

Major Research Project on

**Influence of Framing Bias on the Decision-Making
Process of an Individual**

Submitted By
Nitin Siddhu
2K21/DMBA/081

Under the Guidance of
Dr. Saurabh Agrawal
Associate Professor, DSM, DTU



Delhi School of Management
Delhi Technological University

Bawana Road Delhi, 110042

CERTIFICATE

This is to certify that Mr. Nitin Siddhu, has completed the project titled “**Influence of Framing Bias on the Decision-Making Process of an Individual**” under the guidance of **Dr. Saurabh Agrawal, Associate Professor**, DSM, DTU. As a part of Master of Business Administration (MBA) curriculum of Delhi School of Management, New Delhi. To the best of my knowledge, this is a original piece of work and has not been submitted elsewhere.

Dr. Archana Singh

Head of Department

Delhi School of Management

Delhi Technological University

Dr. Saurabh Agrawal

Associate Professor

Delhi School of Management

Delhi Technological University

DECLARATION

I, Nitin Siddhu, student of MBA batch (2021-2023), Delhi School of Management, Delhi Technological University hereby declare that **Project Dissertation Report on “Influence of Framing bias on the Decision Making Process of an Individual”** submitted in partial fulfilment of the requirements for the award of the degree of Master of Business Analytics (MBA) is the original work conducted by me. I also confirm that neither I nor any other person has submitted this project report to any other institution or university for any other degree or diploma. I further declare that the information collected from the various sources has been duly acknowledged in this project.

Nitin Siddhu

(2K21/DMBA/81)

Place: Delhi, India

Date:

ACKNOWLEDGEMENT

I would like to avail this opportunity to extend my sincere gratitude to everyone who has been instrumental in helping me in the completion of this endeavour. Without their active guidance, help, encouragement, and cooperation this project would have never attained its current form.

I would like to thank my faculty mentor, **Dr. Saurabh Agrawal**, for always being their as support and guiding me wherever it was required.

I extend my gratitude to **Delhi School of Management, DTU** for giving me this opportunity. I also acknowledge with a deep sense of reverence to the support that my family and friends extended to me. They were instrumental in the development of an environment for me to grow and develop.

Nitin Siddhu

(2K21/DMBA/81)

Executive Summary

The process of decision making is very crucial for both the individuals and the organisations. However, a lot of different components can influence the process and outcomes of decision making. Framing bias is one such component. Framing bias refers to the way a piece of information is presented in such a way that it can influence the decision making process and its outcome of an individual. This study aims to examine the influence of framing bias on the decision making process of an individual. The ways one can mitigate or avoid the negative impact of framing bias.

Framing bias in general, is a cognitive bias where the way in which the information is presented or in which the information is framed leaves an impact on the process and outcomes of decision making. The research reviews a number of different studies and researches conducted in various verticals like, politics, finance, healthcare, news etc., to understand the impact of framing bias. A questionnaire was also floated among the students of Delhi School of Management, Delhi Technological University and some other professionals. The research point to the fact that the framing bias can indeed lead an individual to to choose for the options or alternatives that are not rational (i.e., suboptimal). The study also explains the various methods to mitigate and minimize the effect of framing bias, like giving emphasis on critical thinking and spreading awareness about the bias and its effects. It is also necessary to recognise and address the phenomenon called framing bias to achieve better results in decision making. The study also highlights the areas of application of the bias and factors causing the bias. These factors include individual differences, contextual factors, and valence and magnitude of the message.

TABLE OF CONTENTS

Serial No.	Particulars	Page No.
1	Chapter 1: Introduction	1
	1.1 Areas of Application of Framing Bias	3
	1.2 Need for the study	3
	1.3 Objectives of the study	6
	1.4 Hypothesis	6
2	Chapter 2: Literature Review	8
3	Chapter 3: Research Methodology	16
4	Chapter 4: Analysis, interpretation and result	18
	4.1 Data Collection	18
	4.2 Data Analysis and Interpretation	18
	4.3 Result	32
	4.4 Limitations of the study	33
5	Chapter 5: Conclusion	34
6	Appendix	35
7	References	39
8	Plagiarism Report	40

LIST OF TABLES

Serial No.	Particulars	Page No.
1	Table 1: Age group of Respondents	18
2	Table 2: Gender of Respondents	19
3	Table 3: Educational Qualification of Respondents	19
4	Table 4: Occupation of Respondents	20
5	Table 5: Awareness of Framing Bias Among Respondents	21
6	Table 6: Correlation between responses of problem 1 and the demographic components of respondents	23
7	Table 7: Correlation between responses of problem 2 and the demographic components of respondents	25
8	Table 8: Correlation between responses of problem 3 and the demographic components of respondents	27
9	Table 9: Correlation between responses of problem 4 and the demographic components of respondents	29
10	Table 10: Correlation between responses of problem 5 and the demographic components of respondents	31

List of Figures

Serial No.	Particulars	Page No.
1	Figure 1: Cognitive Biases	1
2	Figure 2: Impact of Framing on decision making	14
3	Figure 3: Age group of respondents	18
4	Figure 4: Gender of respondents	19
5	Figure 5: Educational Qualifications of respondents	20
6	Figure 6: Occupation of Respondents	21
7	Figure 7: Awareness of framing bias among respondents	21
8	Figure 8: Response to Problem 1	23
9	Figure 9: Response to Problem 2	25
10	Figure 10: Response to Problem 3	27
11	Figure 11: Response to Problem 4	29
12	Figure 12: Response to Problem 5	31

Chapter 1: INTRODUCTION

Framing bias is a cognitive bias that points to how the people perceive and take decisions based on how the information is catered to them or “framed”. This means the people may react differently to the same piece of information when catered in positive frame and when catered in negative frame. This may lead impaired decision making processes .i.e., an individual may choose a suboptimal option under the influence of framing bias. For example, A product when advertised as 80% fat free is more likely to get more positive reactions compared to when the same product is advertised as “contains 20% fat only”, which will generate more negative responses and decreased sales.

COGNITIVE BIASES

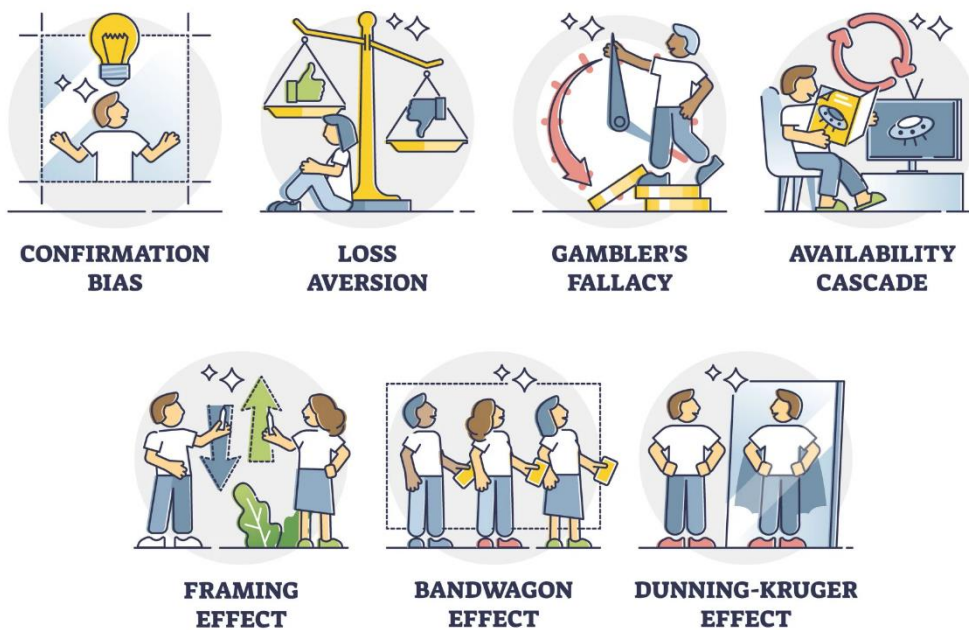


Figure 1: Cognitive Biases
(Source: <https://www.simplypsychology.org/cognitive-bias.html>)

Framing bias can also hamper or affect decision making process of an individual in more sensitive areas like, healthcare, economy, politics etc. It can also be used to manipulate public opinion and shape the mentality and perception of the mass, their beliefs and attitudes. It becomes very important to be aware of this phenomenon and

to critically weigh the information, keeping in mind both the context of the information as well as how the information is catered or presented to you in order to make well informed and better decisions, most probably the best ones

The bias can be particularly important in the field of finance because it is very likely to influence an individual's investment decisions and financial behaviour. In finance, framing bias may occur from the way financial information is presented be it in investment reports or news articles, such intentionally framed information is usually misleading.

