

**ATTRIBUTE BASED PREFERENCE & PREDICTABILITY OF MUTUAL FUNDS FOR
INVESTMENT BY INVESTMENT PROFESSIONALS:
A STUDY FROM EMERGING MARKET.**

¹Moonis Shakeel, ^{*2}Shivani Chaudhry

¹Department Of Economics, Jaypee Business School, Noida(India)

^{*2}Jaypee Business School, Noida(India)

ABSTRACT

This paper investigates the relative importance of the attributes considered by the Indian portfolio managers and investment advisors in the selection process. It also finds out the combination of different levels of attributes considered most important by the investment advisors. It uses conjoint analysis to find out the relative importance of various combinations of the levels of the attributes. The questionnaire is designed using fractional factorial design in conjoint analysis which is administered on forty five investment professionals in the Indian mutual fund industry. The findings of the study highlight the most important attributes that influence the investment decisions of the investment professionals. This study also gives an ability to predict the success of the newly launched mutual fund schemes to the fund managers by subjecting them to the simulation profile test. According to the research analysis, the attributes as listed in their order of importance are expense ratio, ratings of mutual fund schemes and investment style of the fund manager. While fund size and past performance are given moderate importance, fund manager's experience is considered least important by the investment advisors in fund selection.

Keywords: Attribute preference, Conjoint analysis, mutual fund, investment professional.

INTRODUCTION

This study is undertaken with the objective to understand the preferences of the investment professionals based on different combinations of attributes of mutual funds that govern their investment decisions in a particular mutual fund scheme. It also captures the change in their investment behavior when given different combination of attributes.

This paper explores the relationship between fund selection and fund characteristics. Eventually with the increased popularity of mutual funds, it is important to find out the criteria behind the scheme selection by investment professionals.

Firstly, we would start off with a description of mutual funds and their increased importance in India to get an understanding for the choice of the

subject. This will highlight the reason that why academics spend so much time and effort studying mutual funds.

A mutual fund is a financial intermediary that pools the savings of investors for collective investment in a diversified portfolio of securities. A fund is mutual as all of its returns, minus its expenses, are shared by the fund's investors.

The Securities and Exchange Board of India (SEBI) (Mutual Funds) Regulations 1996 defines a mutual fund as a fund established in the form of a trust to raise money through the sale of units to the public or a section of the public under one or more schemes for investing in securities, including money market instruments. Thus, a mutual fund serves as a link between the investor and securities market by mobilizing savings from the investors and investing them in securities market to generate returns. These returns are distributed in the same proportions in which the investments are made by the investors/

***Corresponding author:**

Email:shanic112@yahoo.co.in

unit- holders. Thus, mutual fund is a collective saving



Source: AMFI monthly publications 2012

scheme.

The mutual fund industry was launched in India with the set up of Unit Trust of India (UTI)1 in 1964 by Government of India. Its regulatory framework was set up by SEBI in 1993. After that private corporate bodies were also allowed to participate in the industry. Thus, the mutual fund in India has emerged as a dominant financial intermediary in India capital market.

From a single-player monopoly in 1964, it has evolved into a high-growth and competitive market on the back of favorable economic and demographic factors. As of August 2012 (India's Mutual Fund Industry, Steps to re-energize mutual fund industry, SEBI)3, 44 asset management companies (AMCs) were operating in India with assets under management (AUM) of INR 6.4 trillion. However, after several years of persistent growth, the industry witnessed consistent declines of 6.3 percent and 5.1 percent in its AUM during FY11 and FY12, respectively. One of the reasons could be the changes in regulatory guidelines e.g. ban on entry load, stringent KYC norms, guidelines on transaction charges, tightening valuation and advertisement norms, which were introduced in a short span of time thus giving less time to the industry to adjust in the new environment.

The academic research on mutual fund performance generally investigates the dynamics of their returns. Several studies pointed out there are several factors which influence the performance and hence, the selection of mutual funds, for example fund size, portfolio manager's skills etc.

Objectives of the study

The present study has been undertaken with the following objectives:

- (i) To find out the attributes as well as their levels which are considered important by the investment advisors and portfolio managers in selecting mutual funds.
- (ii) To find out the combinations of different levels of attributes considered important by the investment advisors.
- (iii) To find out the ideal combination from the above analysis which can help the mutual fund founders in designing and introducing new funds under their management.
- (iv) To predict the preference for combinations which were not rated by the respondents.

