

Confirmatory Factor Analysis on Influence Measures of Investment



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Abstract: *Background of the study: In an investment decision, several factors are responsible for a investors to make their investment or chose their preferred investment avenues. Factors such as, Benefit derived from the chosen investment, Objective of the particular investment, Financial literacy over the proposed investment, and influence of investment measures were mostly consider by the investors while making their investment measurement. Objective: This article explores the investment influence measures consider by the people for making their investment decision. This research paper has a primary objective to highlight the most and least influential measures consider by the peoples while making their investment. Methodology: This study is confirmatory by the way of proving the six investment influence measures of peoples' investment decision emerged under influence factor by using the path analysis. There are two hundred sample respondent were identified under the purposive sampling in the urban area of Tiruchirappalli District. All the issued questionnaire were collected and scrutinized by using SPSS 20 statistical package and AMOS 20 to derive the path analysis. Result: All the six influence measures significantly influence investor's investment decision. It is estimated that When influences dimension goes up by 1 standard deviation, Safety of the particular investment goes up by 0.769 standard deviations and prevailing Tax saving on the investment goes up by 0.733 standard deviations and Simplicity of the investment process goes up by 0.768 standard deviations.*

Key Words: *Safety – Liquidity – Simplicity - Tax Saving – Diversification – Affordability*

I. INTRODUCTION

The developing countries like India face the enormous task of finding sufficient capital in their development efforts. With high capital output ratio, India needs very high rates of investments to make a leap forward in their efforts of attaining high levels of growth. Since the beginning of planning, the emphasis was on investment as the primary instruments of economic growth and increase in national income.

II. CONSIDERATION OF INFLUENCE MEASURES

There are a large number of investment instruments available to the investors to make their investment today. To make our live better, people preferred a profitable and safest investment.

In India, numbers of investment avenues are available for the investors. Some of them are marketable and liquid while others are non-marketable and some of them also highly risky while others are almost risk less.

There are several factor are responsible for any type of investors make their investment or chose their preferred investment avenues. Factors such as, Benefit derived from the investment, Objective of choosing the particular investment, Financial literacy over the proposed investment, and influence of investment measures were mostly consider by the people while making their investment measurement. This article confirms the influence measures (Safety, Liquidity, Tax Saving, Diversification, Simplicity and Affordability) particularly consider by the people for making their investment measurement.

III. OBJECTIVE

This research paper has a primary objective to highlight the most and least influential measures consider by the people while making their investment avenues.

IV. HYPOTHESIS

H₀₁: Safety significantly influence people's investment measurement

H₀₂: Liquidity significantly influence people's investment measurement

H₀₃: Simplicity significantly influence people's investment measurement

H₀₄: Tax saving significantly influence people's investment measurement

H₀₅: Diversification significantly influence people's investment measurement

H₀₆: Affordability significantly influence people's investment measurement

V. METHODOLOGY

This study is confirmatory by the nature of proving the six investment influence measures of peoples' investment measurement criteria emerged under influence factor by using the path analysis. The purposive sampling of non-probability was adopted for inducting sample respondent from the urban area of Tiruchirappalli District for this research study. There are two hundred sample respondent were identified in various places including bank premises and premises of Assets management company which are located in the urban area of Tiruchirappalli District. All the issued questionnaire were collected and scrutinized by using SPSS statistical package to find out any missing data.

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It is found that out of 200 sample data, 13 were missing value. All the missing data were eliminated and finally 187 questionnaires were taken into consideration. It is 93.5 percent of total questionnaire issued. The Questionnaire had consisted of eleven questions.

Apart from Age, Gender, Qualification, Occupation and Income, there are six questions (five point Likert's scale,) were reflect the influence measures of investor's investment measurement. The analysis was done in two stages. The confirmatory factor analysis along with descriptive analysis was done in the first stage of quantitative analysis by using SPSS 20. The path analysis was done to verify the framed research hypothesis by using AMOS 20.

VI. SAMPLE REPRESENTS IN THE SURVEY:

The male 55.7 percent and Female 44.3 percent were representing from the total population of the study. 74.1 percent of sample respondent were in between 36 – 55 age group participated in the survey. It was found that 45.4 percent of sample respondent were graduates and 30.7 percent of respondent were acquired Professional degrees. Among the four level classification of respondent income, 37.8 percent respondent income were in between two lakhs to four lakhs. 15.9 percent of respondent income below Rs.2 lakhs. It was found that 68.3 percent of Government sector people and 31.7 percent of Private sector people participated in the survey

VII. INFLUENCE MEASURES OF INVESTMENT - CONFIRMATORY FACTOR ANALYSIS

The influence factor has consisted of six indicators. There are Safety of the investment, Liquidity of the investment, tax saving purpose of the investment, Possibility of diversification of the particular investment, simplicity of the investment and affordability of the investment. The multicollinearity test was conducted to know the tolerance and VIF value to estimate the model fit. The table no.1 has shown the tolerance and VIF value of the six measured variables of influence factor.