For example, framing bias can impact the way investors perceive risks and returns. Research has shown that people tend to be more risk-averse when losses are framed in terms of potential losses (e.g., "you could lose X amount of money") compared to when gains are framed in terms of potential gains (e.g., "you could make X amount of money"). This means that the same investment opportunity can be perceived as more or less attractive depending on the way the information is framed.

Another example of framing bias in finance is related to the presentation of financial products, such as annuities or insurance policies. These products can be framed in terms of the benefits they provide, such as a guaranteed income stream, or the risks they pose, such as the loss of flexibility in managing one's finances. The way these products are framed can greatly impact people's perception of their value and likelihood of purchasing them.

It becomes necessary for people to be familiar of framing bias and to critically evaluate information, keeping in mind the context and the way in which it is catered to them, in order to make decisions which are well informed and in their best interest. Financial advisors and professionals can also play a role in reducing framing bias by presenting financial information in an objective and transparent manner.

1.1 Areas of application of Framing Bias:

The framing bias has a lot of applications in many fields including, finance, politics, public health, marketing, and communication. In politics, framing bias is used to shape the public's perception of political issues and influence their voting behaviour (Druckman & Nelson, 2003). Politicians use framing techniques to present their policies and agendas in a positive light and discredit their opponents' positions.

In public health, framing bias is used to influence people's health behaviours and encourage them to adopt healthy lifestyles. For example, health messages that emphasize the benefits of healthy behaviours (i.e., gain-framed messages) are more effective in promoting preventive health behaviours, such as cancer screening and vaccination, than messages that emphasize the risks of unhealthy behaviours (i.e., loss-framed messages) (Gallagher & Updegraff, 2012; Zhang, Wang, & Yang, 2020). The framing of health messages can also vary depending on cultural values (Kim et al., 2018).

Framing bias is also used in marketing to influence consumers' attitudes and purchasing behaviour. Advertisements that frame products in a positive light, highlighting their benefits and positive features, are more effective in persuading consumers to buy them (Petty & Cacioppo, 1986). In addition, framing bias is used to influence consumers' decisions in product choice, pricing, and packaging.

1.2 Need for the Study

The effect of the framing bias on decision making process is a critical area of research long term implications into the future for various fields such as politics, health care, marketing and environmental communication. Framing bias alludes to the way in which information is catered, which can significantly affect how an individual perceive and respond to that information. Understanding the role and implications of framing bias for policymakers, marketers and communicators in shaping attitude and behaviour of mass towards different issues.

One of the key reasons for studying how framing bias influences decision-making is because people rely their decisions on the information that is made available to them. As a result, people's understanding and evaluation of information are greatly

influenced by the way it is presented. For example, a study by Levin, Schneider, and Gaeth (1998) found that people were more likely to choose a product if it was presented in a positive light, even if the product's features were identical to a product presented negatively. Similarly, political messages that frame issues in a particular way can influence people's voting behaviour (Druckman & Nelson, 2003). A full grasp of framing bias and how it impacts decision-making is necessary to develop compelling communication strategies that resonate with varied audiences.

Another reasoning behind examining the influence of framing bias on decision making process is that it can aid people to become more familiar with the phenomenon that can affect their judgement and mislead them to make suboptimal decisions or judgements. By understanding the way in which the framing bias works, people can realise and mitigate the effects of the bias, making more informed and rational choices. For example, research has shown that people are more likely to choose a medical treatment when the benefits of the treatment are presented positively (i.e., gain-framed message) than when the risks of not choosing the treatment are emphasized (i.e., loss-framed message) (Rothman & Salovey, 1997). By being aware of these biases, people can make more informed and rational decisions.

Examining implications of framing effect on the decision making can also aid explorers and practitioner create more appropriate and impression leaving communication strategies. By developing knowledge of how does the framing bias functions and the impression it leaves of different set of audiences, they can create messages that resonate with the target audience and affect their ability of making decisions positively. For example, research has shown that framing messages in terms of the benefits of engaging in a behaviour (i.e., gain-framed messages) is more effective in promoting preventive health behaviours, such as cancer screening and vaccination, than framing messages in terms of the risks of not engaging in the behaviour (i.e., loss-framed messages) (Gallagher & Updegraff, 2012). By understanding these effects, researchers and practitioners can develop messages that are more effective in promoting positive health behaviours.

Finally, studying the impact of framing bias on decision making can help identify areas where biases are particularly prevalent and develop strategies to counteract them. For example, research has shown that the use of gain-framed messages is more effective

in promoting preventive health behaviours than loss-framed messages (Gallagher & Updegraff, 2012). By understanding these effects, researchers and practitioners can develop interventions that mitigate the impact of framing bias and promote more rational decision making.

In conclusion, studying the impact of framing bias on decision making is essential for improving communication, developing more effective interventions, and promoting more informed and rational decision making. By understanding how framing bias works and its effects on different audiences, researchers and practitioners can develop strategies that resonate with their target audience and promote positive attitudes and behaviour towards different issues. Overall, the study of framing bias is critical for numerous fields and has far-reaching implications for improving decision making and promoting positive societal outcomes.

1.3 Objectives of the study

- To examine the impact of framing bias on investment decision making.
- To explore strategies for mitigating framing bias in decision making.
- To understand how an Individual reacts when the same situation is presented in a negative and a positive frame.

1.4 Hypothesis

Many researchers throughout time have done research on the relationship between demographics and the impact of framing bias on the decision-making of an individual.

Hypothesis 1

H0: There is no association between age and effects of framing bias on decision making.

H1: There is a association between age and effects of framing bias on decision making.

Hypothesis 2

H0: There is no association between gender and effects of framing bias on decision making.

H1: There is association between gender and effects of framing bias on decision making.

Hypothesis 3

H0: There is association between the educational qualification and effects of framing bias on decision making.

H1: There is no association between the educational qualification and effects of framing bias on decision making.

Hypothesis 4:

H0: People with prior knowledge of framing bias are more likely to take rational decisions.

H1: People with prior knowledge of framing bias are not more likely to take rational decisions.

Hypothesis 5

H0: There is a relation between the age of a person and the tendency to take risks.

H1 There is no relation between the age of a person and the tendency to take risks.

Hypothesis 6

H0: There is a relation between age and price sensitivity of a person.

H1: There is no relation between age and price sensitivity of a person.

Hypothesis 7

H0: There is a relation between gender and tendency to take risks.

H1: There is no relation between gender and tendency to take risks.

Hypothesis 8

H1: There is no association between the gender and price sensitivity.

H0: There is a relation between the gender and price sensitivity.

Chapter 2: LITERATURE REVIEW

Framing bias refers to the cognitive bias where the way information is catered influences the way in which people perceive and respond to it. This bias has been thoroughly studied in psychology and has been applied to different fields, including politics, economics, and health. Framing bias is a complex and multifaceted phenomenon that has been examined through a variety of research designs, methods, and contexts. In this literature review, we will provide an overview of the concept of framing bias and the various factors that can influence it.

1. Definition and types of framing bias

Framing bias is a behavioural bias that occurs when the catering of information effects the way in which people understand and interpret that information. Tversky and Kahneman (1981) first introduced the idea of framing bias through their research on decision-making under uncertainty. They found that people are more likely to take risks when information is framed in terms of potential gains (framed in positive frame) rather than potential losses (negative frame). This effect has been proved in numerous researches and studies, even the studies examining financial decisions (Thaler, 1980), health decisions (Rothman et al., 1993), and environmental decisions (Levin et al., 1998).

The impact of framing bias can be seen in different contexts and can take different forms. For example, people can be influenced by the way information is presented (i.e., the content of the message) or the way message is framed (i.e., the way the message is catered). Framing can be positive (emphasizing potential gains) or negative (emphasizing potential losses). Framing can also be planned, where the message is tailored to a specific audience or goal. Strategic framing can be used in political communication to influence public opinion (Chong & Druckman, 2007) or in health communication to encourage health behaviours (Gallagher & Updegraff, 2012).

