Saqlain Latif Satti[1], Siah Ud Din[2], Nasir Ali[3]

INVESTOR KNOWLEDGE, RISK AVERSION, AND INVESTMENT DECISION

Risk is an important factor in maximizing individual wealth. Investors search information to reduce the uncertainty associated with investment decisions. The study demonstrates psychological factors of risk aversion and risk reducing strategies in the investment decision-making process. The study extends the risk reducing strategies and investor decision-making model to discuss investor knowledge. The purpose of the study is to express the effect of investor knowledge on information search and investment decision. The findings of the study illustrate that investor knowledge can simplify information search and investment process. Investor with more knowledge can make investment decisions on the basis of his knowledge and experience.

Keywords: *investor knowledge, advice-seeking information, information search, heuristics, digital information.*

Саклейн Латіф Сатті, Сіа Уд Дін, Насір Алі

ІНФОРМОВАНІСТЬ ІНВЕСТОРІВ, НЕПРИЙНЯТТЯ РИЗИКУ Й УХВАЛЕННЯ ІНВЕСТИЦІЙНИХ РІШЕНЬ

У статті обгрунтовано, що ризик є важливим чинником максимізації прибутку. Інвестори шукають інформацію для зменшення невизначеності, пов'язаної з інвестиційним рішенням. Показано психологічні чинники неприйняття ризику і стратегій скорочення ризиків в процесі ухвалення інвестиційних рішень. Доповнено стратегії зниження ризиків і моделі ухвалення рішень інвесторами, досліджено інформованість інвесторів та її вплив на пошук інформації і ухвалення інвестиційних рішень. Результати дослідження показали, що інформованість інвесторів може спростити пошук інформації та інвестиційний процес. Інвестор із повнішою інформацією може приймати рішення, виходячи зі своїх знань і досвіду.

Ключові слова: *інформованість інвесторів, консультаційна інформація, пошук інформації, евристика, цифрова інформація.*

Літ. 53.

Саклейн Латиф Сатти, Сиа Уд Дин, Насир Али

ИНФОРМИРОВАННОСТЬ ИНВЕСТОРОВ, НЕПРИЯТИЕ РИСКА И ПРИНЯТИЕ ИНВЕСТИЦИОННЫХ РЕШЕНИЙ

В статье обосновано, что риск является важным фактором максимизации прибыли. Инвесторы ищут информацию для уменьшения неопределенности, связанной с инвестиционным решением. Показаны психологические факторы неприятия риска и стратегий сокращения риска в процессе принятия инвестиционных решений. Дополнены стратегии снижения рисков и модели принятия решений инвесторами, исследована информированность инвесторов и влияние ее на поиск информации и принятие инвестиционных решений. Результаты исследования показали, что информированность инвесторов может упростить поиск информации и инвестиционный процесс. Инвестор с более полной информацией может принимать решения, исходя из своих знаний и опыта.

[1] Department of Management Sciences, Iqra University, Islamabad, Pakistan.
[2] Iqra University, Islamabad, Pakistan.
[3] Finance Department, College of Business Administration, King Saud University, Riyadh, Saudi Arabia.

Ключевые слова: *информированность инвесторов, консультационная информация, поиск информации, эвристика, цифровая информация.*

1. Introduction. Risk is involved in every type of investment. Risk refers to the probability of financial loss or making bad decisions. Investment in mutual funds does not offer assured returns. The returns of mutual funds are associated with their performance. All investments entail a factor of risk. Risky investment is a way to increase individual wealth. Investment decisions are choices on future spending as well as purchasing of stock and funds, which includes both high uncertainty and high perceived risk. When faced with uncertainty about the results and high risk perception, an individual may estimate financial loss, which in turn develops strategies for risk reduction (such as sourcing information) to reduce the risk (Lee and Cho, 2005; Fisher and Statman, 1997; Taylor, 1974; Howcroft et al., 2003), and then take suitable decisions. Individuals are regularly faced with risk management decisions related to their investments in mutual funds and stocks. When making investment decisions individuals may rely on information search and past experience. When making investment decisions, new information is being acquired rather than just relying on past experience. 2 common means of information search are digital information and seeking advice (Loibl and Hira, 2009; Baker and Nofsinger, 2002; Jonas and Frey, 2003). Advance in information technologies of searching information in the web makes it easier for individuals to search additional information, resulting in information access (Shenk, 1997; Johnson, 2001; Lee and Cho, 2005). Lee and Cho (2005) stated that information intermediary simplifies the decision-making process of individual investors and affects the possibility of using other simplified information sources and relying on financial advisors (Peress, 2004). Similarly, risk aversion could indeed be a powerful determinant of risk-taking, for risky investment digital information exploration of the Internet obtains investors' trust and helps their economic success (Tseng and Yang, 2011).

