Impact of Psychological Factors on Investment Decision Making
Mediating by Risk Perception: A Conceptual Study

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Abstract: Every individual is different from others due to various factors which include demographic factors, age, race and sex, education level, social and economic background; same is the situation with the investors. The most critical challenge faced by them is the investment decision; they act in a rational manner and usually follow their instincts and emotional biases while making investment decisions. The investigation of previous studies reveals the importance of various psychological factors which affect their investment decision. Keeping this in view, a study model has been developed to describe the impact of risk propensity, asymmetric information and problem framing on investor’s behavior while making decisions through the mediating role of risk perception; also it determines how much weight is attached to each independent variable by the investors when they make their decisions. Overall discussion concludes that the investor’s behavior depends on how the available information is being presented to them and how much they are prone to taking risk while making decisions; thus playing a significant role in determining the investment style of an investor.

Key words: Risk perception %Propensity %Information asymmetry %Investment decisions

INTRODUCTION

In the present days, behavioral finance is becoming an integral part of the decision-making process, because it greatly influences investors’ behavior regarding decision making. Better understanding of behavioral finance will help the investors to select a better investment option. The investors are generally less able to objectively evaluate companies’ risks and returns and tend to be emotionally biased in their trading decisions. For this reason, it is necessary to understand various factors which prompt the investors to make investment decisions. Many economic and financial theories presume that investors act rationally; however, they are only human. They act according to market sentiments and some even follow their gut feeling when making financial decisions. In the early years, investment decisions resulted in a gap between the expected and the actual returns; the reason for the failure was the mistakes made by them in decision-making process i.e. they made irrational decisions about their investments. In recognizing their mistakes and means to avoid them for optimal investment decisions, they realized the impact of psychology in investment decisions [1]. Psychologists found that decisions could be influenced by unavoidable psychological and emotional factors; better understanding of these factors will help the investors to select a better investment decision and to avoid repeating their mistakes in future by making conscious decisions in extracting the best investment option [2, 3].

Various financial analysts have examined the relationship between risks and return in the stock markets concluding that higher the risk, higher the return and lower the risk lower the return. Generally, human decision making process is also composed of risk and return relationship [4] but the investors cannot evaluate risks and return objectively; rather they behave emotionally while making decisions i.e. their decisions are the result of their perception towards risks and expected returns [5].

Risk perception can be managed if the investors are aware of their level of risk perception [6]. While making investment decisions, the investors make proper tradeoffs between risks and return [7]. In a particular situation, individuals who are risk-seekers and are concerned about high returns are likely to have low risk perception, whereas those who are risk-averse have high risk perception; thus influencing the investment behavior [8].
Behavioral Finance scholars believe that the investors should objectively evaluate the risks and returns of an investment decisions because they are greatly influenced by the framing of the situation; it causes problems to be viewed in different ways thus leading to different decision options [9]. Apart from the influence of the situation framing; it is expected that the quality of decision (output) is a reflection of the quality of information (input) [10]. The value of information may be determined by the quality of the decision made by the investors using the information thus indicating that the information asymmetries have great impact on an investor’s financing and investment decisions [11, 12].

The nature of psychological factors and individuals’ behavior at the time of investment decision-making has been under discussion. Studies have shown that framing and other factors can significantly impact investor’s decisions, however there are only few studies regarding the impact of risk perception. Empirical testing of these relationships should be done to determine the true effect of these factors on investment decisions [13]. Framing is an important factor as it reflects the tendency of people to make different choices based on the way risk information is presented; therefore there is a need to examine the impact on investment decisions by varying framing and perceptions [14, 15]. The present study also covers these suggestions to examine the impact of these factors on investor’s behavior. While researches have been conducted to analyze the effects of risk perception and propensity on investor’s behavior, there are only few studies that have examined all three factors together [8, 9, 13]. These studies have measured risk propensity, perceived risk and investor’s decision-making in the context of other variables effecting propensity and perception. The exact nature of the relationship between risk perception, risk propensity and decision-making is not well understood.

Although traditional finance theory always suggests that investors’ investment decisions are based on their objective evaluation of risks and expected returns, psychological factors towards risk perception may play critical role in investors’ investment decisions. The main idea behind this study is to identify some core factors which affect investors' behavior under risk and uncertainty and to examine and analyze results in meaningful ways that can help the investors in future investments. The present study can have significant contribution in the area of behavioral finance through exploring the relationship between various physiological factors that can affect the overall investment decisions of the investors.

**Review of Literature:** While there are many different factors that may affect investor’s decisions, risk perception and risk propensity are the important variables that play an important role in decision-making. Risk perception is a communication source which can prepare investors to obtain risk according to their understanding and psychological factors [8]. Propensity to take risk refers to the tendencies of the investors to take or avoid actions that they feel are risky [16-18]. Previous studies have been done to analyze the effect of risk perception and risk propensity individually on decision-making, but very little is known about these two factors together in investment decisions. While discussing the impact of risk perception on decision-making, it is necessary to understand how individuals perceive risk. Risk perception plays a subjective role in determining the best alternative among different investment decisions [19]. Most of the studies have emphasized significant impact of framing and other factors on investor’s decisions, however there are only few studies regarding the impact of risk perception.