2. Theoretical Underpinnings of Framing Bias

Framing bias has its roots deep in various theoretical works in social psychology and communication studies. One of the most prominent is prospect theory, which suggests that people do not evaluate outcomes in absolute terms, but rather in relation to a reference point, which can be influenced by the way in which information is presented

or framed (Kahneman & Tversky, 1979). Additionally, the theory suggests that people are risk averse when it comes to gains and risk seeking when it comes to losses (Kahneman & Tversky, 1979).

Schema theory is another theoretical framework which is very relevant to the phenomenon. According to the theory people have various mental frameworks also called the “schemas”, which people depend on to organise and process the information (Barret, 1932). The way in which information is catered to an individual can activate these schemas and can have an impact on the way people process and react to that information (Higgins, 1996).

3. Factors that influence framing bias

The impact of framing bias can be affected by various factors, such as the valence and magnitude of the message, individual differences, and context factors. These factors are intertwined in complex ways and can lead or mislead people to different outcomes.

3.1 Valence and magnitude of the message

The valence and magnitude of the information refer to the positive or negative tone of the message and the magnitude of change the information is putting forth. The influence of framing bias can vary depending on whether the message is positively framed or negatively framed (Rothman et al., 1999). For example, Rothman et al. (1999) found that positively-framed messages (emphasizing the benefits of a behaviour) were more effective for encourage preventive behaviours, while negatively-framed messages (emphasizing the costs of not engaging in the behaviour) were more effective and effecient for encouraging detection behaviours.

The magnitude of the message refers to the degree of change that the information is proposing. The effect of framing bias can also differ depending on whether the message is emphasizing a small or large change (Witte & Allen, 2000). For example, Witte and Allen (2000) found that panic appeals (emphasizing the negative consequences of not engaging in a behaviour) were more effective for encouraging the behaviours that required a small change (e.g., wearing a helmet), while efficacy appeals (emphasizing the positive consequences of engaging in a behaviour) were more effective for encouraging behaviours that required a greater change (e.g., quitting alcohol).

3.2 Individual differences

Individual differences can influence the way people interpret and respond to framed messages. For example, people who have a strong sense of personal control may be more likely to respond to messages that emphasize personal agency and control (Rothman et al., 2003). In contrast, people who have a high need for cognition (i.e., those who enjoy engaging in mental activities) may be more likely to critically evaluate the content of framed messages (Petty & Cacioppo, 1986).

Cultural background (collectivistic cultures or individualistic cultures, personality traits (ex. Openness to experience) and cognitive styles (example, analytical thinking vs instinctive thinking) are some of the other factors of individual differences that can control the way that framing bias influence an individual. For example, Kim and colleagues (2018) found that the effectiveness of gain (positively) framed messages for encouraging health behaviours was influenced by collectivistic cultural values, while individualistic cultural values was found to have influenced the effectiveness of loss (negatively) framed information.

3.3 Contextual factors

Framing bias can also be impacted by the contextual factors. The social, cultural and political environment in which the information is presented constitutes the context. For example, the political climate can affect the effectiveness and efficiency of framed messages in political campaigns (Chong & Druckman, 2007). The framing bias can also be influenced by the type of behaviour being encouraged by the information. For example, Gallois and colleagues (2003) found For encouraging proactive behaviours, the positively framed bits of information were more persuasive, while to invoke reactive behaviours the negatively framed bits of information were more effective and efficient.

4. Implications and applications of framing bias

Framing bias has serious effects for various fields, including politics, economics, and health. By studying the factors that influence framing bias, explorers and practitioners can create more powerful and efficient communication strategies and interventions.

“In **politics**, framing bias can influence public opinion and voting behaviour (Chong & Druckman, 2007). Politicians and parties can use strategic framing

to emphasize their points and downplay their opponents. For example, during the 2004 U.S. presidential election, the Bush campaign used framing to emphasize their success in the war on terror, while the Kerry campaign used framing to emphasize the need for change (Chong & Druckman, 2007).”

“In **economics**, framing bias can influence consumer behaviour and decision-making (Thaler, 1980). Marketing people can use framing to influence the way consumers perceive and evaluate products. For example, a product can be framed as a luxury item (emphasizing the exclusivity and status associated with the product) or as a practical item (emphasizing the functionality and usefulness of the product).”

“In **health**, framing bias can influence health behaviour and decision-making (Gallagher & Updegraff, 2012). Health officials may use framing to promote healthy behaviours and prevent risky behaviours. For example, a message about sunscreen use can be framed as a way to prevent skin cancer (negatively-framed) or as a way to maintain healthy skin (positively-framed).”

“**Advertising**: Advertisers use framing bias to manipulate consumer behaviour by framing products or services in a positive light. For example, an advertisement for a diet soda may highlight the low calorie content and use phrases like "guilt-free" or "healthy choice.”

“**Media**: News outlets, print media, television may all use the bias to cater the information in such a way that it manipulates mass into believing something that may not be true or be the partial truth, which supports their editorial position, which helps spread a particular thought process. For example, a news story about a protest may be framed as either a peaceful demonstration or a violent riot, depending on the outlet's bias.”

“**Legal proceedings**: Lawyers and advocates may use the phenomenon to turn the jury's mind to specific turns of events in the case. They may frame the proofs or testimony in a manner that backs their point of argument and discredits the opposition.”

“**Education**: Teachers and study material may use the phenomenon to cater information in a way that supports certain viewpoints and values. For example, a history lesson about a controversial event may be framed to emphasize the perspectives of one group over another. Another example can be the books of various historians which provide us totally different pictures of a same event.”

“**Business** Businessmen and professionals may use the phenomenon to manipulate consumer behaviour or the decision of investor regarding the investment. For example, a company may frame their product as a luxury item to justify a higher price or frame their financial results to highlight positive aspects and downplay negative aspects.”

“**Social media:** Social media platforms are using the framing bias in their algorithms and coding to manipulate the users of the specific service. For example, they may frame certain types of content as more "engaging" or "relevant" to users, even if the content is misleading or harmful.”

“**Environmental communication:** Environmental advocates and policymakers may use framing bias to influence public opinion and policy decisions. For example, they may frame climate change as a global crisis that requires urgent action or frame environmental policies as promoting economic growth and job creation.”

“**Science communication:** Even scientists or science communicators may use the phenomenon to present the findings in such a way that it supports or cater support towards a particular agenda or narrative that they might want to propagate. For example, a study on the benefits of a particular intervention may be framed as a breakthrough discovery, even if the results are modest or uncertain.”

“**Sports media:** The sports media may apply framing bias to manipulate the understanding of sports, and perception of athletes and teams. For example, a player who performs poorly in one game may be framed as a disappointment, while a player who performs well may be framed as a hero.

“**Social issues:** Advocates for social justice and human rights may use framing bias to raise awareness and promote change. For example, they may frame an issue as a violation of human rights to gain support and mobilize action.”

“**Product design:** The influence of the framing bias also finds its applications in the arena of product design. The designer can utilise the phenomenon to manipulate consumer behaviour and put forth the false sense of the need for change. For example, they may design a product to look and feel luxurious to appeal to a certain demographic or frame certain features as essential to increase demand.”

“**History:** The understanding of the past can be manipulated by the historians by implying the framing effect. For example, they may frame a historical figure as a hero or a villain, depending on their perspective and values.”

“**Religion:** The framing bias can also be used to shape or manipulate the beliefs and behaviours of their followers by religious organisations, priests, maulvis, etc.. For example, they may frame certain practices as essential to salvation or frame certain values as in line with religious teachings.”

“**Law enforcement:** The bias may be used by law enforcement officials to shape public perception of crime and justice. For example, they may frame certain crimes as more serious or dangerous than others, depending on their agenda and priorities.”

“**Foreign policy:** Rulers and policymakers may use the phenomenon to shape the mindset and opinion of the mass and policy decisions related to foreign affairs. For example, they may frame certain countries as allies or enemies, depending on their political and economic interests.”

“**Charity and philanthropy:** Non government organisations such as charitable trusts and patrons may use the phenomenon to advertise their cause and request donations. For example, they may frame their mission as addressing a pressing societal problem or frame the impact of their work in a way that resonates with potential donors.”

An example of framing bias: Imagine that a country is preparing for an outbreak of an unusual disease which is going to kill 600 people. Doctors are proposing the following two programs to tackle the disease: If program A is accepted, 200 people will be saved. If program B is accepted, there is a third (33.3%) probability that 600 people will be saved and a two-thirds (66.7%) probability that no one will be saved.