Individuals may use heuristics to reduce the uncertainty associated with information process and simplify the decision making process (Simon, 1990). However, heuristics considered as a framework in which suitable investment decisions are made and individual can select information according to an effort reduction framework (Shah and Oppenheimer, 2008). Nevertheless, dependence on heuristics for perceptive decision under hesitation may guide to serious miscalculations (Tversky and Kahneman, 1974). Several studies on why individuals use heuristics have illustrated that individuals will endure from both information overload (Lee, and Cho, 2005; Peress, 2004) and investment complication (Fisher and Statman, 1997). Thus, the study of Tseng and Yang (2011) concluded that reliance on heuristics or more advice seeking information enhances mutual fund investments. Investor financial knowledge is the ownership of knowledge and understanding of financial issues. Investor's financial knowledge is mostly used in association with personal finance. (Alba and Hutchinson, 1987) concluded that financial knowledge is the information that is structured and stored in memory. Investors can recover, utilize, retrieve, and revise their knowledge on financial matters to make intrinsic and supportive possessions of the knowledge itself and formulate interpretation and explanation concerning their

investment choices (Alba and Hutchinson, 2000). However, limited empirical support is available to situate the relationship between investor knowledge and investment decision-making. Individuals will not be capable of making better investment decisions, if they have less financial knowledge. However, individuals having more financial knowledge can reduce their efforts on information search and make investment decisions. The study of Tseng and Yang (2011) recommended that investor knowledge and understanding may affect the information search behavior and investment choices (Howcroft et al., 2003). The study extends the investment decision-making process by examining investor knowledge as an important factor that may affect the information search process and decision-making behavior. The purpose of the study is to investigate the influence of risk aversion and investor financial knowledge on the information search process and decision-making behavior. Individuals with the ability to classify information can categorize their information compared to individual aspects (Chang, 2004; Cohen, 1982; Fiske, 1982). Accordingly, superior level of purposive knowledge assists individuals in elaborating information while actual knowledge assists individual investors to assimilate information on mutual fund (Chang, 2004; Hallahan, 2000a).

2. Literature Review. Risk aversion influences individual decision-making under hesitation (Sitkin and Weingart, 1995; Shefrin and Statmam, 1985; Weber et al., 2002). Kahneman and Tversky (1979) supposed that under risky investment decisions individual is irrational and has an unpredictable risk propensity. Kahneman and Tversky (1979) stated that an individual tends to be "risk-averse in choices involving sure gains and to be risk-seeking in choices involving sure losses". Similarly, other studies illustrated that individual behavior related to risk aversion or risk seeking is inconsistent across various circumstances due to different factors (Sitkin and Weingart, 1995). Other studies generally examine the impact of risk aversion on an individual's risk decision making behavior (Shum and Faig, 2006; Howcroft et al., 2003; Fisher and Statman, 1997). Sitkin and Weingart (1995) found empirical evidence for "the value of retaining the risk propensity construct in theories and empirical research". They found that risk-averse decision makers tend to overvalue the probability of loss relative to the probability of gain, and therefore avoid making riskier decisions. However, risk aversion negatively and highly significantly affects stock holdings, and significance is consistent across time (Shum and Faig, 2006). Pennings and Smidts (2000) demonstrated that more risk-averse individuals "express stronger intentions to reduce the fluctuations in net income". Hence, they are less expected to acquire riskier investments and are even more eager to pay expert advice when high degree of uncertainty is involved (Lee and Cho, 2005; Howcroft et al., 2003). Risk aversion also influences information search. Under conditions of uncertainty, risk-averse individuals tend to "weight potentially negative outcome more than positive outcome" (Sitkin and Weingant, 1995), therefore overrate the probability of loss. However, Cho and Lee's (2006) model of risk and risk-reducing strategies construct the negative effect of risk tendency on information searches, including the quantity of information search and the probability of seeking advice from professionals. Experimental studies found that susceptibility for risk taking has a considerable negative connection with the amount of information (Yeoh, 2000; Taylor and Dunnette,

