*Iranian Journal of Management Studies (IJMS)* *http://ijms.ut.ac.ir/*
*Vol. 11, No. 2, Spring 2018* *Print ISSN: 2008-7055*
*pp. 407-424* *Online ISSN: 2345-3745*
*DOI: 10.22059/ijms.2018.246392.672920*

# Dynamics of Risk Perception Towards Mutual Fund Investment Decisions

**Sujit Deb[1], Ranjit Singh[2]***

*1. Faculty of Management Studies, ICFAI University Tripura Kamalghat-799210 Tripura, India*
*2. Department of Management Studies, Indian Institute of Information Technology Allahabad-211012 Uttar Pradesh, India*

(Received: November 23, 2017; Revised: May 15, 2018; Accepted: May 21, 2018)



## Abstract

The present paper measures the risk perception of the bank employees in respect of investment in mutual fund and to identify the factors affecting risk perception. The paper also attempts to find out the impact of these factors on overall risk perception. The study is based on primary data collected by using questionnaire from the bank employees in Tripura state of India. For the analysis of data, Cronbach's alpha, factor analysis, binary logistic regression, mean and standard deviation, and etcetera are used. It is found that bank employees' overall level of risk perception is moderate. There are three factors that affect the overall risk perception namely fear psychosis, lack of knowledge, and lack of confidence and these three factors have impact on the investment decision employees are making with regard to investment in mutual fund. The study is the first of its kind and hence original in nature.

## Keywords

Bank employees, risk perception, investment behavior, factor analysis.

* **Corresponding Author, Email:** look_for_ranjit@yahoo.co.in

## Introduction

Mutual fund collects the savings of a large number of small investors and invests the same in the capital market and transfers the benefits to the investors (Kumar, 2011). Since it is managed by the expert fund managers, investors do not need to monitor the market (Sindhu & Kumar, 2014). However, it is not risk-free. The return from mutual fund is subject to market risk. Out of several factors identified by the researchers affecting the investment in mutual fund, one such trait is risk perception (Weber & Milliman, 1997**).** The impact of risk perception of investors on their investment behaviour is a rising issue in research (Singh & Bhowal, 2010a).

Risk perception is the approach of the investors to have an understanding and feeling, on the basis of their experience, of the risk inherent in an asset (Singh & Bhowal, 2008), and it plays a vital role in making decision in risky situations (Sindhu & Kumar, 2014).

## Background of the Research

Risk is probability of deviation of actual return from expected return. Risk is playing a key role in influencing investors' investment decisions (Yang & Qiu, 2005). Of late, investors are seen to have a large number of choices for making investments (Kida et al., 2010). It is seen that investors are used to switch their investment from one type of investment or from one fund to another. The decision to switch their investment is affected by investor's perception of risk (Lenard et al., 2003).

Fischhoff (1994) stated that mental interpretation is one of the processes of building an internal model of environment and therefore, perception is considered to be the psychological understanding of physical feelings given by the stimulus from the external world. The term risk perception is a subjective judgment. It is related to the understanding of the people about the uniqueness and rigorousness of a risk. It assesses the views of people about the dangerous activities, stuffs, and know-how (Slovic, 1987). It plays a vital function in decision making of people. It is on the basis of risk perception, different people either move towards or stay away from different alternatives supposed as risky or otherwise (Weber & Milliman, 1997).

## Literature Review

### Impact of Risk Perception on Investment Behaviour

Singh and Bhowal (2009) found that risk perception level of individuals affect their investment in equity shares. Chancy decision-making behaviour is prejudiced by risk perceptions (Sitkin & Weingart, 1995; Sitkin & Pablo, 1992; Riaz et al., 2012). Investors' expected return is also governed by the level of his/her risk perception (Yang & Qiu, 2005). Investors' perceptions display important altering over the path of the catastrophe, with risk perceptions being less unstable than return outlook (Hoffmann, Post, & Pennings, 2013). The decision to switch funds among different avenues is affected by investor's attitude towards risk (Lenard et al., 2003). Moreover, high gain with a low level of risk, safety and liquidity are important considerations for investment in mutual fund by a small investor (Rathnamani, 2013).