Literature Review

The following paragraphs present the literature review briefly with regard to attributes considered by investment professionals, performance and characteristics of mutual funds.

Gozbasi Onur & Citak Levent(2010)4 used conjoint analysis to investigate the relative importance of the attributes considered by portfolio managers in selecting mutual funds in Turkey. The findings of the study indicated that the attributes that are considered the most important by them are expense ratio, past performance of the fund appear to be of moderate importance. Thus, they came with a conclusion that there are many factors that effect the selection of mutual funds.

Ramasamy & Yeung (2003)5 focused on Malaysian mutual fund industry & the results pointed out 3 important factors which dominate the choice. These are past performance, size of funds and costs of transaction. In these past performance was considered as the most significant attribute.

Grinblatt & Titman (1992)6 found persistence in fund performances. They studied 279 funds for the period 1975-84 using 8 portfolio benchmarks with evaluation periods consisting of 5 years & found persistence for next five years. They found that funds which performed well in first half of the sample period continued to do so in the second half

thereby suggesting that superior performance was predictable to a certain extent.

More recently, Ibbotson & Patel (2002)⁷ in their working paper indicated that winning funds do repeat good performance.

Goetzmann & Ibbotson (1994)⁸ analyzed 728 mutual funds in the US for the period between 1976-1988 and revealed that past mutual funds performances & relative rankings are useful in predicting their future performance. They evaluated style adjusted alphas on both absolute and relative basis and found that highest persistence was exhibited by funds whose alphas were greater than 10% & also by funds whose alphas ranked in the top 5% of the sample. However, some studies have also observed that past performance of the mutual funds can not alone decide their future performance.

Buying a fund implies paying fees for the professional management. There are several other expenses as well which are transferred to fund investors. The expense ratio (the ratio of total expenses to net asset value) is meaningful criterion used in selecting a mutual fund scheme and thus, is considered very important academically. It has been observed in various studies that there is a strong negative relationship between expense ratios and fund returns.

Haslem, Baker & Smith (2008)⁹ examined 66 funds with very high & 27 funds with extremely high expense ratios. They examined the association of expense ratios to descriptive performance measures by morning star category. These measures are the Sharpe ratio, Jensen alpha, Morning star rating & five star annual results. Their results show that expense ratios have the expected general negative association with each of the performance measures.

Elton et-al (1993)¹⁰ suggest investors to select and invest in the funds with low expense ratio.

In the present study, we have identified three levels for the expense ratio (0-1%, 1-2%, >2%) these levels are identified after observing the expense ratio trends prevailing in the Indian mutual funds in 2012.

Another significant attribute that governs the mutual fund selection is the assets under management or fund size.

Chevalier & Ellison (1998)¹¹ observed the relationship between the inflows in the fund & its performance. They used a semi parametric model to

estimate the shape of flow - performance relationship for a sample of growth and income funds observed over the period of 1982-92. They have found the funds having a superior past records attract more investors but flows are less sensitive to past poor performance.

Ciccotello and Grant (1996)¹² explored the relationship of equity fund size to performance. They examined 182 aggressive growth funds, 248 long term growth funds and 196 growth & income funds. Their annual returns & descriptive statistics are evaluated for the period from 1982-1992. The findings of the study suggest that once the equity funds grow large in size their performance goes down as compared to their peers. Especially it is true for funds with aggressive growth objectives. It is better for them to be small in size, as investors with aggressive growth objective prefer investing in smaller funds to maximize their wealth.

Chen et al (2003)¹³ also investigated whether size is an important factor for analyzing the fund performance i.e. size affects the performance or not. They found strong evidence that fund size erodes performance. They also suggested that smaller funds tend to outperform larger funds due to diseconomy of scale.

In this study, two categories/levels for this attribute have been identified by examining the assets under management (AUMs) of the existing mutual fund schemes in the Indian mutual fund market. These two levels are funds with less than Rs. 10000 cr. as AUM and funds with more than Rs. 10000 cr. as AUM.

The performance of a mutual fund is also affected by the investment style and experience of mutual fund manager.

Shukla and Singh (1994)¹⁴ find that fund manager's professional education and experience may result in better fund performance. In developed countries, the data on mutual fund managers' is easily available to investors and investment advisors. In India lately, this information is made available to the investment advisors & thus, they consider such information in fund selection. To make sure that these qualitative and quantitative characteristics of mutual fund managers affect fund selection, we evaluate the attribute fund manager's experience at two levels i.e. less than four years and more than four years of experience and investment style of

fund manager at three levels i.e. cautious, moderate & aggressive.

