Scale Development and Impact of Herd Behaviour on Mutual Fund Investment Decision: an Empirical Study with Structural Equation Modelling Approach

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ABSTRACT

Herd behaviour is a common phenomenon in the Indian stock market. Herding is one of the prominent behavioural biases that investor carry along with many other popular biases. Herding behavivour means following the path that majority investors follow, and going with the market trend without verifying it on logical and rational grounds of investment. Herding behaviour is not only prevaelant in the stock market but it is equally relevant for the mutual funds investment also. The present study is empirical in nature in which data has been collected from 460 investors investing in the mutual funds. The study has been divided in two parts, firstly it develops a measurement scale on herd behaviour with the help of CFA (Confirmatory Factor Analysis) and secondly it finds the impact of herd behaviour on mutual fund decision making with the help of SEM (Structural Equation Modelling) with the help of AMOS (Analysis of Moment Structure). It was found from the study all three constructs of Herd Behaviour i.e. General Herd Behaviour, Avoid Risk and Feeling Secure and Ease & Convenience have significant impact on Mutual Fund Decision Making.

Keywords: Herd Behaviour, Confirmatory Factor Analysis, Mutual Fund Decision Making, Structural Equation Modelling

INTRODUCTION

Herd behaviour has become a very common phenomenon in the stock market and mutual fund investment. Not only this it is found prevalent in case of other financial investments also such as National Pension Scheme, Fixed Deposits, Infrastructure bonds etc. However, mutual funds are like a hybrid investment, which includes a high level of diversification. It includes moderate risk and high returns. However, due to being attached with the stock market, the returns of competitive schemes vary largely; hence, investors choose the schemes based on the market trends and AUM. Considering this, the herd behavior becomes very important in the whole case. Kameda, T. and Hastie, R. (2015) asserts that herd behavior implies that it is a coalition of ideas or manners of people within a team by localized communications between each people instead of having an aimed skill by the core member of the group. Herd behavior causes various cooperative occurrences within the age of technology, varying from day to day-communal actions, client preferences, financial growths and 'political movements'. Getting together proofs within different "behavioral science disciplines" advises that people are preoccupied with sentimental, mental and "behavioral mechanisms" which includes the excessively

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communally prone minds. All these inner installed performances are growing goods, which enhances the growth of our living. Still these reconciling instruments might be the reason for big faults in the contemporary world where coalition among people is excessively closer and exteriors resulting from each person's actions are vaster and wide ranging in comparison to the ancient surroundings where a person's psyche grew. Proofs of evolution in the "behavioral sciences" recommends that the two cooperative events that are in opposition to each other present within people i.e. dysfunctional herding as well as the wiseness of the gathering which are on the basis of alike inherent events. This means that the two seemingly conflicting global events might appear as duos generated and authorized by the communal openness of one's mindset. After knowing the commonness, comprehending of sentimental, mental and "behavioral mechanisms" which might differentiate these duos as these are considered as an imperative affair for "behavioral sciences" within the upcoming years. The imperative factor inherent in these actions of herding is an essential feature of one's mind-set that might be tagged flexibility or openness to communal rules. Scholars explain this idea as a likeness to depend on the advices of other persons, their opinions and the data generated from public communicating sites as the most important factor of preference. In comparison to other social beings, persons are unusual in enhancing communal principles and reciprocally distributed predictions that make us aware about which behavior is natural, justifiable, and correct within a known communal case. According to a research project, it is found that the mind-set of a person is structured to be open to communal principles and has the likeness to "self-sensor actions" to ignore igniting principles. It is also noted that the excessive openness to communal principles is as well imperative to our capability to educate ourselves conventionally. Individuals are ethnic beings who take complete profit of communally achieved experiences.