Which of the two programs would you prefer?

Now, imagine that the above disease is back. It is going to kill 600 people again. Doctors are proposing the following two programs to tackle the disease. If program C is accepted, 400 people will die. If program D is accepted, there is a third (33.3%) probability that no one will die and two thirds (66.6%) probability that 600 will die.

We can see that the two questions examine an identical dilemma. Two hundred of 600 people saved is the same as 400 of 600 lost. However, when the question was framed negatively, and people were concentrating on losses rather than gains, they voted in a dramatically different fashion. When framed negatively, 22% of the people voted for the conservative strategy and 78% of them opted for the risky strategy!

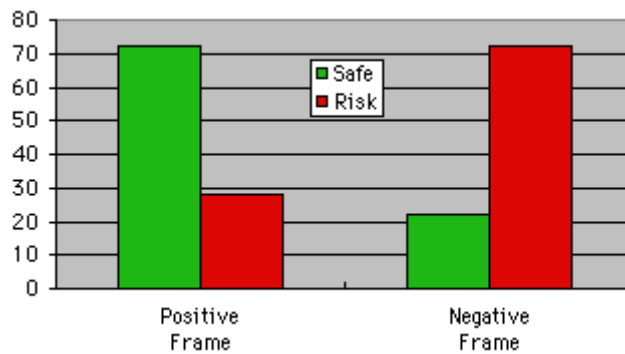


Figure 2 : Impacts of framing on decision making
 (Source:<http://www.workingpsychology.com/lossaver.html>)

As we can see, framing the choice positively vs. negatively caused an almost perfect reversal in choices--saving (or is that 'not losing'?) lives! Clearly, framing can powerfully influence the way a problem is perceived, which in turn can lead to the favouring of radically different solutions.

It's important to recognize and critically evaluate framing bias in all its forms, as it can have significant impacts on our attitudes, beliefs, and behaviours. By doing so, we can make more informed decisions and avoid being unduly influenced by others.

5. Mitigating and Avoiding Framing Bias

Mitigating and avoiding the bias is necessary for making sure that the message is understood correctly, effectively and efficiently. Action plans for mitigating the phenomenon may consists of using various point of views, paying attention to the content of the message, spreading awareness, keeping in mind the audience, and using transparent framing.

5.1 Using numerous frames constitutes of catering the information from different perspectives, which can give a more balanced and nuanced view.. This approach can

help to reduce the effects of framing bias by allowing people to form their own opinions based on the information presented (Niederdeppe et al., 2012).

5.2 Paying attention to the ingredient of the information catered, instead of the way it is catered, may aid in avoiding the framing bias.. This approach involves presenting information in an objective and neutral manner, without using language or visual cues that may influence interpretation or response (Petty & Cacioppo, 1986).

5.3 Improving awareness of the presence and implications of the bias can aid mitigate its effects. By educating people about the concept of framing bias and providing examples of how it can be used to influence behaviour, individuals can become more aware of how they may be influenced by framing bias and take steps to avoid it (Nisbett & Ross, 1980).

5.4 Considering the audience is another strategy for mitigating framing bias. By tailoring the message to the specific needs, beliefs, and values of the audience, communicators can increase the relevance and persuasiveness of the message, while minimizing the potential for framing bias (Rothman & Salovey, 1997).

5.5 The use of transparent framing consists of making the phenomenon obvious and transparent to audience. This approach involves acknowledging the existence of multiple frames and explaining the reasoning behind the chosen frame, which can help to increase transparency and credibility (Entman, 1993).

The valence and the degree of influence of the message, the individual differences and the context all together can be influenced by the framing. The phenomenon of framing has important applications in politics, economics and health. By studying the components which impact the framing bias, explorers and practitioners may create extra effective and efficient communication plan of action and interventions. Further studies can deliver more insights into the neural mechanism principal framing phenomenon and efficiency of various framing pan of actions in various cultural and social contexts.

Chapter 3: RESEARCH METHODOLOGY

The study utilises the information collected from primary sources only. The respondents were surveyed for the primary data. A questionnaire was been floated among various individuals on different platforms to collect the data. After data collection was complete, the filled-out questionnaire was correctly revised to make them suitable for coding.

A Master Table was created using a spreadsheet to compile all the data gathered with the use of the questionnaire. Excel was used to enter the data into the computer. This software includes multiple sorts of analysis that may be used to analyse the data.

3.1 Target population

The target population is the source from where data needed to be collected for the research purpose. The target population is the collection of the object which possess the information required by the researcher about which an inference is to be made.

In this research, the target population consisted of individuals from various age groups, gender, diverse educational background, occupation and their knowledge about framing bias.

3.2 Research Design

Research design is a plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variances. In order to conduct this survey-based descriptive and analytical research design was used the fundamental strategy is what directs the researcher while they carry out their study activity. This study issue falls under the category of descriptive research, while is intended to characterize the current condition of the characteristics of a group, community, product user. It is believed that the study is best suited for a descriptive research design, The primary objective of utilising this strategy is to describe the existing situation.

3.4 Research Type

Different type of research such as descriptive, analytical, applied, quantitative descriptive study that looks for relationship between one variable with another.

3.5 Sampling Technique

A convenience sampling technique is been used to collect the data. It refers to a group of non-probabilistic sampling techniques in which the researcher selects the units based on convenience. The researcher may ask anybody, be it a person walking on the street or people exiting a shopping centre. It basically means that the sample is drawn from a population that is conveniently available to the researcher.

3.6 Sample Size

A sample is a group of people, objects or items that are taken from a large population for measurement. The sample represents the population or it is the subset of the population. It is impractical to do research on every member of a particular population because large population samples are used according to the characteristics of the population. In the research, the sample size used is 101 samples from the population.

Chapter 4: ANALYSIS, INTERPRETATION AND RESULT

4.1 Data Collection

The data has been collected through primary sources only. A questionnaire was prepared and floated among various groups of individuals from different demographics, to collect data. The data of 80 individuals has been collected.

4.2 Data Analysis & Interpretation

Age of Respondents

Age	No. of Respondents	Percentage (%)
Under 18	0	00.00%
18-24	20	19.80%
25-34	67	66.34%
34-44	12	11.88%
45-54	1	00.99%
Above 54	1	00.99%

Table 1: Age Group of Respondents

From the above table, it is evident that out of 101 respondents, 66.34% are in the age group between 25 years and 34 years, 19.80% are aged between 18 to 24 years, 11.88% of respondents have age between 34 to 44 years and 0.99% belong to the age group 45-54 years and the same amount (0.99%) of respondents were above 54 years old.

What is your age?

101 responses

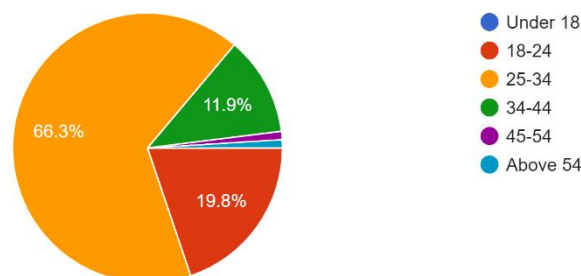


Figure 3: Age group of Respondents

Gender of the Respondents

Particular	No. of Respondents	Percentage (%)
Male	70	69.30%
Female	31	30.70%
Non-Binary	0	00.00%

Table 2: Gender of Respondents

It is evident that 69.30% of respondents are male and 30.7% are female. The ratio of male respondents to females is very high.

Gender
101 responses

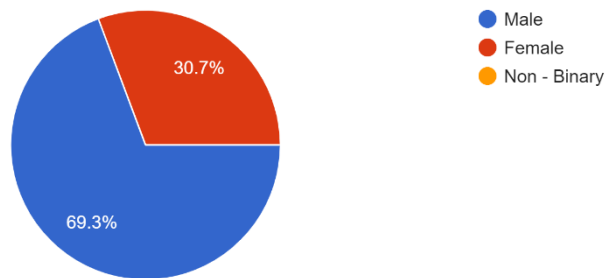


Figure 4 Gender of Respondents

Education of the Respondents

Education	No. of Respondents	Percentage (%)
10th Pass	0	00.00%
12th Pass	0	00.00%
Diploma	0	00.00%
Bachelors' Degree	45	44.55%
Masters' Degree	51	50.50%
Doctoral Degree	4	03.96%
Others	1	00.99%

Table 3: Education Qualification of Respondents

If we take a look at the highest education qualification of the respondents, it can be seen that most respondents (50.50%) hold masters' degree as their highest form of education, followed by bachelors' degree holding individuals which form about 44.55% of the respondents, and 3.96% of the respondents were Doctoral degree holder.