MATERIALS & METHODS

All the data required for this analytical study has been obtained from primary sources. The data collection method used to obtain the desired information from primary sources has been mostly through direct interview and questionnaire has been used as an instrument. Basically, considering an individual investment professional as a sampling unit, random sampling has been used for collecting the responses.

For getting the responses from the investment professionals on the preference of various combinations of mutual fund attributes, the questionnaire was designed by using SPSS 17.0 software¹⁵. Twenty combinations were generated by applying orthogonal fractional factorial design in conjoint analysis through the software .

The designed questionnaire was administered on investment professionals in the mutual fund industry. The investment advisors and professionals were asked to rank the given combination from 1-20, with rank 1 given to the most preferred combination and rank 20 given to the least preferred. To contact the investment professionals/ advisors, we visited them personally and also sent the questionnaire through e-mail to few of them. The data was collected from forty five portfolio managers and/ or investment advisors for the study .Out of the total respondents, 26% were female and 75% had an experience of more than 5 years in their current positions.

This study uses **conjoint analysis** with a view to find out the attributes governing the investment decision making by the investment advisors and portfolio managers.

Conjoint analysis is a method of identifying consumer preferences for the features of a particular good or service that determine its demand. The method is usually used as a market research instrument to improve effective product design by determining the order of importance for the factors that consumers consider as significant when purchasing a product. Conjoint analysis helps not only to identify which attributes of a product are relatively significant or insignificant for consumers but also to determine which level of each attribute is the most or least preferred. Thus, respondents are

asked to rate product or service profiles with combinations of different levels of all attributes.

In applying the conjoint analysis, “full factorial” conjoint design, which consists of the use of all combinations of attribute levels, makes it impossible for respondents to thoroughly evaluate all profiles simultaneously. Due to time constraint and difficulty of respondents to evaluate all profiles, we prefer “**orthogonal fractional factorial**” design. Hence, number of profiles that could be easily evaluated by respondents, is determined by fractional factorial design in conjoint analysis.

The orthogonal design in conjoint analysis enables to measure the effect of changing each attribute level in the combination and separates it from the effects of changing other attribute levels.

There are six attributes considered in mutual fund selection through literature review and expert opinion. The attributes with their levels are shown in the table 1 .

TABLE 1:
ATTRIBUTES & ATTRIBUTE LEVELS
The different attributes chosen for ranking the various schemes alongwith their levels are as follows:

	ATTRIBUTES	ATTRIBUTE LEVELS
1	Past Performance	Impressive performance during the last year Supernormal growth in last 3 years
2	Fund manager's experience	Less than 4 years More than 4 years
3	Investment style of fund manger	Cautious Moderate Aggressive
4	Fund Size(AUM)	More than Rs. 10000cr. Less than Rs.10000cr.
5	Expense ratio	0-1% 1-2% more than 2 %
6	Ratings	5 star 4 star 3 star

These attributes are selected after conducting an extensive opinion poll and discussing further with the investment professionals of the mutual fund

industry . Initially, nine attributes were selected on the basis of literature review, which were further narrowed down to six attributes after consulting the experts in the industry. The levels were also selected after discussing the importance of various levels with the investment professionals.

As seen in the table, three levels for three of the six attributes and two levels for other three attributes are identified to be used in fractional factorial design. Thus, considering all attribute levels, the possible number of profiles is $3 \times 3 \times 3 \times 2 \times 2 = 216$. As respondents cannot possibly rate 216 mutual fund profiles, fractional factorial design was performed using SPSS 17.0, which gave the optimal number of profiles as twenty, four hold out profiles were also included in the questionnaire and rated by the respondents. Respondents were not informed about which profiles were holdout profiles. Although, ranked by respondents, holdout profiles are not used by conjoint method to estimate the utility scores but they are used as a check on the validity of the estimated utilities.

The table 2 presents the expected relationship between the score given and the direction of the level preferred by the respondents in the attributes.