Actions of herding perform a crucial character in "behavioral economies" which might affect our lives in different ways. This generally is an outcome of the likeness to copy the activities of other people. Herd actions emerge essentially due to shareholders who have finite logicality that is one of the most imperative realities in "behavioral finance" research. Individuals can utilize personal and sentimental injustice when they go through various occurrences. Few scholars disagree that "regret aversion" may enhance herd actions. Shareholders that go through "regret aversion" injustice have the likeness to ignore in giving judgments, which have an outcome in activities by having a threat that the judgment might have negative outcomes. It might inspire the shareholders to save in an alike trend to ignore the load of duty and get engrossed in actions of herding. Individuals generally have the mind-set that walking on others footprints is a better option that can also restrict their upcoming years by creating repentance for bad show. Keeping in mind these researches, herd actions in the beginning emerges from the mind-set of people and communal influence. Shareholders might evaluate excessive data standards and undergo "regret aversion" injustice because of economy's arbitrary data. From this then mass mentality develops to diminish their mind-set of duty and controls the repentance of their upcoming years. If maximum assistance is provided to them, the feel more saved. The optimistic part of it is that individuals might improve their predicted results through herd actions as there is a change in the "reference point" and present shareholders might give it a thought more understandingly. Seeing things on the contrary, the obsessive herd behavior fashion might not only increase the cost of the asset and result in strategies, but as well enhance the economic fear in "credit markets". Hence, it is important for shareholders to create related steps to utilize herd actions properly, simplify the pessimistic effect by increasing data opacity, and improvise learning standard (Xu, R., 2017).

There various communal and financial circumstances that create an impact on the judgmental process about people's activities those are around us. It might be so that the most usual instances are related to our day-to-day living. Such as one usually ponders on which shop or eating house to visit, or which educational institution to go for, based on the popularity it has. However, scholars recommended that shareholders in the stock market too, usually show such behavior. Caporale, et al. (2008) informed that the herd behavior implies the common copying of each other, which leads to an occurrence of activities.

With the rise in scholars and their researches, herd action in the "stock market" with the help of estimations of spread within the economy profit at the time of noticeable shifts in the costs of the assets (Banerjee, A.V. (1992). Feng, L. and Seasholes, M.S. (2002) asserted that herding within the economy is a wide scope of research and usually related to various name calling, for instance "observational influence", "information cascades" etc. Scholars assist with a summary and a hierarchy of impacts with respect to such topic. To make a survey, estimates linked to the marketing pattern of shareholders were checked upon. Instead of employing the entire hierarchy given, only three wide causes were looked into by economists who noticed such patterns. Shareholders that make their saving judgments that are surrounded with them and mixed shareholders achieve general data from early estimates that present excessive related purchase is just a short- model partiality.

LITERATURE REVIEW

There are a numerous studies, which have been conducted in the field of herding behaviour in the mutual funds investment decision. Abreu M & Mendes V (2011) investigated and found that herd behaivour remains prevalent in the investment markets and increases the self-confidence of the investors. Jiang, H. and Verardo, M. found researches on actions of herding decipher that individuals have the likeness to walk with the herd for various causes, such as, to seem informed like others or to get informed from others.

Bikhchandani and Sharma, (2000) found that "Investors are considered to be part of a herd if they are conscious of and influenced by the actions of others". The most essential and undiscovered characteristics people in investment markets is that they are prone to crowd over the judgments of their forerunner and on the other hand, the one who are fully skilled might tend to change from their earlier activities to the extent of displaying no such herd actions. Sias, R.W. (2004) discussed that many earlier researches discloses that various kinds of organizational shareholders work in various surroundings. Varied surroundings might affect the tendency of these shareholders to herd. Additionally, various said an empirical aim of herd behavior advises particular variations in actions of herding throughout shareholder categorization. It has been noted with considerable variations through categorizations and along with faith on finance houses exposing the best of proofs of herd behavior, even if organizational shareholders under all categorization expose graphically relevant proofs of herd behavior. Wylie, S. (2005) The proofs of herd behavior were also found by U.S. "equity pension" finance heads, with extra herd behavior in small estimation of assets. Within a limited time, scholars employ the LSV method to locate powerful proof of herd behavior by U.S. money market fund administrators in assets dealing in huge heads of administrators. This initial information for research is an evidence of "portfolio holdings" of 268 U.K. equity money market funds, withdrawn from half-yearly data of shareholders from January 31, 1986 to December 31, 1993. The information was accumulated by researchers of London. A model of the resources was investigated to check the faults in the fabrication of the information, as well as the fault percentage was discerned as nil. The outcomes of this research limits to the commonness of the research on herding among finance heads. Herd behavior is located among money market fund heads in information from nation which has saving administrative organizations in comparison to that of the U.S.; here, U.K. Recent information of the "portfolio holdings" of 268 U.K. equity money market funds is hired to examine herd behavior within the U.K. money market fund administrators employing the herd estimation of other scholars.