While investing in risky assets such as mutual fund, people attempt to establish a balance between risks and return (Fischer & Jordan, 2006). Besides, people try to avoid risk for the same level of return (Kahneman & Tversky, 1979). Understanding about mutual fund investment by the people is very complex. Even the experienced investors make mistake in assessing the mutual fund and equity shares (Kida et al., 2010). The level of risk perception of individuals influences their investment in equity shares (Singh & Bhowal, 2009). Investment in mutual fund is an indirect investment in equity shares. Hence, it is expected that investment in mutual fund is also affected due to the risk perception of the people. Singh and Bhowal (2010a) found that mutual funds are perceived as relatively less risky than equity shares. Singh (2009) found that mutual funds are preferred more among the employee investors than the direct investment in equity shares. From the above literature, it is clear that risk perception of investors have influenced their behaviour with respect to investment in mutual fund. Therefore, in this study, impact of risk perception on mutual fund investment is considered to be studied.

**Rationale of Studying Risk Perception**

Risk perception is a vital constituent in several assessments and hence, psychologists are continuously attempting to find out one best way of measuring risk perception. Singh and Bhowal (2008) established that risk perception of an individual can be controlled provided a person is aware of the different aspects of his/her risk perception as well as the reason for the given risk perception and therefore, authorities entrusted with the job of framing policies should strive to measure the risk perception of individuals to manage it and implement several policies (Bhowal & Singh, 2006).

**Reason for Choosing Bank Employees**

Bank employees are considered to possess relatively higher degree of financial literacy than any other member of the society. Recently, most of the banks have started their own asset management companies and thus, they are promoting mutual funds under their own brand name. Such mutual funds are not only perceived to be relatively less risky but also more preferred over other mutual funds by the bank employees (Singh & Bhowal, 2010a).

Therefore, risk perception of bank employees towards mutual fund is an emerging area of research. The investment decision of an investor, which is influenced by unavoidable psychological and emotional factors, is also affected by their outlook towards risk. With the changing level of risk perception, the investment decisions of individual investors also keep on changing. Therefore, the present paper attempts to study the influence of risk perception of bank employees towards their investments in mutual funds.

**Measuring Risk Perception Related to Investment**

It is already established that risk perception needs to be measured in order to manage it. Various authors attempted to measure the risk perception. MacCrimmon and Wehrung (1990) have measured the risk propensity. Sitkin and Pablo (1992) and Sitkin and Weingart (1995) re-conceptualized and highlighted the determinants of risk perceptions. Powers (2009) established association connecting risk and return. Doff (2008) investigated risk measurement methods. Singh and Bhowal (2011), Deb and Singh (2016), and Singh (2012) have measured risk perception in financial securities. From the above review of literature, it is evident that there is little research done to assess risk perception level of bank employees with respect to their investment in mutual funds, who are directly dealing with financial product and expected to be financially literate.

In the present study, the risk perception of the bank employees has been assessed in respect of mutual fund. Risk perception is measured using the tool developed by Singh and Bhowal, (2011) and Singh (2012). In the present study, several characteristics of mutual funds are considered and respondents' perception towards them are attempted to be taken in order to assess their level of risk perception as a latent variable.

## Research Objectives and Questions

### Objectives of the Study

The objectives of the present study are as follows:

a) To ascertain the level of risk perception of bank employees in Tripura of India in respect of their investment in mutual fund;
b) To find out the impact of risk perception on their investment in mutual funds;
c) To identify the factors affecting their risk perceptions towards mutual fund;
d) To find out the impact of identified factors of risk perception towards mutual fund on their investment in mutual funds.