1974). Individuals with more risk-averse behavior preferred seeking assistance from experts (Money and Crotts, 2003; Welsch and Young, 1982).

The Taylor's (1974) theory of risk taking is applied in this paper. Risk aversion is considered as individual psychological factor, investor knowledge is referred as important individual factor that may affect the risk taking behavior and investment decision-making, and information search is considered as the improvement of risk-reducing strategies. Accordingly, this study extends to discussing the important risk-reducing strategies and the important individual factor investor knowledge which may affect information search, and investment decision-making. The behaviors related to financial matters are positively linked with a superior level of investor financial knowledge (Edmiston and Gillett-Fisher, 2006). However, limited research has directly scrutinized the association between investor financial knowledge and risk taking in investment (Lyons et al., 2006). The study of Tseng and Yang (2011) suggested that investor knowledge and understanding may affect the information search behavior and investment choices (Howcroft et al., 2003). Risk aversion has acknowledged extensive research due to its critical role in decision-making under uncertainty. Several studies illustrate irrational risk tendency or inconsistent risk aversion in different situations (Kahneman and Tversky, 1979; Weber et al., 2002). In addition, risk-averse individuals tend to overvalue the probability of loss (Sitkin and Weingart, 1995), which leads investors to a stronger desire to avoid risk. This propensity is the main aspect in the influence of risk-aversion to risk-taking processes, such as in declining the attention to buy risky investments (Howcroft et al., 2003; Shum and Faig, 2006) or increasing attainments for information search (Taylor and Dunnette, 1974; Yeoh, 2000). Information plays a significant role in the model of risk taking in consumer behavior developed by Taylor (1974), which explains 3 primary phases of individual decision-making under uncertainty. The first phase is concerned with individual psychosomatic factors. The second phase demonstrates the development of risk reducing strategies, where individuals evaluate potential financial loss and underline information search and management. The final phase specifies the decision to purchase. Under uncertainty risk reducing strategy, acquiring information has obtained broad study (Lee and Cho, 2005; Peress, 2004; Yeoh, 2000; Taylor and Dunnette, 1974). Most studies focus on advice seeking and digital information.

Digital information is an important factor in investment decision-making and is more valuable. Earlier studies on individual investment decision-making investigate the factors affecting individual investor behavior, based on financial perceptions. These key factors characterize the criterion of typical wealth maximization and corporate accounting information (Nagy and Obenberger, 1994), including anticipated dividends (Clark-Murphy and Soutar, 2004; Nagy and Obenberger, 1994; Baker and Haslem, 1974; Potter, 1971), economic uniformity (Clark-Murphy and Soutar, 2004; Baker and Haslem, 1974; Nagy and Obenberger, 1994). These economic factors described as digital information in the study are the principal concerns in individual investment decisions, alone and in the mix with several other variables linked to individual investment decision-making (Nagy and Obenberger, 1994). They remain important standards, for investors seem more concerned about human expertise in business management (Clark-Murphy and Soutar, 2004). Advice seeking information

search is specifically more important because investors have a wide range of choices of investment products due to diversification in financial investments (Warren et al., 1990). This greater choice guides people to formulate their investment decisions in the situations of growing complication and uncertainty (Clark-Murphy and Soutar, 2004) due to lack of understanding of several risky investments (Fisher and Statman, 1997; Howcorft et al., 2003). This leads individual investors to seek advice and instructions from professional consultants (Fisher and Statman, 1997), specifically face-to-face interaction when deciding more composite or riskier investments (Howcorft et al., 2003). Research on financial investment reveals a positive correlation between the information acquiring from advice and risky investments (Howcorft et al., 2003; Peress, 2004; Shum and Faig, 2006). Peress (2004) suggested that the need for costly but accurate information acquired individually from professionals might stimulate investors to seize more stocks.