Evidences of herding in the US market have been persistenly seen in both the situation when market was bullish and when it was bearish (Hwang and Salmon, 2004). Patro, A. and Kanagaraj, A. (2012) asserted that a report was made to scrutinize the marketing actions of the mutual funds in India and examines that if the administrators of the managers are occupied in actions of herding. There are comparisons made with early reports in well-organized and structured sectors to measure the standard

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to development of the capital market of India. Lakshman, M.V., Basu, S. and Vaidyanathan, R. (2016) tried to determine the existence of herding and if corporate shareholders affect herding. There has been a marked observation that herd behavior does exist in the Indian market. The existence of unfavourable herd actions in the Indian investing sector is appealing. Devadas, M. and Vijayakumar, T. (2019) found that "behavioral finance" has the habit of doing hidden partialities that affect the individual's thinking process. Because of the affects of the hidden partialities, shareholders are likely found to make illogical resolutions. The current discovery of "behavioral finance" has led to the decline of the conventional economic hypothesis that takes into consideration individual's sentiments while making economic.

Magar, A., et.al (2022) in this research study author has attempted to analyse the impact of financial technology (Fintech) industry in Banking as well as Mutual fund industry. The paper provides an overview of the Fintech industry and its various segments, including payments, lending, and wealth management.

Pulgam.R., Magar.A. et.al. (2022) in this research study author has attempted to study the determinant fact the cognitive biases and the emotional biases that affect investor decisions and to understand if there is any relationship between behavioural biases and investment decisions.

OBJECTIVES OF THE STUDY AND THEORETICAL FRAMEWORK

Objectives of the Study

1. To develop a measurement scale on herd behaviour of investors

2. To find the impact of herd behaviour on mutual fund investment decision of the investors

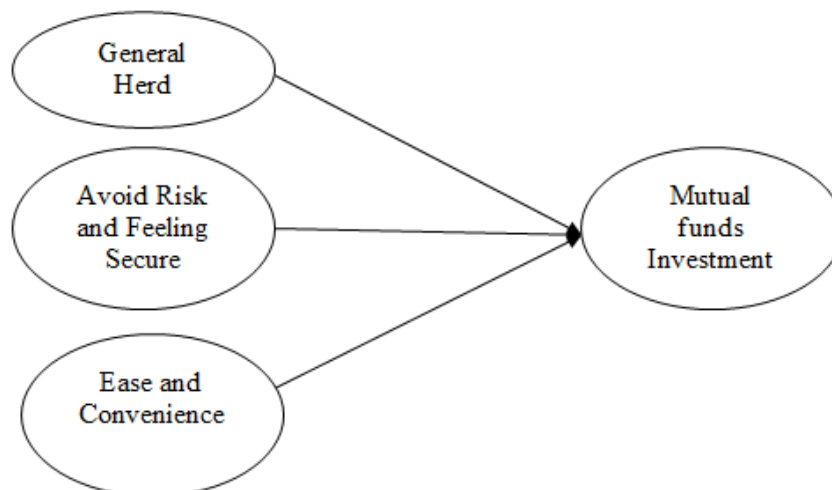### Theoretical Framework of the study

Figure 1 Research Model

RESEARCH METHODOLOGY

The present study is empirical in nature in which survey method has been used to collect the data. A structured questionnaire was used with five point Likert scale (5=strongly disagree and 1= strongly agree). The total 780 questionnaires were distributed to the respondents through online mode, out of which after 3-4 reminders 503 were received back and after removing the unengaged responses 460 questionnaires were found fit for the study.

Sampling Technique: The data have been collected in the present study with the help of the Non-Probability Judgment Sampling, the judgment criteria was that the investors who have been investing in mutual funds for last 3 years and have a minimum corpus of Rs. 2,00,000. It was ensured that all the respondents who fulfill the judgment criteria.

Validity and Reliability

There are major four constructs in this study. Three constructs are related to Herd Behaviour and one construct measures the mutual fund decision making. The reliability of these constructs have been shown in the Table 1.

Table 1 Validity measures – Herd behaviour and MFID*

Constructs of Herd Behaviour	CR	AVE	MSV	ASV
General Herd Behaviour	0.940	0.760	0.152	0.113
Avoid Risk and Feel Secure	0.920	0.697	0.123	0.098
Ease and Convenience	0.941	0.761	0.152	0.137
*Mutual Fund Investment Decision	0.917	0.649	NA	NA

Mutual fund investment decision is a dependent variable and one construct only. Since it is based on only one construct, the discriminant reliability was not applicable in this case.