The decision-making behavior of an investor is affected by the attitude towards the risk as well as the way in which the investment risk is perceived by the investor. At different levels of perception towards risk, the individual investor thinks differently about his investment and makes decisions differently [20]. A number of researches have concluded that investor decision-making process is greatly affected by the risk perception [21, 22]. Individuals take risks according to their interpretation and perception which ultimately affect their behavior towards risky investment decisions. An investor’s propensity to risks may have a significant impact on his decision-making under risk, where risk refers to how far they extend their exposure to risk [16]. Although risk propensity and perceived risk both appear to influence decision making, they also interact with each other; such as limiting what information is attended to and limiting the investor’s ability to respond to risky attributes that influence how risky situations will be evaluated [23, 24]. Thus, risk propensity not only affect decision making directly, but is also have an indirect effect on risky decision making through its effect on risk perceptions [16].

The tendency to avoid risks, when a decision is framed in terms of possible gains and to accept risk, when a choice is framed in terms of possible losses, is one of the most common deviations from rational decision making [25]. Numerous studies have found differences in investor’s behavior based on framed information; however, framing has different meanings to different people [26]. In a research done by Sitkin and Weingart...
[27], relationship between problem framing, risk perception and investor behavior was investigated. The results revealed that when the situations are positively framed, high levels of risk perception is observed and low levels of risk perception when negatively framed. An investor follows a risk-averse behavior when the expected return is presented in terms of gains; whereas they follow risk-seeking behavior in the case of loss. Risk perception, here, appears to mediate the effects of problem framing on investment decisions as either opportunities or threats, thus it plays a critical role in mediating the investor behavior [28].

Prior to negative earnings surprises, those investors decrease their holdings that have insider information as compared to those investors who don’t have this information [29]. Lu et al. [30] are of the view that information asymmetry refers to a situation where financial investors have a set of unequal information i.e. people existing in stock market do not all have the same information rather some are more informed than others [31]. Various types of information flowing towards the stock markets play a critical role while making investment decisions as it enables the investors to form opinion about a firm’s value [32]. The level of information asymmetry can be characterized by the risk of investing with a privately informed investor. Thus, the less the investors share the same information, the more will be level of risk perception towards their decisions in stock market [13].

In this study investment decisions of investors have been taken as a dependent variable because to its importance in stock market; while Risk Propensity, Problem Framing and Asymmetric information are taken as independent variables. Due to mediating role in investment decision-making, risk perception has been taken as a mediating variable through which the relationship of dependent and independent variables will be checked. The aim of this study is to present a model that evaluates risk perception features of the independent variables and ultimately their effect on investment intentions of the investors. The research model for this study is as follows:

The risks, people are prepared to take are related to their attention and interpretation which determine their attitude and behavior to risk in investment decisions. A risk-averse individual is more likely to avoid risky decisions than a risk-seeking individual, who is more likely to make risky decisions.

**Hypothesis 1:** The investor’s risk propensity has a positive relationship with his decision-making behavior.

Decision makers evaluate negative and positive outcomes differently. Their response to losses is more extreme than their response to gains which suggests, psychologically, the displeasure of a loss is greater than the pleasure of gaining the same amount [33], which leads to the hypothesis:

**Hypothesis 2:** An investor’s decision making behavior has a positive (negative) relationship with the way information / problem is framed.

Information asymmetry is playing an important role in determining a firm’s financing and investment decisions. If information about stock market and listed companies is at symmetric level will affect the risk orientation of investors [11].

**Hypothesis 3:** Asymmetry of information has a positive relationship with the investor’s decision making behavior.

Sitkin and Pablo [16] suggested that the prospect theory is consistent with a negative association between perceived risk and investment decisions i.e. risk avoidance is greater when threats to assets are salient (high risk is perceived) than it is when an individual perceives little risk.

**Hypothesis 4:** The extent to which individuals make risky decisions has a negative relationship with their level of risk perception.

![Fig. 1: Research Model](image-url)
Investors, who have tendency to accept risky projects to earn higher returns, can tolerate more risks and have low risk perception, while investors with low risk tendency and tolerance, have high risk perception; thus higher the investor's risk propensity, the lower will be the level of perceived risk.

**Hypothesis 5:** Risk propensity has a negative relationship with risk perception of the investors.

This study implies that positive frames, which emphasize situational threats to existing resources, may make the risks inherent in a situation more salient (inducing risk-averse behavior), whereas an emphasis on the upside potential for increasing limited holdings or recouping losses may decrease the salience of risks by increasing the salience of opportunities (inducing risk-seeking behavior).