Heuristics are the techniques individuals employ to reduce the efforts connected with a task (Simon, 1990; Shah and Oppenheimer, 2008). Restricted to bounded rationality (Simon, 1955, 1990), individuals utilize heuristics as "methods for arriving at satisfactory solutions with modest amounts of computation" (Simon, 1990) to decrease the effort they spend on decision-making. Shah and Oppenheirmer (2008) demonstrated that heuristics are "the methods that use principles of effort-reduction and simplification". Heuristics are linked to cognitive biases. Heuristics are generally useful for simplification of information processes (Shah and Oppenheimer, 2008; Baker and Nofsinger, 2002; Tversky and Kahneman, 1974), although dependence on heuristics from perceptive opinion under uncertainty may lead to serious errors (Tversky and Kahneman, 1974). Shefrin (2000) concluded that investors with the purpose to purchase stocks with attractive qualities, such as companies having high sales growth and producing high earnings (Baker and Nofsinger, 2002) but individuals who spontaneously employ such forecasts are likely to disregard deliberation of inevitability (Tversky and Kahneman, 1974). The truth that investors can confound good companies with good investments may guide to representativeness bias (Baker and Nofsinger, 2002; Shefrin, 2000), a form of cognitive bias (Tversky and Kahneman, 1974). Several studies demonstrate the significance of heuristics in decision making, such as the use of heuristics to develop quick knowledge in vibrant situation (Krabuanrat and Phelps, 1998), and the possible use of heuristics in the selection of investment funds (Hedesstrom et al., 2007). According to the consumer risk taking model developed by Taylor (1974), individuals obtain information under uncertainty to reduce risk and subsequently choose to purchase. The more information consumers have, the higher the probability of better decisions they will formulate, the information may be costly to acquire, compared to its benefits (Loibl and Hira, 2009). Peress (2004) stated that expensive information acquisition, such as advice of experts, stimulate individual investors to purchase more stocks. Shah and Oppenheimer (2008) hypothesize that the use of heuristics can simplify the decision-making process of investors.

Furthermore, based on effort-reduction framework developed by Shah and Oppenheimer's (2008), people use simplified and effort-reducing strategies, for instance heuristics (Shah and Oppenheimer, 2008; Simon, 1990) and advice from

professionals (Ratneshwzr and Chaiken, 1991), to reduce the complication of information utilized. Accordingly, the hypothesis is proposed, due to overloaded digital information (Lee and Cho, 2005; Peress, 2004), digital information search is positively correlated with advice-seeking information search and heuristics. Investor financial knowledge literature provides 2 main ideas that might elucidate the correlation among investor financial knowledge and risk taking behavior. The former idea reveals that excellent financial behaviors are absolutely linked to superior levels of investor financial knowledge (Edmiston and Gillett-Fisher, 2006). The next idea depicts that investor financial knowledge and understanding definitely affect financial knowledge and performance (Lyons, Palmer, Jayaratne, Scherpf, 2006), though limited research has directly examined the connection between investor financial knowledge and investment risk taking (Lyons et al., 2006). Particularly, limited experimental support is obtainable to reveal the impacts of investor knowledge on risk taking and investor decision making. Investor financial knowledge is the information that is educated, structured, symbolized and accumulated in memory (Alba and Hutchinson, 1987). Investors can revise, utilize, and recover their knowledge about financial matters and utilize the knowledge and information in making interpretation and explanation regarding their investment preferences (Alba and Hutchinson, 2000).