DATA ANALYSIS AND INTERPRETATION

Demographic Profile of the Respondents:

Table 2 shows the demographic profile of the respondents. It is seen in the total number of 460 respondents, 60.4% are male, and 39.6% are female. In the present study it has focused that there should be a good representation both males and females. Regarding age it was found that 16.7% are from the group 18-25 years, 43.0% belongs to age group 26-45 years, 27.2% respondents are from the age group 45-60 years and rest 13.0% are from above 60 years of age group. With respect to the education profile it was found that 18.0% are having the education till class 12th, 39.3% are undergraduates and rest 42.6% are postgraduates.

Table 2 Demographic Profile of the Respondents

	Categories	Respondents	Percentage
Gender	Male	278	60.4%
	Female	182	39.6%
Age	18-25 years	77	16.7%
	26-45 years	198	43.0%
	45-60 years	125	27.2%
	Above 60 years	60	13.0%
Education	12th	83	18.0%
	Undergraduate	181	39.3%
	Post Graduate & Above	196	42.6%
Occupation	Salaried in Private	221	48.0%
	Salaried in Government or Semi-Government	112	24.3%

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	Self-employed (including professionals) or Business	127	27.6%
Investment Corpus	2,00,000 to 5,00,000	108	23.5%
	5,00,000 to 10,0000	197	42.8%
	More than 10,00,000	155	33.7%

In case of occupational profile of the respondents it was measured that 48.0% are salaried in private, 24.3% are Salaried in Government, or Semi-Government and rest 27.6% are Self-employed (including professionals) or Business. Regarding Investment corpus in Mutual Funds, it was observed that 23.5% have an investment of 2,00,000 to 5,00,000, 42.8% have an investment corpus in Mutual Funds of 5,00,000 to 10,0000 and rest 33.7% invests more than 10,00,000 in mutual funds.

Scale development of Herd Behavior:

The herd behaivour scale has been developed with the help of the Confirmatory Factor Analysis. The scale diagram has been shown in the Figure 2.

Table 3 Models Fit Indices – Herd Behaviour

Model Fit Indices	Values as per Model	Criteria	Criteria fulfilled
CIMIN/DF	2.905	≤ 3.00	Yes
CFI	0.974	≥ 0.95	Yes
GFI	0.934	≥ 0.90	Yes
AGFI	0.906	≥ 0.80	Yes
RMSEA	0.064	≤ 0.10	Yes
P VALUE	0.000	≤ 0.05	Yes

Table 3 shows the model fit indices, it may be observed from the Table that all the specifications of the Model Fit indices have been fulfilled.
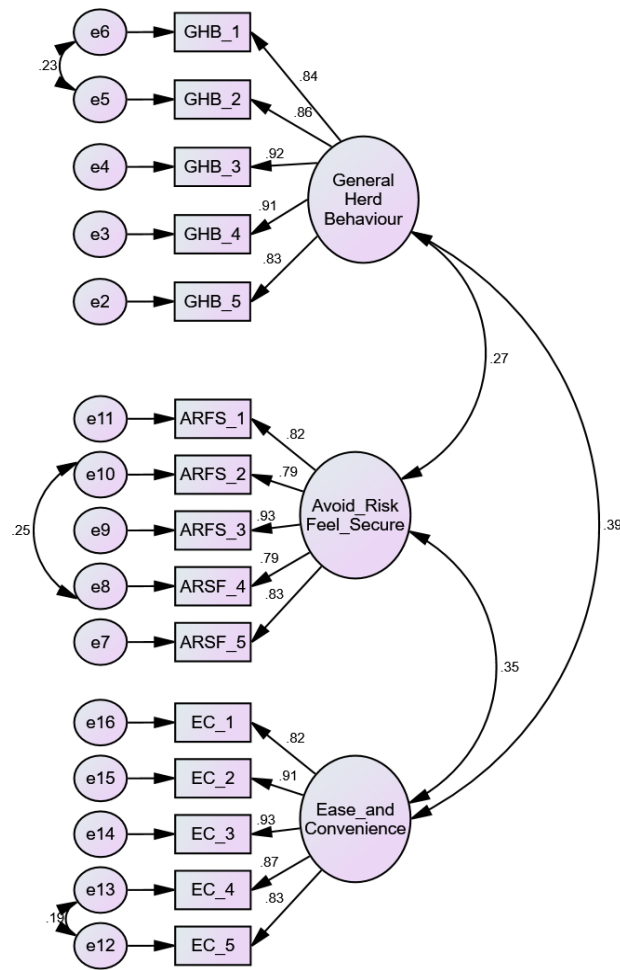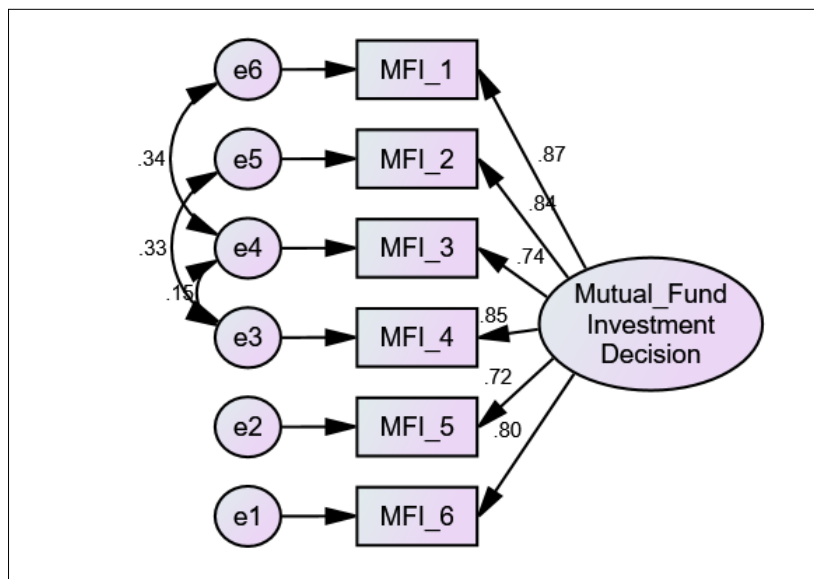
Figure 2 Measurement Scale of Herd Behaviour