What is your Highest level of education?

101 responses

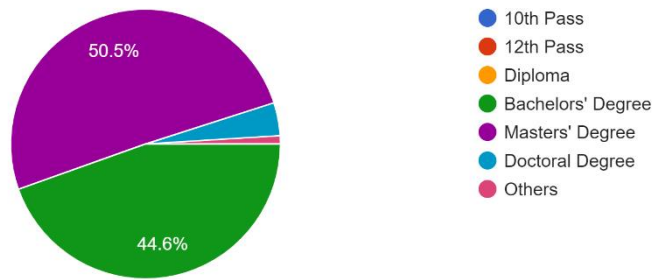


Figure 5: Educational Qualifications of respondents

Occupation of the Respondents

Occupation	No. of Respondents	Percentage (%)
Student	30	29.70%
Professional	57	56.44%
Retired	1	00.99%
Home Maker	2	01.98%
Unemployed	3	02.97%
Other	8	07.92%

Table 4: Occupation of Respondents

55% of the respondents are professionals, while 31.3% of the respondents are students. Rest respondents consists of 1.2% Retired personnel, 2.5% homemakers, 3.7% unemployed.

What is your occupation?

101 responses

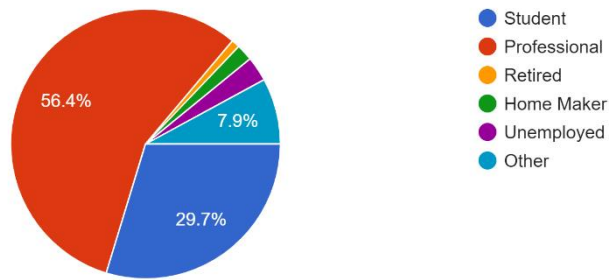


Figure 6: Occupation of Respondents

Awareness about Framing Bias

Awareness of Framing Bias	No. of Respondents	Percentage (%)
Yes	41	40.60%
No	60	59.40%

Table 5: Awareness of Framing Bias Among Respondents

About 40.6% of the respondents were already aware of the framing bias, while 59.4% had no knowledge about framing bias.

Do you know what framing bias is?

101 responses

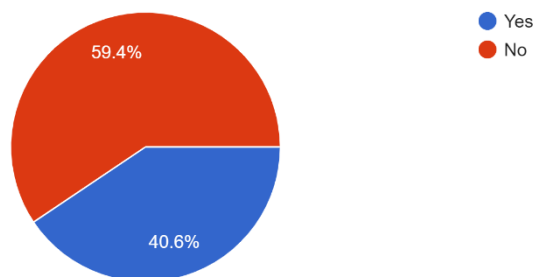


Figure 7: Awareness of framing bias among respondents

Problem Statement 1:

You are a member of a local community group that is concerned about climate change. The group is considering whether to support a new proposal to build a wind farm in the area. The proposal includes the following statement:

Option A: "The wind farm will generate clean, renewable energy and reduce carbon emissions, helping to mitigate the effects of climate change."

Option B: "The wind farm will be a large industrial development that will harm the natural beauty of the area and disrupt local wildlife."

Which option do you find more persuasive?

Responses:

This problem offers an opportunity to examine framing bias by examining how various solutions present the development of a wind farm. The framing bias refers to the manner in which the alternatives present the facts in a way that influences how individuals see it and come to their conclusions.

Option A: This option pitches the wind farm as a solution to climate change (phenomenon like global warming), framing it in a gain or positive frame as a source of clean and renewable energy. Such framing may target to appeal to environmental activists or the individuals who are relatively more concerned about the environment and see climate change as a serious threat to the mankind as well as flora and fauna.

Option B: This option highlights the negative side of the wind farm or we can say that the wind farm situation is negatively framed in this option as something that pose danger to the environment and wildlife, focusing only on the lose that the wind farms may cause, the negative impacts of the project. Such framing in this case may appeal to the people who put forward the idea of preserving the natural beauty of the area and safeguard the wildlife.

Presenting the same issue in two very contrasting ways, may guide the people's perception and decision regarding the proposal of the wind farm, depending on what they actually prioritise and what their values are. This gives a practical exhibition of

how framing can influence the thought process and decision making of individuals and can lead to biased decision making.

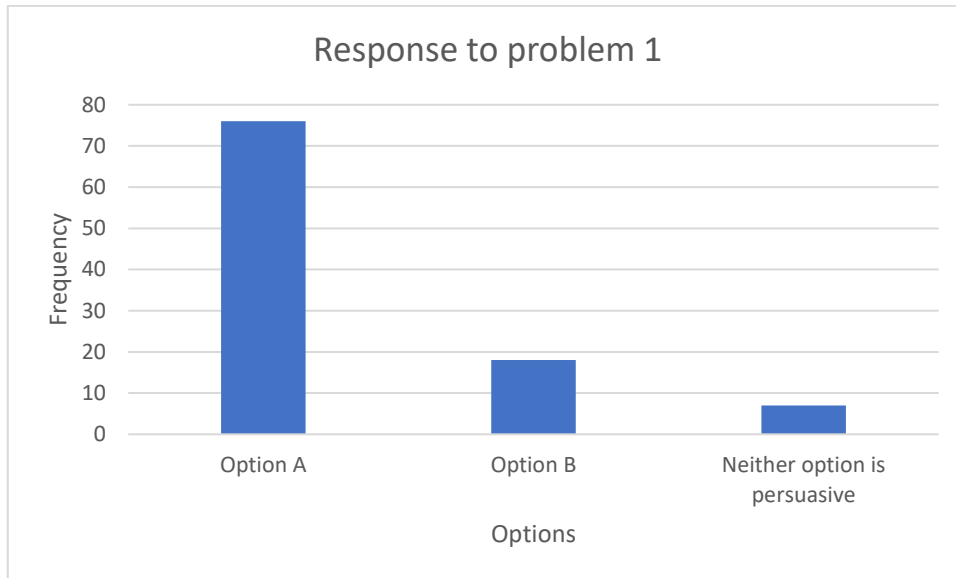


Figure 8: Response to problem 1

In totality, 75.25% of respondents went with the positively framed answer and 17.82% chose the negatively framed answer, rest 6.93% chose none. The contrast in preference of respondents can be observed but when the correlation analysis was done between responses to problem 1 and the demographics (Age, Gender, Prior knowledge of framing bias and education) the result showcased that either age, gender, prior knowledge of framing bias or education has no correlation with the choice that the respondents made. The value of the correlation coefficient for all the factors remained well below 0.3 and above -0.3.

	Age	Gender	Familiarity	Education	Bias
Age	1				
Gender	0.13783	1			
Familiarity	0.130305	0.07473	1		
Education	0.156738	0.233039	0.125802	1	
Bias	-0.0809	-0.2603	-0.10597	0.007284	1

Table 6: Correlation between responses of problem 1 and the demographic components of respondents

Problem Statement 2

You are considering joining a gym to improve your fitness. You are comparing two different gyms that offer similar equipment and classes, but have different pricing plans. Gym A advertises the following:

Option A: "Join now and get your first month free! Membership fees start at just \$20 per month."

Option B: "Join now and get 50% off your first month! Membership fees start at \$40 per month."

Which option do you find more appealing?

Responses

This problem offers an opportunity to find out about framing bias by studying how the different pricing options are framed. The way in which the information is presented to shape people's perspective and response to the information i.e., influence the decision making process is known as the framing bias.

Option A: This option frames the pricing as an affordable option which is starting at just \$20 for a month bundled with "first month free" offer on the table. This frame of presenting the price may grab attention of price sensitive individuals who are keen on getting affordable deal more effectively.

Option B: This option frames the pricing to be less affordable option but with a 50% discount on the first month i.e., \$40 a months with 50% of on the first month. This type of framing may grab the attention of individuals who pay importance to a valued discount or savings.

Presenting the information in two different frames, the options may manipulate the opinion and response of people about which gym to join, depending on values and priorities of the people. This gives a practical exhibition of how framing can influence the thought process and decision making of individuals and can lead to biased decision making.