TABLE 2 : MODEL SHOWING EXPECTED RELATIONSHIP BETWEEN SCORE GIVEN & DIRECTION OF THE LEVEL PREFERRED

Attributes	Number of levels	Expectations about the relationship between the score given & the direction of the level preferred
Fund’s past performance.	2	No definite direction expected
Fund Manager’s Experience	2	An expected positive relationship (Greater experience receiving higher scores).
Investment Style	3	No definite direction
Fund size	2	Expected positive relationship
Expense Ratio	3	Expected negative relationship
Ratings	3	Expected positive relationship

RESULTS

The relative importance assigned to the six attributes as well as the order of preference for the attribute levels, given by the portfolio managers and investment advisors, is revealed by the conjoint analysis. The results of the analysis also reveal the number of respondents scoring in the same direction and reverse directions to our expectations about the scores given and the direction of the level preferred in the attributes in the form of REVERSALS. It also provides the information about the individual order of importance for the attribute levels for each respondent. But as our objective is to find out the overall order of importance and preference for the factors considered by the portfolio managers and investment advisors in selecting mutual fund schemes, the statistical data is evaluated taking the entire model into consideration.

TABLE 3: IMPORTANCE VALUES

Attributes	Importance Value
1. Expense ratio of the Fund	31.065(1) 22.174(2)
2. Rating by Rating Agency	15.498(3) 11.264(4)
3. Investment Style of Fund Manager	10.859(5) 9.140(6)
4. Fund Size	
5. Fund’s Past Performance	
6. Fund Manager’s Experience	

Relative importance attached to attributes by portfolio managers and investment advisors.

The scores/ ranks given by the 45 portfolio managers and investment advisors for 20 fund profiles were subjected to conjoint analysis in SPSS 17.0, which revealed the relative importance value for the six attributes believed to be considered most relevant in mutual fund selection are given in table 3.

Importance values are expressed in percentage and the sum of values is 100%. Importance values represent the relative importance of each of the attributes considered in mutual fund selection by the

investment advisors. The most important attribute is given no.1 in the table.

It shows that the most valuable attribute in fund selection is expense ratio of the fund with a percentage of 31.065%. The second most valued attribute is the ratings of the mutual fund with 22.174%. The ratings help the advisors to decide which scheme is better as it is based on a number of parameters on which the scheme is being analyzed. The importance values show the third attribute in order of importance is investment style of the fund manager. The fourth and fifth attributes are fund size and past performance of the mutual fund respectively. It is, thus, seen that investment advisors and portfolio managers give moderate importance to fund size and past performance while selecting a mutual fund whereas they pay much attention on the investment style adopted by the fund manager as nowadays this information is

considered as the most important factor in mutual fund selection while ratings given by the rating agencies as the second most important attribute. The study in Turkey gave the second highest importance to the past performance of the mutual fund in selection while Indian advisors treat past

TABLE 5: COEFFICIENTS OF CORRELATIONS BETWEEN OBSERVED AND ESTIMATED PREFERENCES

	Correlation Coefficient	Probability
Pearson R	0.966	.000
Kendall Tau	0.879	.000
Kendall's Tau for Holdouts	1.000	.021

performance as a moderate factor (4th most important) for fund selection.

The striking similarity between both the studies

TABLE 4: UTILITY SCORES

Attributes	Attribute Levels	Importance
A- Fund's Past Performance	Impressive Performance during eh last year	.628
	Supernormal Growth in the last 3 years	1.256
B- Fund Manager's Experience	More than 4 years	-.394
	Less than 4 years	-.789
C- Investment Style of	Cautious	.010
	Moderate	.020
	Aggressive	.030
D- Fund Manager	> Rs. 10,000 cr.	1.106
	< Rs. 10,000 cr.	2.211
E- Expense Ratio of the Fund	0-1%	-2.398
	Between 1-2%	-4.796
	Higher than 2%	-7.194
F- Ratings	3 star	1.762
	4 star	3.523
	5 star	5.285
G- Constant		7.588

available to the advisors in India. Fund manager's experience is considered to be the least important factor in selecting a mutual fund.

Our study is inspired by the work done by Gozbasi & Citak (2010) in Turkey. The research findings of our study are quite parallel to those of the above study with a few dissimilarities because of the behavioral changes observed in the investment advisors of India. Here, the expense ratio is

is the greatest importance given to the expense ratio in the selection of mutual funds by investment advisors.

Evaluation of the Attribute levels

Utility Scores

The table 4 presents the utility scores for the various levels of the six attributes included in the study.