Validation of Scale for Measurement of Mutual Fund Investment Decision:

Figure 3 Measurement Model of Mutual Fund Investment Decision

Table 3 Models Fit Indices – Mutual Fund Investment Decision

Model Fit Indices	Values as per Model	Criteria	Criteria fulfilled
CIMIN/DF	1.719	≤ 3.00	Yes
CFI	0.998	≥ 0.95	Yes
GFI	0.993	≥ 0.90	Yes
AGFI	0.974	≥ 0.80	Yes
RMSEA	0.040	≤ 0.10	Yes
P VALUE	0.000	≤ 0.05	Yes

Figure 3 shows the measurement model for mutual fund investment decision. The figure is a zero order CFA that has only one construct. The corresponding model fit indices have been shown in the Table 3. It may be seen from the Table that all the model fit criteria have been satisfied as per their desired values mentioned in the table, which proves that model is fit for the further analysis. RMSEA in the range of 0.05 to 0.10 is considered an indication of fair fit and values above 0.10 indicated poor fit (MacCallum et al, 1996).
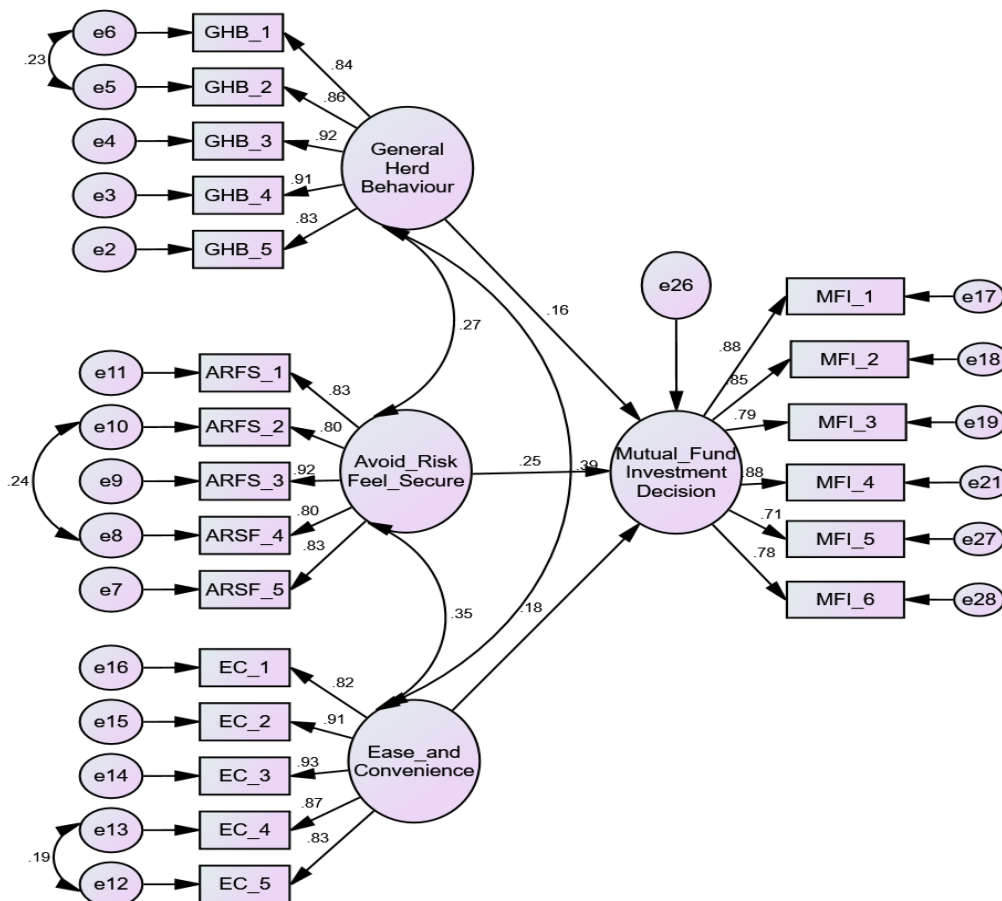
Figure 4 Structural Equation Model for Impact of Herd Behaivour on Mutual Fund Investment Decision