To confirm framing bias in this case, how individuals respond to each choice available needs to be analysed and if the response actually is influenced due to the bias. Case in point, if an individual opts for the first choice (Option A) only and only based on the

“first month free” offer, without paying heed to the membership fee, this can probably indicate the phenomenon of framing bias. On the same lines, if someone opts for the second option (Option B) solely based on the 50% off offer, without noticing the higher membership fee for the subsequent months, this could also indicate that the individual has fallen prey to the framing bias. By studying how individuals react to each option given to them, it is within reach to identify whether the phenomenon has affected the opinions and decision making of the respondents.

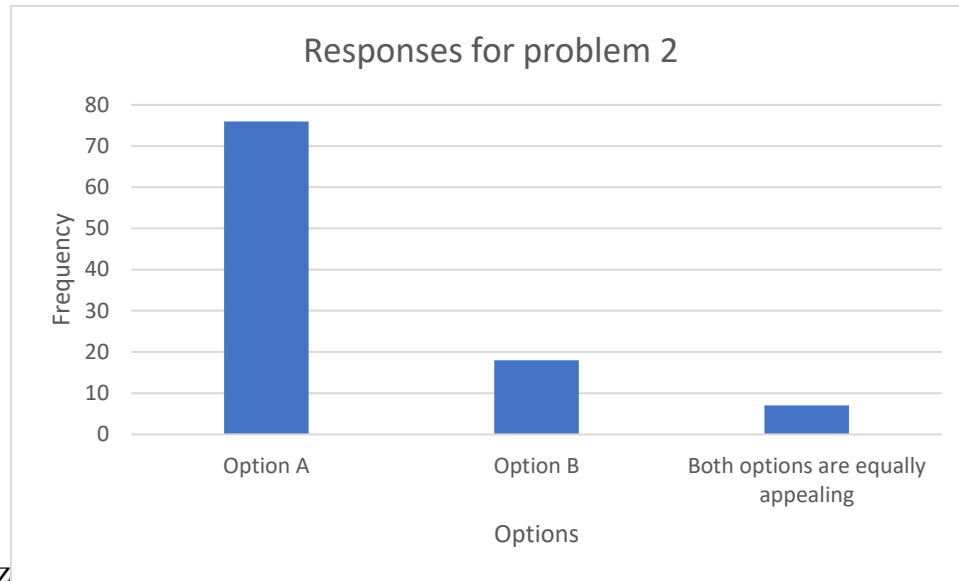


Figure 9: Response to problem 2

In totality, 75.25% of respondents went with the price-sensitive option and 17.82% chose discounted subscription, the rest 6.93% said both are appealing. The contrast in preference of respondents can be observed but when the correlation analysis was done between responses to problem 2 and the demographics (Age, Gender, Prior knowledge of framing bias and education) the result showcased that either age, gender, prior knowledge of framing bias or education has no correlation with the choice that the respondents made. The value of the correlation coefficient for all the factors remained well below 0.3 and above -0.3.

	Age	Gender	Familiarity	Education	Price Sensitivity
Age	1				
Gender	0.120996441	1			
Familiarity	0.013909578	0.1068092	1		
Education	0.127570606	0.1430945	0.14930221	1	
Price Sensitivity	0.117902737	0.1195993	-0.0840632	0.197476	1

Table 7: Correlation between responses of problem 2 and the demographic components of respondents

Problem Statement 3

You are a member of a hiring committee at a company that is considering two different candidates for a management position. Candidate A has a background in finance, while Candidate B has a background in marketing. The company is facing financial difficulties and needs to focus on improving its bottom line. Candidate A emphasizes their experience in cost-cutting and financial analysis, while Candidate B emphasizes their experience in creating effective marketing campaigns. Which candidate do you think would be the better choice for the company?

Responses

In this problem additional information that the company is struggling financially is attached with the situation of hiring the candidate. This information may or may not be the reason why company is looking for a candidate. This purpose of including this information in the problem is solely to create a bias. This may make it look like that the knowledge and expertise of finance is the most important quality for a management position, even if other skills are important as well.

Candidate A's expertise in finance, the experience in cost cutting and analysis of financials make the candidate seem like the obvious choice for the position. This can possibly influence the decision making of the respondents to choosing candidate A, without considering candidate B's marketing expertise.

Rewording the situation as a choice between the two candidates, could make the respondents feel like they have to choose one over the other. This can possibly create

a false split that does not accurately showcase the complexity of the situation and respondents are likely to fall for the framing.

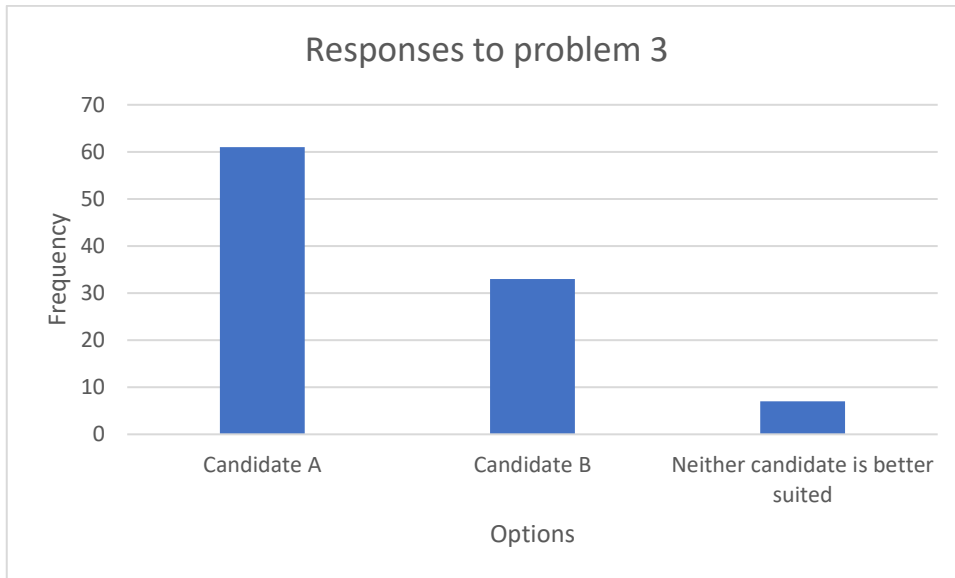


Figure 10: Response to problem 3

In totality, 60.40% of respondents went with the positively framed answer and 32.67% chose the negatively framed answer, rest 6.93% chose none. The contrast in preference of respondents can be observed but when the correlation analysis was done between responses to problem 3 and the demographics (Age, Gender, Prior knowledge of framing bias and education) the result showcased that either age, gender, prior knowledge of framing bias or education has no correlation with the choice that the respondents made. The value of the correlation coefficient for all the factors remained well below 0.3 and above -0.3.

	Age	Gender	Familiarity	Education	Bias
Age	1				
Gender	0.12622	1			
Familiarity	0.097292	0.105607	1		
Education	0.094931	0.181241	0.130009	1	
Bias	-0.05091	-0.0138	0.079285	-0.0628	1

Table 8: Correlation between responses of problem 3 and the demographic components of respondents

Problem Statement 4

You are deciding whether to invest in a new stock. One financial advisor frames the stock as a high-risk, high-reward opportunity, while another financial advisor frames the stock as a stable, long-term investment. Which financial advisor are you more likely to trust?

Responses

The situation frames the same investment opportunity in two different frames and asks the respondents to opt for the one which they find more trustworthy and how does it affect their perception and decision making process.

The problem suggests that two different financial advisors present the same investment opportunity in two different manner or frames. One terms the opportunity as high risk – high return (significant returns and high risk) opportunity, while the other says that the opportunity is stable and long time investment (stable returns, low risk).

One need to examine the responses to the problem in order to determine the bias and its influence on the perspective and decision making of individuals. For example if a respondent chose to trust the advisor who termed the opportunity as high risk and high gain opportunity, without paying attention to the potential risks that it brings in terms of potential loss, this may indicate framing bias. Similarly, if one chooses the other advisor who framed the opportunity as stable and long term, without considering the possibility of higher profits, this may also indicate the bias.

By studying the responses to each of the advisor, it is possible to determine whether the phenomenon has had an impact on the decision making process of the individual and it has affected the perception of the individual about investing in the stock.