### Hypotheses of the Study

Singh and Bhowal (2009) have found that equity share investment is influenced by the risk perception of the investors. Mutual fund is also indirectly investing in equity shares. Singh (2009) reveals that employees prefer to invest in equity shares through that indirect route of mutual fund. Deb and Singh (2016) found that risk perception towards mutual fund and investment in mutual funds are inversely related. This has given the drive to structure the following hypotheses:

The null hypotheses formulated for the study is given below:

**$H_{01}$:** There is no significant association between risk perception and investment in mutual fund by the bank employees in Tripura, India.

**$H_{02}$:** There is no significant association between factors affecting risk perception of individual investors and their investment decision towards mutual fund.

### Research Questions

a) What is the bank employees' overall level of risk perception in Tripura?

b) What are the factors that affect the risk perception of bank employees towards mutual fund?

### Research Methodology

The following points are given to highlight the research methodology used in the study:

### Population of the Study

The population of the study is the total numbers of bank employees in Tripura who are employees of a bank which is having an own sponsored mutual fund. The total numbers of such employees as on 1st July, 2015 are 815.

### Sampling Unit and Sample Size

A sample size of 262 employees (a bank employee is the sampling unit in this study) from different banks in Tripura that have their own sponsored mutual funds is chosen using simple random sampling from the population of 815 employees (as on 31st October, 2015) at 95% confidence level and at 5% confidence interval.

### Data Collection

Primary data were collected using a well-structured questionnaire. For secondary data, journals, magazines and newspapers were consulted.

### Development of Questionnaire

Based on the study made by Singh and Bhowal (2011), Deb and Singh (2016), and Singh (2012), several items were identified to measure risk perception of bank employees towards mutual fund. Some of the items were reframed; some of the items were added or dropped after having a discussion with the experts in the area and pilot study. Finally, 18 items were considered to assess the risk perception of the employees. A copy of the questionnaire is given in Appendix 1:

## Data Analysis

For identifying the factors of risk perception, factor analysis is used, and to ascertain the impact of the factors on investment decision, binary logistic regression analysis has been used. Cronbach's alpha is used to test the reliability of questionnaire. Mean, standard deviation, ratios and so on are also used to draw meaningful conclusion from the study.

## Analysis and Findings

The following paragraphs deal with the analysis and findings of the study.

### Reliability of the Tool

**Table 1.Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| 0.901 | 0.939 | 18 |

Source: Compiled from questionnaire

Cronbach's alpha was used to ascertain the reliability of the scale which was 0.901 and since it is more than 0.70, there is a high degree of reliability of the considered scale. It also reflects that the statements were highly correlated (Nunnaly, 1978).

## Measuring Risk Perception: Item Statistics

The item statistics for the risk perception of bank employees to the various items considered for the study is presented in Table 2.

**Table 2.Item Statistics**

| Particulars | Mean | Std. Deviation |
|---|---|---|
| Idea about the investment in mutual fund. | 3.2786 | 1.11187 |
| Certainty of income | 3.1641 | 0.97859 |
| Steadiness of income | 3.2710 | 0.96641 |
| Difficulty of calculating income from mutual fund investment | 3.2176 | 1.00687 |
| Understanding the complex rules and regulations of mutual fund investment | 3.1450 | 1.01424 |
| Understanding the NAV fixation mechanism related to mutual fund | 3.1527 | 1.04293 |
| Confidence of time and NAV of buying and selling mutual funds | 3.1641 | 1.00942 |
| De-motivation due to pattern of change in the NAV of mutual fund | 3.2137 | 3.31028 |
| Difficulty of tracking the daily NAV movement of mutual funds | 3.0000 | 1.11761 |
| Education required for investment in mutual fund | 2.9695 | 1.10338 |
| Others' view about the riskiness of mutual fund | 3.0649 | 0.99788 |
| Seeing others to suffer loss in mutual fund investment | 3.0076 | 0.97475 |
| Doubt on the integrity of the local agents | 3.0305 | 1.02040 |
| Awareness of place for grievance redressal | 3.0076 | 1.06491 |
| Complexity of investment in mutual fund | 3.0038 | 1.03390 |
| Selecting a particular mutual fund for investment | 2.8893 | 1.04641 |
| Fear due to reporting of mutual fund related scandals in newspapers | 2.8779 | 1.02477 |
| Likelihood of becoming a victim of fraud committed by others | 2.7137 | 1.03859 |