Impact of Herd Behaviour on Mutual Fund Investment Decision: Under the broad area of herd behaviour the following three sub hypotheses have been formed based on the constructs extracted by the EFA and further validated by the CFA:

H$_{1a}$ General Herd Behaviour Influences the Mutual Fund Investment Decision

H$_{1b}$ Avoiding Risk and Feeling Secure influences the Mutual Fund Investment Decision

H$_{1c}$ Ease and Convenience influences the Mutual Fund Investment Decision

Table 4 Impact of Impact of Herd Behaviour on Mutual Fund Investment Decision

Causal Relationships	Estimate	SE	CR	P
Mutual Fund Investment Decision <--- General Herd Behaviour	.165	.051	3.244	.001
Mutual Fund Investment Decision <--- Avoiding Risk and Feeling Secure	.259	.052	4.927	***
Mutual Fund Investment Decision <--- Ease and Convenience	.196	.057	3.417	***

Estimate – standardized beta, SE – Standard Error, CR – Critical Ratio (t – value in regression)

The p values for all the corresponding relationships are below 0.05, which means that all the null hypotheses have been supported and it was found that the 'Herd Behaviour' has a significant influence on the 'Mutual Fund Investment Decision'. The values given in the estimates for regression are - 0.165, 0.259 and 0.196 for General Herd Behaviour, Avoiding Risk and Feeling Secure and Ease and Convenience respectively which means that the Mutual Fund Investment Decision is affected maximum by the factor - 'Avoiding Risk and Feeling Secure' followed by Ease and Convenience and General Herd Behaviour.

FINDINGS AND CONCLUSION

The final scale of the herd behaviour has three major constructs namely - General Herd Behaviour, Avoiding Risk and Feeling Secure and Ease and Convenience. These constructs have been further used as independent variables in the study and their impact on Mutual Fund Investment Decision has been investigated and found significant. This shows that the investors who invest in mutual funds follow herding behaviour. The present paper finds the impact of herd behaviour on mutual funds decision making. It has been evident from the extant literature that stock market investments are subject to a large number of biases and herd behavior is a prominent biasness. In the opinion of Botsvadze, (2013) psychology of herd behaviour means when an investor does not take help of rationality and mathematical calculations when he/she takes investment decision. The literature also supports that herd behaviour is very popular in the stock market and other investments. This study significantly contributes by developing the scales on herd behaviour along with associating it to the Mutual Fund Decision making with the help of structural equation Modeling.

IMPLICATIONS OF THE STUDY

The present study contributes significantly to the existing literature and gives ample directors to the mutual fund advisors and managers and asset management companies that market the mutual funds. The managers must focus on how many other investors have invested in the same fund that you are offering to a new customer or investor. The investor follows the funds that have high AUM (Assets Under Management). Similarly, in the mutual funds scheme brochures, the same may be highlighted.

The study has found a close connection of satisfaction and high investment group. The mutual fund marketers and investment advisors should focus on continuous follow-ups with the existing customers so that they can increase their investments continuously and feel more satisfied over a period. Higher the amount of investment in mutual funds, the inclination towards investment also increases.

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