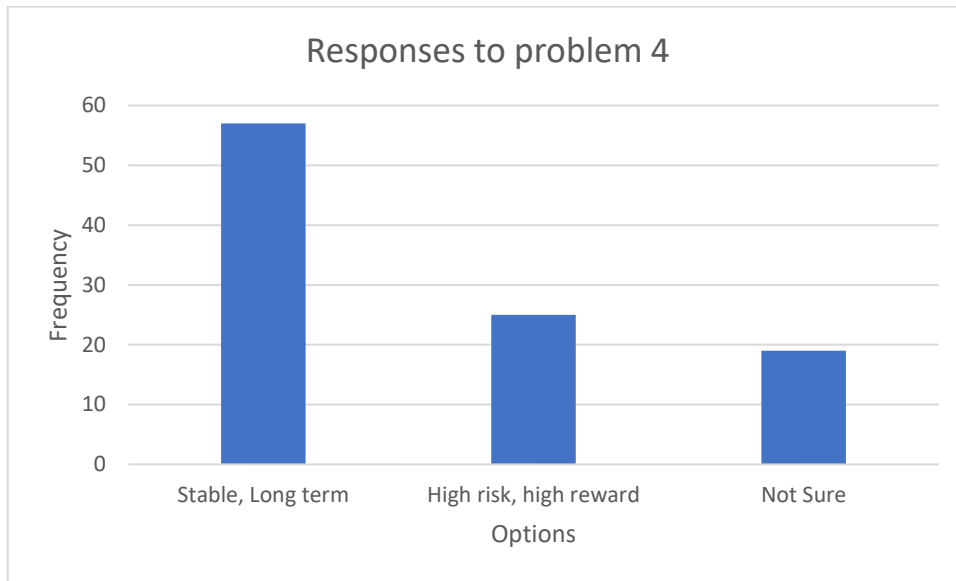


Figure 11: Response to problem 4

In totality, 56.44% of respondents went with the financial advisor who frames the stock as a stable, long-term investment and 24.75% chose the financial advisor who frames the stock as a high-risk, high-reward opportunity, the rest 18.81% said they are not sure about this. The contrast in preference of respondents can be observed but when the correlation analysis was done between responses to problem 4 and the demographics (Age, Gender, Prior knowledge of framing bias and education) the result showcased that either age, gender, prior knowledge of framing bias or education has no correlation with the choice that the respondents made. The value of the correlation coefficient for all the factors remained well below 0.3 and above -0.3.

	Age	Gender	Familiarity	Education	Risk Level
Age	1				
Gender	0.12622	1			
Familiarity	0.097292	0.105607	1		
Education	0.094931	0.181241	0.130009	1	
Risk Level	0.116962	-0.06014	0.047981	0.139922	1

Table 9: Correlation between responses of problem 4 and the demographic components of respondents

Problem Statement 5

You are considering investing in a new cryptocurrency that is being marketed as a "revolutionary new technology that will change the way we think about money." The company behind the cryptocurrency claims that it has the potential to disrupt the entire financial industry and create enormous wealth for early investors. However, some financial analysts have warned that the cryptocurrency is highly speculative and could be a risky investment. Which statement do you find more persuasive?

Option A: "Invest in our revolutionary new cryptocurrency and be a part of the future of finance!"

Option B: "Be cautious before investing in this highly speculative cryptocurrency. There are significant risks involved."

Responses

The situation presented above can help determine the bias and its effects by comparing the degree to which both options can persuade the respondents. Option A, proposes that the cryptocurrency as a new technology which is revolutionary in nature and has the potential to change the way we think about the money and the possibility to create loads of wealth, while Option B, proposes that cryptocurrency is a highly speculative in its value and brings significant risks along with it.

The two frames in the problem put forward two different perspective which are contrasting in nature. One proposes cryptocurrency as an investment opportunity with very great and promising future, other proposes it as not a good thing to invest in. By framing the cryptocurrency in these two ways, the company behind the cryptocurrency and financial advisors may be trying to impact individual's perception and manipulate their decision making process. As this could mislead people to make suboptimal decision.

How individuals weigh the various attributes of investment can also be compared through the responses to this problem. Attributes may include, risks, profits, rewards and how these attributes are related to framing of the situation.

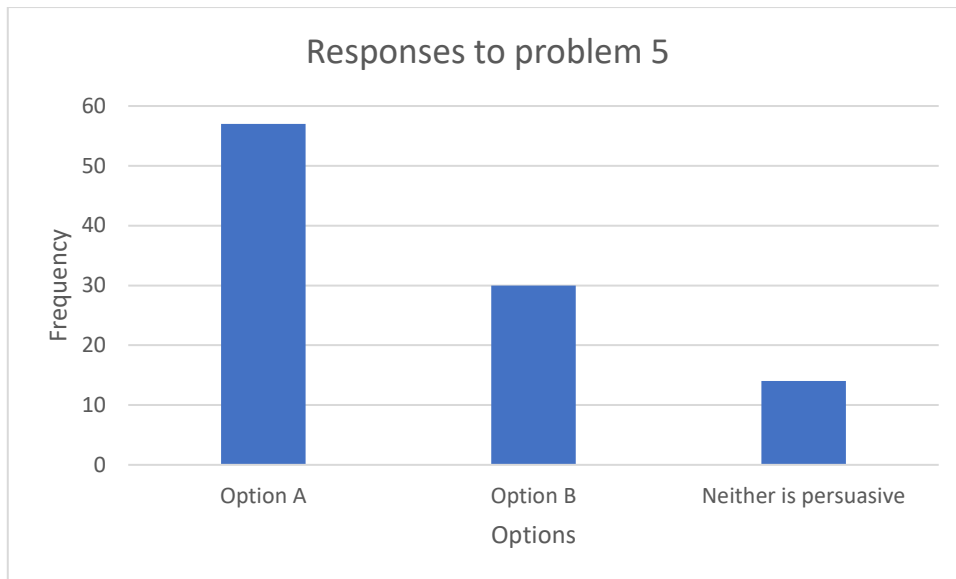


Figure 12: Response to problem 5

In totality, 56.44% of respondents went positively framed option and 29.70% chose the negatively framed option, the rest 13.86% said they are not sure about this. The contrast in preference of respondents can be observed but when the correlation analysis was done between responses to problem 5 and the demographics (Age, Gender, Prior knowledge of framing bias and education) the result showcased that either age, gender, prior knowledge of framing bias or education has no correlation with the choice that the respondents made. The value of the correlation coefficient for all the factors remained well below 0.3 and above -0.3.

	Age	Gender	Familiarity	Education	Bias
Age	1				
Gender	0.070292	1			
Familiarity	0.111768	0.085421	1		
Education	0.084279	0.368427	0.140992	1	
Bias	0.109747	0.093286	0.063234	0.064669	1

Table 10: Correlation between responses of problem 5 and the demographic components of repondents

4.3 Result

It was observed that most of the responses registered were skewed towards the positively framed, price sensitive and less risky alternative provided in the options.

In response to the first problem in the questionnaire which showcased installing windmills in positive as well as negative frames people were more inclined towards choosing positively framed argument or option over the latter. A whopping 75.25% of the respondents chose the positively framed option, 17.82% chose negatively framed option and 6.93% chose none. Similarly, in response to second problem most of the respondents (75.25%) chose the most affordable option, 17.82% went for the expensive option and 6.93% said that they were not sure about which one to choose.

In response to third problem, 60.40% of the respondents opted for positively framed option, 32.67% chose the negatively framed choice and 6.93% found none of the option suitable. For the fourth problem, 56.44% chose the financial advisor who portrayed that the investment to be steady and long term and 24.75% chose the financial advisor who represented the same investment plant as high risk, high reward opportunity and 18.81% was not able to decide which advisor to trust, In the fifth and the final problem, 56.44% of the respondents chose the positively framed statement about cryptocurrency to be more assuring, while 29.70% found negatively framed statement to be more assuring and 13.86% said they find none of the statement as persuasive.

Keeping in mind the hypotheses formulated for the study, for hypothesis 1, the null hypothesis H₀: There is no association between age and effects of framing bias on decision making. Was found to be true.

For hypothesis 2 as well, the null hypothesis H₀: There is no association between gender and effects of framing bias on decision making. Was found to be true.

For hypothesis 3, the alternate hypothesis, H₁: There is no association between the educational qualification and effects of framing bias on decision making. Was found to be correct.

For hypothesis 4 also, the alternate hypothesis, H₁: People with prior knowledge of framing bias are not more likely to take rational decisions. Was found correct.