Source: Compiled from questionnaire

## Scale Statistics

**Table 3.Scale Statistics**

| Mean | Variance | Std. Deviation | N of items |
|---|---|---|---|
| 55.1718 | 195.262 | 13.97360 | 18 |

Source: Compiled from questionnaire

The scale chosen to assess risk perception of investors consists of 18 items which is converted into statements and the respondents were asked to rate them according to their understanding on a five-point Likert Scale. A score of 5, 4, 3, 2, 1 were given to each statement for the responses strongly agree, agree, neutral, disagree and strongly disagree respectively. Then, a total score for risk perception was found by adding the scores of all the statements related to risk perception. Maximum possible score of risk perception was 90 (18x5) and minimum possible score of risk perception was 18 (18x1). The difference between maximum and minimum possible scores was 72.

In order to ascertain the risk perception at five levels, this range was divided by 5. It was found 14.54. Adding 14.4 to 18 (lowest possible score), the very low level of risk perception range (18-32.4) was obtained. Similarly, adding 14.4 to the subsequent value, next higher range was obtained. In the following table, risk perception score is interpreted.

**Table 4. Interpretation of Risk Perception Score**

| Scale value | Interpretation of scale value |
|---|---|
| 18-32.5 | Very low level |
| 32.5-46.8 | Low level |
| 46.8-61.2 | Moderate level |
| 61.2-75.6 | High level |
| 75.6-90 | Very high level |

Source: Compiled from questionnaire

In Table 3 of scale statistics, it is seen that mean score is 55.1718 which falls in the moderate level. Thus, it can be concluded that bank employees of Tripura have moderate level of risk perception regarding their investment in mutual fund.

Overall risk perception of the entire respondents is calculated by adding their scores in the Likert scale. Then, its value is interpreted using Table 4. The overall level of risk perception is presented in Table 5.

**Table 5.Overall Risk Perception**

| Level of risk perception | Frequency | Percent |
|---|---|---|
| Very High | 11 | 4.2 |
| High | 97 | 37.0 |
| Moderate | 60 | 22.9 |
| Low | 77 | 29.4 |
| Very low | 17 | 6.5 |
| Total | 262 | 100.0 |

Source: Compiled from questionnaire

Table 5 shows that majority of bank employees in Tripura are having high level of risk perception.

## Identification of Factors Affecting Risk Perception of the Investors

Factor analysis has been done to extract the factors affecting risk perception of the bank employees in Tripura with respect to their investment in mutual fund. For this purpose, Eigen value criteria (greater than one) and Varimax Rotation criteria have been used respectively. Sample adequacy has been checked using KMO and Bartlett's test which is found to be highly satisfactory as the value of KMO is 0.937 and Bartlett's Test of Sphericity is also found to be significant. Table 6 shows the summary of the sample adequacy results.

**Table 6. Result of KMO and Bartlett's Test**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | | .937 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2797.514 |
| | D.F | 153 |
| | Significance | .000 |