**Hypothesis 6:** Problem framing in terms of gains or losses has a positive or negative relationship with risk perception.

There should be transparency, timely spread and asymmetric information about all the listed companies for every investor [34]. If there is asymmetry of information, same level of information available to everyone, will affect the investor’s behavior to perceive the risk attached with the available information. Thus the hypothesis developed for testing this relationship for this study is:

**Hypothesis 7:** Information asymmetry has a positive relationship with risk perception of the investors.

Sitkin and Weingart [27] extended the model of Sitkin and Pablo [16] which depicts that risk perception and risk propensity are important mediators in investment decisions. The effects of risk perceptions play central role in mediating the investor decision making behavior [28]. An investor’s propensity to risks may have a significant impact on his decision-making under risk, where risk refers to how far they extend their exposure to risk [16].

The opportunity framing and gain situations increases the perception of opportunities, thus leading to more risk-seeking investment decisions whereas the loss situations and framing of threat results in an increased threat perception and more risk-averse decisions.

**Hypothesis 8:** Risk perception has a mediator relationship with risk propensity in risky investment decisions.

**Hypothesis 9:** Risk perception has a mediator relationship with the impact of problem framing on risky investment decisions.

Nwezeaku et al. [32] indicates that the level of information asymmetry can be characterized by the risk of investing with a privately informed investor. Thus, the less the investors share the same information, the more will be level of risk perception towards the stock market.

**Hypothesis 10:** Risk perception has a mediator relationship with the effect of information asymmetry on risky decision-making behavior.

**DISCUSSION AND PRACTICAL IMPLICATIONS**

The objective of this study is to develop a risky decision-making behavior model to examine the role of various psychological factors which affect investment decision of investors, which is an extended form of Sitkin and Pablo model. This study along with the previous studies have clearly pointed out that propensity to take risk is a critical factor affecting the investor’s decision making behavior [8, 9, 35]. The expectations of returns from the investments strengthen their investment behavior although they perceive risk towards the investment decisions [8]. Traditionally, impact of problem framing has been evaluated in very controlled settings using simple scenarios, with the manipulation of gains and losses made very salient to decision makers. The finding that problem framing is partially mediated by risk perceptions is potentially important in that it extends previous research on framing effects [16, 27]. The present study implies that investor who wishes to either increase or decrease the risk taking attitude can effectively achieve his target by analyzing problem framing and other determinants of risk perception. This study also hypothesizes the relationship between asymmetric information and risk perception of investors while making decisions. The basic knowledge of investment like asymmetric information, investors’ biases and risk in the investment environment should be required for the investors [34]; thus enabling them to quickly acquire confidential information and make decisions based on fair and accurate assessment of the stock market [36].

The finding that the mediator variables strongly predict the risky decision-making behavior provides a prospect to more efficiently expect investor’s risk behavior [13]. Thus it provides a clear support for the importance of risk perception as a crucial influence on
investor’s risk-taking behavior, an influence that mediates the effects of other factors on decision making behavior.

Overall, this study will be helpful in exploring the intensity of the strength and weaknesses of these factors, which in turn will help us to determine how much weight is attached to each independent variable by the investors when they make their decisions. From a corporate perspective, it will help by providing an insight on the decision making and raise awareness to the issue of subjectivity and performance, prompting them to help reduce these biases to improve profitability.

CONCLUSION

In order to understand irrational behaviors of investors in the investment decisions, a risk perception mediated model has been developed to test the impact of different behavioral variables on the investment decisions. On the basis of previous studies it can be concluded that the asymmetry of information, risk taking behavior and decision context affect the perceptions of risk associated in a particular investment situation. Considering risk propensity as an influential factor, it is valid to believe that a risk-averse individual is more likely to avoid risky decisions than a risk-seeking individual, who is more likely to make risky decisions.

Psychological studies have shown that risk perception can be greatly influenced by the framework in which investors are when they make investment decisions [37]. Thus it can be said that stock market and investment situation influences the perceived risk of the investor; especially, information asymmetry is retained as an important explanatory factor of risk perception. Flow of information like decisions made by government bodies, media news etc. causes the stock prices to move up or down. Due to this behavior of stock market and due to new information, stock investors make their investment decisions [38]. According to the prospect theory, positively framed situations results in risk-averse investment decisions, whereas situations negatively framed, results in risk seeking. Framing directly affects how risky a situation is perceived to be, which in turn leads to the behavioral outcomes they observed. Positive framing, i.e. telling that glass of water is half-full rather saying that it is half-empty, effects perception of risk and vice versa.

The study can be further expanded in the future by using various other behavioral and psychological factors such as heuristics, emotional biases etc which may have a significant impact on the investor’s decision making behavior. As only a sub section of the Sitkin and Pablo model has been taken in this study so future studies may examine the other variables identified in their study. Furthermore, the impact of variables discussed in this model should be empirically tested.

REFERENCES