The utility scores for each level of the attribute is the part worth utility function and it indicates the satisfaction level attained by the respondents (investment advisors) from the respective levels. Higher utility values indicate greater satisfaction and hence, greater preference for the attribute levels by the investment advisors. The attribute level with highest utility estimation is the most preferred by the investment advisors and portfolio managers and is shown in bold font in the table.

TABLE 6: REVERSALS

Attribute (Factor)	No. of Reversals
Fund manager’s experience	27
Fund size	13
Rating	4
Ratio	4

TABLE 7: SIMULATIONS

This table gives the predicted probabilities of choosing each of the simulation cases.

Preference Scores of Simulations

Card Number	ID	Score
1	21	7.281
2	22	11.167

Preference Probabilities of Simulations

Card Number	ID	Maximum Utility ^a	Bradley-Terry-Luce	Logit
1	21	28.9%	38.2%	25.5%
2	22	71.1%	61.8%	74.5%

a. Including tied simulations

All the utility estimations are represented with the same unit and hence, these can be added to give the total utility for any combination of levels. For example, the total utility of a mutual fund with supernormal growth in last 3 years, aggressive investment style of the fund manager, fund size of less Rs. 10,000 cr., more than 4 years of experience

of the fund manager, 0-1% of expense ratio and 5 star rating can be calculated by adding the constant and the utility estimations shown in bold fonts in the table 4 .

The total utility of such a fund is

$$1.256 + .030 + 5.285 + (-.394) + (-2.398) + 5.285 + 7.588 = 13.5785$$

The utility estimations for various levels of past performance which is the fourth most valued attribute by investment advisors and portfolio managers, indicates that the supernormal growth in last 3 years is considered as the most important level (utility score = 1.256). This shows that supernormal growth in last 3 years provides highest amount of satisfaction and hence, is most preferred by the investment professionals in terms of past performance. Thus, it demonstrates that investment advisors and portfolio managers prefer the funds that yield consistent results for the last 3 years rather than those which show impressive results only in the last year.

The utility estimations for the levels of the investment style of the fund manager indicate that the managers with aggressive management styles are preferred over those with moderate and cautious style of management. This can be inferred as the investment advisors think that there is a positive correlation between risk and expected return and hence, the managers, who are aggressive in nature, are able to take more risk, which obviously increases the expected returns. Thus, it shows that investment advisors prefer to select the mutual funds managed by aggressive fund managers, in expectation of high returns.

It is also clear by observing the utility estimation of the attribute “fund size” represented by the assets under management (AUM) that the maximum satisfaction is achieved by the smaller mutual funds (utility = 2.211) and it decreases with increasing fund size. This indicates that investment advisors prefer smaller funds when selecting mutual funds which shows that they believe smaller funds outperform larger funds.

The attribute “fund manager’s experience” is having two levels for which the utility estimations suggest that funds managed by managers with longer experience (more than 4 years) are preferred. The negative sign attached to the utility scores of fund manager’s experience indicates that this attribute leads to dissatisfaction in respondents i.e.

greater the experience of the fund manager, more is the dissatisfaction (disutility) amongst the respondents for that particular scheme.

The most important attribute that governs fund selection by the investment professionals is the expense ratio. The expense ratio has three levels and their utility estimation indicates that it decreases with increasing expense ratios. As the utility score is highest for the lowest expense ratio i.e. 0-1%, it clearly proves that mutual funds with low expense ratios are preferred over those with higher expense ratios. The negative sign attached to the utility scores of expense ratio indicates the dissatisfaction in the respondents by the presence of expense ratio in the scheme.

The second most important attribute shown in the table is the ratings given by the rating agencies to the mutual funds on the basis of the various parameters. These ratings are given after analysing the various attributes present in the scheme and comparing it with different schemes of that category. The highest utility scores (5.285) in this case, is for the level with highest rating (5 star). This shows that mutual funds with 5 star ratings are most preferred by the investment advisors and portfolio managers.

After examining the utilities for all the attribute levels as a whole, it has been concluded that investment professionals prefer mutual funds with supernormal growth in last three years, aggressive style, less than Rs. 10,000 cr. of AUM, longest experience of fund manager, lowest expense ratio and highest rating by the rating agency.

Correlations

The table 5 represents the correlation coefficients and significance levels for the entire model. It is a diagnostic check done to estimate the performance of the model.