Source: Compiled from questionnaire

**Table 7. Total Variance Explained**

| Component | Initial Eigen values | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 9.015 | 50.084 | 50.084 | 9.015 | 50.084 | 50.084 | 4.792 | 26.621 | 26.621 |
| 2 | 1.172 | 6.510 | 56.595 | 1.172 | 6.510 | 56.595 | 4.040 | 22.444 | 49.065 |
| 3 | 1.004 | 5.577 | 62.172 | 1.004 | 5.577 | 62.172 | 2.359 | 13.107 | 62.172 |
| 4 | .862 | 4.790 | 66.961 | | | | | | |
| 5 | .796 | 4.424 | 71.386 | | | | | | |
| 6 | .654 | 3.634 | 75.020 | | | | | | |
| 7 | .550 | 3.054 | 78.074 | | | | | | |
| 8 | .541 | 3.008 | 81.082 | | | | | | |
| 9 | .507 | 2.818 | 83.900 | | | | | | |
| 10 | .496 | 2.755 | 86.655 | | | | | | |
| 11 | .414 | 2.300 | 88.955 | | | | | | |
| 12 | .392 | 2.180 | 91.135 | | | | | | |
| 13 | .379 | 2.106 | 93.242 | | | | | | |
| 14 | .315 | 1.753 | 94.994 | | | | | | |
| 15 | .278 | 1.542 | 96.536 | | | | | | |
| 16 | .239 | 1.327 | 97.863 | | | | | | |
| 17 | .222 | 1.233 | 99.096 | | | | | | |
| 18 | .163 | .904 | 100.000 | | | | | | |

Source: Compiled from questionnaire

In the second step, it is found that three factors are loaded and with the help of these three factors, 62.172% variations can be explained. Detailed descriptions about the variables loaded in different factors are presented in Table 7.

In Table 8, the results of rotated component matrix are shown. In this case, the variables are loaded under three factors and on the basis of the arrangement, factors are named as fear psychosis, investor's lack of knowledge, and investor's lack of confidence.

**Table 8.Varimax Rotated Loading**

| Factors affecting risk perception towards mutual fund investemnt | Factor1 | Factor 2 | Factor3 |
|---|---|---|---|
| Investors' fear psychosis | | | |
| Complexity of investment in mutual fund | .487 | | |
| Likelihood of becoming a victim of fraud committed by others | .596 | | |
| Education required for investment in mutual fund | .529 | | |
| Others view about the riskiness of mutual fund | .657 | | |
| Fear due to reporting of mutual fund related scandals in news papers | .762 | | |
| Seeing others to suffer loss in mutual fund investment | .727 | | |
| Doubt on the integrity of the local agents | .707 | | |
| Awareness of place for grievance redressal | .80 | | |
| Investor's lack of knowledge | | | |
| Idea about the investment in mutual fund. | | .437 | |
| Certainty of income | | .830 | |
| Steadiness of income | | .859 | |
| Difficulty of calculating income from mutual fund investment | | .682 | |
| Selecting a particular mutual fund for investment | | .534 | |
| Understanding the NAV fixation mechanism related to mutual fund | | .552 | |
| Investors' lack of confidence | | | |
| Understanding the complex rules and regulations of mutual fund investment | | | .510 |
| Confidence of time and NAV of buying and selling mutual funds | | | .499 |
| De-motivation due to pattern of change in the NAV of mutual fund | | | .785 |
| Difficulty of tracking the daily NAV movement of mutual funds | | | .471 |

Source: Compiled from questionnaire

### Impact of Identified Factors Affecting Risk Perception on Investment Decision in Mutual Fund

To ascertain the impact of factors affecting risk perception of bank employees on the investment decision of employees with respect to investment in mutual fund, binary logistic regression is used. Investment in mutual fund is considered as the dependent variable and three factors affecting risk perception as calculated in Table 8 are the predictor variable. The dependent variable is mutual fund investment at present that is Y=0 (invested in mutual fund) and Y=1 (not invested in mutual fund). Predictor variables are identified factors affecting risk perception of bank employees. These are Factor 1 (fear psychosis of investors), Factor 2 (Investor's lack of knowledge) and Factor 3 (Investor's lack of confidence)

As dependent variable is on nominal scale and dichotomous, linear regression model cannot be used as a good model in order to find the impact of identified factors affecting risk perception on investment in mutual fund. In linear regression model, dependent variable is metric scale (interval or ratio) (Hair et al., 2009). So, binary logistic regression is suitable for this case. Moreover, it does not required normality assumption. Thus, the model is explained as follows:

P(Y=1) is the probability of not investing in mutual fund.