For hypothesis 5, the alternate hypothesis, H1: There is no relation between the age of a person and the tendency to take risks. Was found true.

For hypothesis 6, the alternate hypothesis, H1: There is no relation between age and price sensitivity of a person. Was found to be correct.

For hypothesis 7, the alternate hypothesis, H1: There is no relation between gender and tendency to take risks. Proved to be right.

For hypothesis 8, the null hypothesis, H1: There is no association between the gender and price sensitivity. Proved to be right.

4.4 Limitations of the Study

The limitation of this study is that only 101 responses are been collected which may affect the overall research.

The respondents of the questionnaire belonged to two homogeneous sets of population, and results may vary if the subjects from some other set of population are chosen for the study.

Result obtained by asking different set of questions may vary from the result of this study.

The number of male respondents was much more than that of female respondents which may give biased results.

Some questions may not be properly understood by the respondents which makes the analysis a bit biased.

The research did not ask the respondents about the reasoning behind their choices, which may have affected the results.

Chapter 5: CONCLUSION

Framing bias is a cognitive bias that points to how the people perceive and take decisions based on how the information is catered to them or “framed”. This means the people may react differently to the same piece of information when catered in positive frame and when catered in negative frame. This may lead impaired decision making processes .i.e., an individual may choose a suboptimal option under the influence of framing bias. For example, A product when advertised as 80% fat free is more likely to get more positive reactions compared to when the same product is advertised as “only 20% fat rich”, which will generate more negative responses.

Framing bias can also hamper or affect decision making process of an individual in more sensitive areas like, healthcare, economy, politics etc. It can also be used to manipulate public opinion and shape the mentality and perception of the mass, their beliefs and attitudes. It becomes very important to be aware of this phenomenon and to critically weigh the information, keeping in mind both the context of the information as well as how the information is catered or presented to you in order to make well informed and better decisions, most probably the best ones.

It was observed that most of the responses registered were skewed towards the positively framed, price sensitive and less risky alternative provided in the options.

From the study it can be concluded that:

There is no association between age and effects of framing bias on decision making.

There is no association between gender and effects of framing bias on decision making.

There is no association between the educational qualification and effects of framing bias on decision making.

People with prior knowledge of framing bias are not more likely to take rational decisions.

There is no relation between the age of a person and the tendency to take risks.

There is no relation between age and price sensitivity of a person.

There is no relation between gender and tendency to take risks.

There is no association between the gender and price sensitivity.

APPENDIX: QUESTIONNAIRE

Framing Bias

Greetings,

I would appreciate it if you could take a moment to answer the questions in the survey below. This survey is part of my MBA Dissertation and the data collected will only be used for academic and research purposes. Your information and responses will be kept confidential and will not be shared with anyone outside of the research project.

It is a study where the researcher investigates the influence of framing bias on decision making of an individual.

Thank you in advance for your valuable time and contributions to this study.

Regards,
Nitin Siddhu

** Indicates required question*

1. What is your age? *

Mark only one oval.

- Under 18
- 18-24
- 25-34
- 34-44
- 45-54
- Above 54

2. Gender *

Mark only one oval.

- Male
- Female
- Non - Binary

3. What is your Highest level of education? *

Mark only one oval.

- 10th Pass
- 12th Pass
- Diploma
- Bachelors' Degree
- Masters' Degree
- Doctoral Degree
- Others

4. What is your occupation? *

Mark only one oval.

- Student
- Professional
- Retired
- Home Maker
- Unemployed
- Other

5. Do you know what framing bias is?

Mark only one oval.

- Yes
- No

Situation Based Questions

For each of the following scenarios, please read the passage and then choose the option that best reflects your opinion or decision.

6. You are a member of a local community group that is concerned about climate change. The group is considering whether to support a new proposal to build a wind farm in the area. The proposal includes the following statement: *

Option A: "The wind farm will generate clean, renewable energy and reduce carbon emissions, helping to mitigate the effects of climate change."

Option B: "The wind farm will be a large industrial development that will harm the natural beauty of the area and disrupt local wildlife."

Which option do you find more persuasive?

Mark only one oval.

- Option A
- Option B
- Neither option is persuasive

7. You are considering joining a gym to improve your fitness. You are comparing two different gyms that offer similar equipment and classes, but have different pricing plans. Gym A advertises the following: *

Option A: "Join now and get your first month free! Membership fees start at just \$20 per month."

Option B: "Join now and get 50% off your first month! Membership fees start at \$40 per month."

Which option do you find more appealing?

Mark only one oval.

- Option A
- Option B
- Both options are equally appealing

8. You are a member of a hiring committee at a company that is considering two different candidates for a management position. Candidate A has a background in finance, while Candidate B has a background in marketing. The company is facing financial difficulties and needs to focus on improving its bottom line. Candidate A emphasizes their experience in cost-cutting and financial analysis, while Candidate B emphasizes their experience in creating effective marketing campaigns. Which candidate do you think would be the better choice for the company? *

Mark only one oval.

- Candidate A
- Candidate B
- Neither candidate is better suited for the position

9. You are deciding whether to invest in a new stock. One financial advisor frames the stock as a high-risk, high-reward opportunity, while another financial advisor frames the stock as a stable, long-term investment. Which financial advisor are you more likely to trust? *

Mark only one oval.

- The financial advisor who frames the stock as a high-risk, high-reward opportunity
- The financial advisor who frames the stock as a stable, long-term investment
- I'm not sure

10. You are considering investing in a new cryptocurrency that is being marketed as a "revolutionary new technology that will change the way we think about money." The company behind the cryptocurrency claims that it has the potential to disrupt the entire financial industry and create enormous wealth for early investors. However, some financial analysts have warned that the cryptocurrency is highly speculative and could be a risky investment. Which statement do you find more persuasive? *

Option A: "Invest in our revolutionary new cryptocurrency and be a part of the future of finance!"

Option B: "Be cautious before investing in this highly speculative cryptocurrency. There are significant risks involved."

Mark only one oval.

- Option A
- Option B
- Neither Option is persuasive

REFERENCES

- Bartlett, F. C. (1932). *Remembering: A study in experimental and social psychology*. Cambridge University Press.
- Brewer, N. T., Chapman, G. B., Rothman, A. J., Leask, J., & Kempe, A. (2017). Increasing vaccination: Putting psychological science into action. *Psychological science in the public interest*, 18(3), 149-207.
- Chong, D., & Druckman, J. N. (2007). Framing public opinion in competitive democracies. *American Political Science Review*, 101(4), 637-655.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of communication*, 43(4), 51-58.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-291.
- Levin, I. P., Schneider, S. L., & Gaeth, G. J. (2002). All frames are not created equal: A typology and critical analysis of framing effects. *Organizational behavior and human decision processes*, 88(2), 411-429.
- Liu J, Gu R, Liao C, Lu J, Fang Y, Xu P, Luo YJ, Cui F. The Neural Mechanism of the Social Framing Effect: Evidence from fMRI and tDCS Studies. *J Neurosci*. 2020 Apr 29;40(18):3646-3656. doi: 10.1523/JNEUROSCI.1385-19.2020. Epub 2020 Apr 1. PMID: 32238480; PMCID: PMC7189763
- Niederdeppe, J., Shapiro, M. A., Kim, H. K., Bartolo, D., & Porticella, N. (2012). Narrative persuasion, causality, complex integration, and support for obesity policy interventions. *Communication research*, 39(5), 613-637.
- Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Prentice-Hall.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in experimental social psychology*, 19, 123-205.
- Rothman, A. J., & Salovey, P. (1997). Shaping perceptions to motivate healthy behavior: The role of message framing. *Psychological bulletin*, 121(1), 3-19.

PAPER NAME

2Nitin_Siddhu_2k21_dmba_81.docx

WORD COUNT

8777 Words

CHARACTER COUNT

46894 Characters

PAGE COUNT

35 Pages

FILE SIZE

902.4KB

SUBMISSION DATE

May 12, 2023 7:07 PM GMT+5:30

REPORT DATE

May 12, 2023 7:07 PM GMT+5:30

● 5% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

- 4% Internet database
- 2% Publications database
- Crossref database
- Crossref Posted Content database
- 4% Submitted Works database

● Excluded from Similarity Report

- Bibliographic material
- Quoted material
- Cited material
- Small Matches (Less than 14 words)