Investors with financial knowledge can process financial information on mutual funds easily because preliminary classification is accessible to process information. Individuals with the ability to classify information can categorize their information rather than depending on personality features (Chang, 2004; Cohen, 1982; Fiske, 1982). Accordingly, superior level of purposive knowledge assists individuals to elaborate information because actual knowledge assists individuals assimilate the information concerning mutual funds (Chang, 2004; Hallahan, 2000a). By matching new information with the information already known, investors can take advantage of objective knowledge, in order to expand information acquisition (Wang, 2006). An investor having less knowledge may not be able to process financial information regarding the matters on mutual funds because the primary classification of information is not accessible regarding mutual funds. Because of their inability to categorize information less knowledgeable investors should develop the information based on individual characteristics concerning mutual funds (Chang, 2004; Cohen, 1982; Fiske, 1982). However, investors with less objective knowledge do not facilitate investors to elaborate information since less objective knowledge may not assist individuals to assimilate information (Chang 2004; Hallahan, 2000a). Wang (2009) concluded that investors with less financial knowledge in mutual funds may find it more complicated to process information as compared to the investors with more financial knowledge who may find it easier to process information regarding mutual funds.

Discussion: The study empirically examined the effect of heuristics on risky investment preferences, thereby extending the understanding of the impact of investor knowledge on information search and investment decision-making. The results show that information search is an important determinant of risk-taking for risky investment choices. The study finds considerable support for the influence of heuristics, although limited support for the influence of both digital and advice seeking information. Heuristics has strong positive effects on both stocks and mutual fund

investment choices. This result reflects Kozup et al.'s (2008) explanation of a considerable effect of previous fund performance on fund evaluation. Since Krabuanrat and Phelps (1998) advocate that, the use of heuristics progress quick learning and adapting in energetic investment circumstances. Possibly by getting experience from investment experience (Shah and Oppenheimer, 2008), investors find that heuristics can assist them to accomplish projected returns (Peress, 2004) in a simple way. This easy approach offers a quantity of information that is voluntarily accessible and simply understood (Kahneman and Frederick, 2002; Gigerener et al., 1999) to assess a difficult investment task. Therefore, the use of heuristics might stimulate investors have more concern in risky investments.

The results of the study depict that advice-seeking information searches strong direct and positive effect on mutual fund investment preferences, specific advice from experts. Extensive information acquisition such as advice from professionals may stimulate investors purchase more stocks (Peress, 2004). The findings of the study are also consistent with Loibl and Hira, (2009) who demonstrated that the more information consumers have the higher is the probability to make better decisions. Expensive and precise information generates projected or even additional return for individual investors in mutual fund investments, thus escalating their mutual fund choices. Digital information searching is one of the most important factors considered in investment decision-making. Additional digital information search augments advice-seeking information search, which consecutively enhances individual concentration in mutual fund choices. These findings reflect Thaler et al. (1997) and Gifford's (2001) recommendations that more information is not constantly better. Nevertheless, additional information might be better if it arises from the investment knowledge of people in more composite investments, for instance, mutual funds (Fisher and Stateman, 1997; Howcorft et al., 2003; Lee and Cho, 2005). Additional digital information search also enhances the reliance on heuristics, which preferentially enhances individual involvement in risky investments. These findings present an empirical support for the suggestion that individuals are more expected to use heuristics generalization to reduce the amount and complication of information (Baker and Nofsinger, 2002; Shah and Oppenheimer, 2008; Tversky and Kahneman, 1974).

3. Conclusion. Several studies on investor knowledge and investment decision-making behavior demonstrate that investor knowledge has significant impact on information search and investment decision-making. However, individuals having more financial knowledge regarding mutual funds can reduce their efforts on information search and investment choices. The study concluded that investors with less financial knowledge may find it more difficult to process information compared to the investors with more financial knowledge and may find it easier to process information regarding mutual funds. The study further concludes that the level of investor knowledge determines the level of information search, and both investor knowledge and information exhibits investor investment preferences. Studies on information search and risk-reducing strategies in risky investment decisions focus on advice-seeking information and digital information search. The study demonstrates the information search strategy heuristics reliance, an easy information search method. The findings of the study reveal that the level of risk aversion indicates the level of

information search effort, and both risk aversion and information demonstrate investment choices. Explaining 2 dimensions of direct and indirect investments, the findings of the study conclude that risk aversion has a significant positive effect on direct investments and an indirect influence of risk aversion on indirect investments through information search, because risk aversion and information search are essential contributing features under uncertainty. The study extends the discussion on investment decision-making behavior and risk reducing strategies by explaining the relationship between investor financial knowledge, information search, and investment preferences.

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