P(Y=0) is the probability of investing in mutual fund.

$P(Y=1) = 1 - P(Y=0)$

Here $P(Y=1)$ must lie between 0 and 1.

Regression model that will be predicting the logit, is given below:

Ln(ODD)=ln{P(Y=1)/(1-P(Y=1)}= a +b1(fear psychosis of investors) +b2(Investor's lack of knowledge) +b3(Investor's lack of confidence)

**Table 9.Omnibus Tests of Model Coefficients**

| | Chi-square | Df | Sig. |
|---|---|---|---|
| Step | 76.532 | 3 | .000 |
| Block | 76.532 | 3 | .000 |
| Model | 76.532 | 3 | .000 |

Source: Compiled from questionnaire

From Table 9, it is evident that Omnibus test of model coefficients is significant as p-value is less than 0.05. This indicates that adding variables like fear psychosis of investors, investor's lack of knowledge and investor's lack of confidence to the model have significantly increased the ability of the model to predict the decisions made by investors.

**Table 10.Model Summary**

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|---|---|---|---|
| 1 | 283.235[a] | 0.253 | 0.339 |

Source: Compiled from questionnaire

From Table 10, the Cox and Snell $R^2$ value for the fitted binomial logistic regression is 0.253 which does indicate a good fit.

**Table 11.Variables in the Equation**

| Factors of risk perception | B | S.E. | Wald | Df | Sig. | Exp(B) |
|---|---|---|---|---|---|---|
| Fear psychosis of investors | 1.037 | .166 | 38.798 | 1 | .000* | 2.820 |
| Investor's lack of knowledge | .490 | .153 | 10.286 | 1 | .001* | 1.632 |
| Investor's lack of confidence | .629 | .187 | 11.313 | 1 | .001* | 1.875 |
| Constant | .294 | .146 | 4.061 | 1 | .044* | 1.342 |

Source: Compiled from questionnaire

The variables in the equation output show us that the regression equation is:

ln(ODD)=ln{P(Y=1)/(1-P(Y=1)}=0.294+1.036(fear psychosis of investors) +0.490(Investor's lack of knowledge) +0.629(Investor's lack of confidence)

Table 11 investigates the estimated parameters. These are the ordered log-odds (logit) regression coefficients. It indicates that one unit increase in factors of risk perception, the dependent variable is expected to change from yes to no by its respective regression coefficient in the ordered log-odds scale while the other variables in the model are held constant.

It is seen that all the factors of risk perception (fear psychosis of investors, investor's lack of knowledge and investor's lack of confidence) have significant impact on investment decision in mutual fund at 5% level of significance. Investors' investment in mutual fund is influenced by three factors. Among these three factors, fear psychosis of investors is playing the highest role followed by investor's lack of confidence and investor's lack of knowledge based on their respective beta values which are mentioned in Table 11.

## Policy Implications and Conclusion

It is seen that overall risk perception of bank employees of Tripura towards investment in mutual fund is in moderate level. Overall level of risk perception is affected by three factors namely fear psychosis of employees to invest in mutual fund, their lack of knowledge and lack of confidence to invest in mutual fund. Out of these three factors, the impact of fear psychosis is relatively the highest on mutual fund investment decision.

So, in order to reduce the impact of these three factors of risk perception on mutual fund investment decision, awareness programs of mutual fund should be arranged for the bank employees. This also need adoption of adequate marketing strategy for the mutual funds (Singh & Bhowal, 2011; Singh & Bhowal, 2010b; Singh, 2011). So, policy makers should focus on designing suitable policies to improve the knowledge and confidence of employees so that they can fearlessly invest in mutual fund and in the long run the investment habit of employees towards mutual fund will change. Ramanathan and Meenakshisundaram (2015) suggested that awareness programs have to be conducted to educate the bank employees towards capital market investment and in this regard employer should take a leading role while imparting investment education to their employees (Singh & Bhowal, 2010c). By conducting these awareness programs, the climate of investment would definitely become very friendly and attractive.

