfident in investment decisions due to my experience of 10+ years in the industry.

7. Do you believe a greater awareness of behavioral finance biases would contribute to a better quality decision?

For example, adjusting expectations for behavioral biases?

If so, please explain - from your own perspective - why?

Absolutely. If we can understand better that the success of an investment decision goes beyond a careful statistical analysis, we might be able to prevent and mitigate divergent investment outcomes by limiting the role of our biased decisions.

8. Do you believe behavioral bias, and incentives, impact individual and institutional risk tolerances?

If so, please explain - from your own perspective - why?

Positive. Both aspects may affect institutional risk tolerances. The higher is the incentive one is exposed, the higher it is one’s susceptibility to accept risks. In my experience that is true especially for short form of compensations. Behavioural biases also highly affect institutional risk tolerances. Even though we have all parameters when accessing an investment decision, the role of biases will keep interfering in our willingness to accept risks.

9. How would you classify your own willingness to accept risk?

How closely do you relate risk taking to your required (or expected) level of return?

I am quite receptive in accepting risks. Upon analysing all technical aspects of an investment, and making sure that I am covered towards the legal and some other practical aspects, I have a high appetite for risks which means high returns also. In parallel, I always make sure to have some other more conservative investments in order to balance and mitigate the risks of the investment portfolio.

10. In your opinion is risk management over-quantified?

If so, please explain - from your own perspective - why?
Frequently yes. Financial managers and investors frequently dismiss minor aspects which after all are very important in order to achieve the expected results. Within this context, all the effort put into the investment analysis to limit the possibility of incurring in pitfalls can be lost due to factors frequently not considered such as the role of emotions.

11. How effectively do you think expected outcomes (risk & reward) are used in measuring risk exposures?

In my experience, investors sometimes dismiss the risk aspects when exposed to high rewards, especially within short-term compensations. Even though organisations have been developing efficient frameworks, the role of emotions will keep interfering in how expected outcomes are evaluated.

12. Should banking organizations attempt to combine the findings of behavioral finance research (eg. psychology) and more precise disciplines (eg. statistics) into their risk management frameworks?

Absolutely. I strongly believe that the addition of behavioural biases findings to the discipline and precise risk management framework will benefit the decision making process and mitigate the role of biases in financial and investment decisions. However, it is difficult to determine which exactly findings should be included and also defining the parameters to limit its role.