Person's R & Kendall's Tau are correlation coefficients, which provide measures of correlation between the observed and estimated preferences. The coefficients show the power of estimation performances of the model concerning the importance values of the attributes and the preferential priority (utility estimations) of the attribute levels. A high correlation between the estimated values and the observed values for preferences indicates a good estimation performance of the model. When the number of model parameters and the number of rated profiles

are close to each other, the correlation between the observed and estimated scores might be artificially increased. In such cases, correlation coefficients for holdout profiles can better indicate the model fit. It is always seen that correlation coefficients for holdout profiles are lower than correlation coefficients for real profiles. As seen in the table the statistically significant coefficient values of 0.966 and 0.879 are a sign of good estimation power of the model and hence, shows high correlation between observed and estimated preferences. Moreover, the correlation coefficient computed for the holdout profiles is also very high and statistically significant at 5% level of significance.

Reversals

When specifying the LINEAR model in our estimation, we have given an expectation about the relationship between performance and different attributes in the model as indicated in table 2. The table shows, whether the attribute value are positively or negatively linearly related with the preference for that attribute. The conjoint analysis also keeps a record of the number of respondents whose preferences showed the opposite of the expected relationship eg. A greater preference for less experienced fund managers or a high expense ratio. These cases are referred to as reversals.

The table 6 represents the number of reversals for each attribute (factor).

This shows that out of the six attributes, we had given expected relationships for 4 attributes and amongst these 4 attributes, fund manager's experience has shown the maximum reversals i.e. 27 out of 45 respondents tend to prefer the funds with less experienced managers while the rest of them prefer more experienced managers.

The scores of most of the respondents (41/45 = 91%) on the attributes – ratings and expense ratios of the firm, confirmed our expectations. The scores of a considerable majority (32/45 = 64%) on the attribute fund size also confirmed our expectations. The high reversals in the case of experience shows that the behavior of the investment professionals tend to change as experience is a qualitative aspect and the decision taken by an individual based on his/her experience may differ as well as it is subjective in nature. Thus, it shows that the investment professionals do not tend to rely on this variable but prefer quantitative/objective variables

as they are more relevant with the changing scenario of mutual fund industry in India.

Simulations

The real power of conjoint analysis is the ability to predict preference for product profiles that weren't rated by the respondents. These are referred to as simulation cases.

The table 7 gives the predicted probabilities of choosing each of the simulation cases as the most preferred one, under three different probability-of-choice models.

The **maximum utility model** determines the probability as the number of respondents predicted to choose the profile divided by the total number of respondents. For each respondent, the predicted choice is simply the profile with the largest total utility.

The **BTL model** determines the probability as the ratio of a profile's utility to that for all simulation profiles, averaged across all respondents.

The **logit model** is similar to BTL but uses the natural log of the utilities instead of the utilities.

Across the 45 respondents in this study, all three models consider the profile 22 (simulation profile 2) as the most preferred profile.

DISCUSSION

This study has been carried out with the objective of determining the attributes, considered by Indian investment advisors and portfolio managers in mutual fund selection as well as the relative importance of these attributes. In the Indian mutual fund industry, which has become quite complex because of the diversification of the schemes and the increased competition, it has become very important to identify the attributes, which are given prominence by the investment professionals in selecting amongst the various mutual fund schemes. Infact, a knowledge about these attributes, will not only assist for reconstructing the existing funds but will also give an insight for the construction of new mutual fund schemes.

The results of the above study indicates that the investment advisors and portfolio managers consider expense ratio of the fund as the most valued attribute which is followed by the ratings given by the rating agency to a mutual fund scheme.

A comparison of the results of the above study with the literature review shows that it is quite consistent with the previous studies. However, there are few differences which indicate that there is change in the behavioral aspect of the investment professionals and portfolio managers due to the changed environment of mutual fund industry in India.

There is one more very important conclusion of this study that ratings are considered second most important attribute after expense ratio. This emphasizes that rating agencies should become even more active in the mutual fund industry to guide the professionals in the fund selection process in an emerging market like India.

Furthermore, the most appropriate combination as concluded by the above study can work as a model for the fund houses for designing their new fund schemes, which will be readily selected by the investment professionals of developing countries like India.

The simulation cases analyzed at the end of the study can act as an indicator for designing and launching new mutual fund schemes in the market .This can also act as a benchmark for testing newly designed mutual fund schemes as well as a predictor for their success before launching them by the fund houses. We can also test the existing schemes by using this model to find out their acceptance level in the market by looking at their attributes and subjecting them to the simulation profile test. Hence, it provides a scope for further research in this field.

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