## Scope of Future Research

This study is conducted only on the bank employees in Tripura. In order to generalize the findings for the whole country more such cross-sectional and longitudinal studies are required. A cross-sectional and longitudinal studies can also be undertaken by considering the investment in gold, equity shares, Unit Linked Insurance Plan and so on.

## Reference

Bhowal, A., & Singh, R. (2006, November 7-9). Bank employees risk perception as entrepreneurship culture initiator and adopter. Proceedings from *NEHU: National Seminar on Global Convergence on Commerce Education.*

Deb, S., & Singh, R. (2016). Impact of risk perception on investors towards their investment in mutual fund. *Pacific Business Review International*, *1*(2), 16-2.3

Doff, R. (2008). Defining and measuring business risk in an economic-capital framework. *The Journal of Risk Finance, 9*(4), 317-333

Fischer, D. E., & Jordan, R. J. (2006). *Security analysis and portfolio management* (6th ed.). India: Prentice Hall, 77-102.

Fischhoff, B. (1994). Acceptable risk: A conceptual proposal. *Risk: Health, Safety & Environment*, *1*(1), 1-28.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2009). *Multivariate data analysis*. Pearson Education, 40-41.

Hoffmann, A. O., Post, T., & Pennings, J. M. (2013). Individual investor perceptions and behavior during the financial crisis. *Journal of Banking & Finance*, *37*(1), 60-74.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision making under risk. *Econometrica*, *XLVII*, 263-291

Kida, T. K., Moreno, K., & Smith, J. F. (2010). Investment decision making: Do experienced decision makers fall prey to the paradox of choice. *The Journal of Behavioral Finance*, *11*(1), 11-20.

Kumar, V. (2011). Performance evaluation of open ended schemes of mutual funds. *International Journal of Multidisciplinary Research*, *1*(8), 428-446.

Lenard, M. J., Akhter, S. H., & Alamc, P. (2003). Mapping mutual fund investor characteristics and modelling switching behaviour. *Financial Services Review*, *12*(1), 39-59.

MacCrimmon, K. R., & Wehrung, D. A. (1990). Characteristics of risk taking executives. *Management Science*, *36*(4), 422-435.

Nunnaly, J. (1978). *Psychometric theory*. New York: McGraw-Hill.

Powers, M. R (2009). Rethinking risk and return: Part 1 – novel norms for non-normality? *The Journal of Risk Finance, 10*(2), 101-106.

Ramanathan, K. V., & Meenakshisundaram, K. S. (2015). A study of the investment pattern of bank employees. Proceedings from *International Conference on Management Finance Economics*, 156-162.

Rathnamani, V. (2013). Investor's preferences towards mutual fund industry in Trichy, *Journal of Business and Management*, *6*(1), 48-55.

Riaz, L., Hunjra, A. I., & Azam, R. I. (2012). Impact of psychological factors on investment decision making mediating by risk perception: A conceptual study. *Middle-East Journal of Scientific Research*, *12*(6), 789-795.

Sindhu, K. P., & Kumar, R. S. (2014). Influence of risk perception of investors on investment decisions: An empirical analysis. *Journal of Finance and Bank Management*, *2*(2), 15-25.

Singh, R. (2009). Preference for direct equity investment vs. indirect equity investment: A study on salaried investors. *Domain-The Journal of Management*, *2*(1), 23-28.

Singh, R. (2011). Equity investment culture and entrepreneurship-culture-initiation and adaptation. *Pacific Business Review International*, *4*(1), 66-71.

Singh, R. (2012). Risk perception in initial public offer of shares: A psychometric study. *Asia Pacific Journal of Risk and Insurance, 6*(2), 44-55.

Singh, R., & Bhowal, A. (2008). Risk perception: The theoretical kaleidoscope. *Vanijya*, *18,* 54 -63.

Singh, R., & Bhowal, A. (2009). Risk perception dynamics and equity share investment behavior. *Indian Journal of Finance*, *3*(6), 23-30.

Singh, R., & Bhowal, A. (2010a). Risk perception of the employees with respect to the equity shares. *The Journal of Behavioural Finance*, *11*(3), 177-183.

Singh, R., & Bhowal, A. (2010b). Marketing dimension of equity related risk perception of employees: Own company's shares vs other company's shares. *Management Insight*, *6*(2), 22-36.

Singh, R., & Bhowal, A. (2010c). Imparting investment education to employees by the employer: An Expectation-experience gap study. *Amity Management Analyst*, *5*(2), 57-65.

Singh, R., & Bhowal, A. (2011). Development of marketing driven measure of risk perception. *The Journal of Risk Finance*, *12*(2), 140-152.

Sitkin, S. B., & Pablo, A. L. (1992). Re-conceptualizing the determinants of risky behavior. The *Academy of Management Review*, *17*(1), 9-38.

Sitkin, S. B., a&nd Weingart, L. R. (1995). Determinants of risky decision-making behaviour: A test of the mediating role of risk perceptions and propensity. *The Academy of Management Journal*, *38*(6), 1573-1592.

Slovic, P. (1987). Perception of risk. *Science*, *236*(4799), 280-285.

Weber, E. U., & Milliman, R. A. (1997). Perceived risk attitudes: relating risk perception to risky choice. *Management Science*, *43*(2), 123-144.

Yang, J., & Qiu, W. (2005). A measure of risk and a decision-making model based on expected utility and entropy. *European Journal of Operational Research*, *164*(3), 792-799.

## Appendix 1

Investment in Mutual Fund: Please (√) the appropriate option

**1. Do you invest in mutual fund?**

Yes

No

**2. In respect of the following statements tick in the appropriate alternatives,**

SA: Strongly Agree, A: Agree, N: Neutral, D: Disagree, SD: Strongly Disagree

| Sl. No. | Statements | SA | A | N | D | SD |
|---|---|---|---|---|---|---|
| 1. | I have very little idea about the investment in mutual fund. | | | | | |
| 2 | There is no certainty of income | | | | | |
| 3 | There is no steady income | | | | | |
| 4 | It is difficult to calculate income from investment from mutual fund | | | | | |
| 5 | I do not understand the complex rules and regulations of mutual fund investments | | | | | |
| 6 | Investment in mutual fund is very complex | | | | | |
| 7 | It is very much likely to become a victim of fraud committed by others. | | | | | |
| 8 | It is difficult to select type of mutual fund for investment. | | | | | |
| 9 | It is difficult to understand the NAV fixation mechanism related to mutual fund | | | | | |
| 10 | I feel less confident regarding time and NAV at which mutual fund are to be bought and sold for a best bargain. | | | | | |
| 11 | Pattern of change in the NAV of mutual fund de-motivates me in regard to the investment in in mutual Fund. | | | | | |
| 12 | It is very difficult to track the daily NAV movement of mutual fund of the companies | | | | | |
| 13 | I do not have sufficient education required for investment in mutual fund | | | | | |
| 14 | Others told me that investment in mutual fund is risky | | | | | |
| 15 | Very often mutual fund related scandals are reported in papers and I am afraid of investing in mutual fund | | | | | |
| 16 | I have seen others to suffer loss in mutual fund investment rather than amassing huge money. | | | | | |
| 17 | I doubt the integrity of the local agents. | | | | | |
| 18 | In case of grievances, I am not sure where I should register my protest and get my grievances redressed | | | | | |