Safety, Liquidity, Tax Saving, Diversification, Simplicity and Affordability

Table No.1 Descriptive and Multicollinearity statistics for measured variables of influence factor

Measured Variables (Value)	Descriptive Statistics		Multicollinearity Statistics	
	Mean	Std. Deviation	Tolerance	VIF
F1- (Safety)	2.11	1.111	.404	2.478
IF2 - (Liquidity)	2.14	1.122	.376	2.663
F3 - (Tax Saving)	2.19	1.166	.449	2.229
F4 - (Diversification)	2.11	1.167	.462	2.166
F5 - (Simplicity)	2.22	1.244	.394	2.541
F6 - (Affordability)	2.23	1.121	.484	2.065

VIII. RESULT AND DISCUSSION

It is found that among the six measured variables under influence factor, highest mean score of 2.23 was achieved in affordability of the investment. It is also come to know that the lowest mean score was entered in to measured

variables such as, Safety and Diversification of the investment. The table no.1 also shows the tolerance and VIF value. The Variance Inflation Factor (VIF) measures the impact of collinearity among the measured variables in a regression model. The Variance Inflation Factor (VIF) is 1/Tolerance, it is always greater than or equal to 1. The above test result indicate that the tolerance value of six influence items is not less than .01 and the VIF value of six items were not more than 10. It is clear that from the above result that the state of very high inters correlations or inter-associations among the proposed six independent variables. It is also found that Tolerance and VIF value for all the six indicators for projecting for further doing an confirmatory factor analysis.

Table No.2 Communalities extraction value for influence items

	Initial	Extraction
F1- (Safety)	1.000	.686
F2 - (Liquidity)	1.000	.678
F3 - (Tax Saving)	1.000	.630
F4 - (Diversification)	1.000	.591
F5 - (Simplicity)	1.000	.668
F6 - (Affordability)	1.000	.571

There are six indicators which are emerged under influence factor of peoples investment measurement have been summarized below. It is important to reduce the parameters so that there is a limited set of parameters that represent the total consideration set. Factor Analysis has been done in three stages. KMO and Bartlett's Test conducted in the first stage in order to find out the validity and reliability of the whole set of data. In the second stage, the eigen value for six indicators are summarized. In the final stage the factor analysis with principal component analysis using varimax rotation was done. The main aim of the factor analysis was to confirm that all the measured variables were certainly emerged under the specific latent factor namely influence factor. The communalities value indicated that the common variance shared by factors with given variables. In other words it shows that the extent to which an item correlates with all other items. The higher the communalities are better. Higher communality value indicated that larger amount of the variance in the variable has been extracted by the factor solution. For better measurement of factor analysis communalities should be 0.4 or greater. It is found that all six items were score more than 0.4.

Table No.3 KMO test of Adequacy for six influence items

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.881
Bartlett's Test of Sphericity	Approx. Chi-Square	2452.616
	df	15
	Sig.	.000

Extraction Method: Principal Component Analysis. Kaiser-Meyer-Olking Measure of Sampling Adequacy (MSA) for individual variables is studied from the diagonal of partial correlation matrix (table no.3).



It is found to be sufficiently high for all variables. The measure can be interpreted with the following guidelines: 0.90 or above, marvelous; 0.80 or above, meritorious; 0.70 or above, middling, 0.60 or above, mediocre; 0.50 or above miserable, and below 0.50, unacceptable. Test hypothesis regarding interrelationship between the variables had been confirmed. To test the sampling adequacy, Kaiser-Meyer-Olking Measure of Sampling Adequacy (MSA) is computed, which is found to be 0.881. It is indicated that the sample is good and enough to carry out further analysis. The overall significance of correlation matrix is tested with the Bartlett test of Sphericity for grouping factors of influence measures, (approx.. chi-square = 2452.616, which is significant at 0.0001 as well as support for the validity of the confirmatory factor analysis of the data set.

Table No.4 Eigen values of investors Influence factor

Total Variance Explained						
Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.795	63.249	63.249	3.795	63.249	63.249
2	.650	10.830	74.079			
3	.519	8.649	82.728			
4	.373	6.215	88.943			
5	.360	5.998	94.941			
6	.304	5.059	100.000			

Table No.5 Component Matrix value for six measured variables of Influence factor

Influence Measures	Component
	1
F1 - Safety	.828
F2 - Liquidity	.823
F5 - Simplicity	.817
F3 - Tax Saving	.794
F4 - Diversification	.769
F6 - Affordability	.755

The Eigen value all the six investors influence measured indicators are acceptable and confirm the emerging indicators under influence factors. The eigen value more than 1 are taken into account for further analysis. The above table clearly indicates that emerging component eigen value has attained a eigen value more than one.1. More over the above table also indicate that the eigen value for the first component was 3.958 with a variability of 39.281 percent. The eigen value for the second component 3.765 with a variability of 63.249 percent. It is concluded that by overall the influence factor such as one component together achieved a 63.249 percent variance in the data set. The above table shows the Extraction sums of squared for the emerging factor percent of variance. It is found that one factor together they account for 63.249% of the variability

in the original data. Loading on factor can be positive or negative. A negative loading indicates that this variable has an inverse relationship with the rest of the functions. However, comrey suggested that anything above 0.30 could be considered salient, with increased loading becoming more vital determining the factor. All the loading in the research are positive. The component matrix was done with a condition of absolute coefficient value above .60 was taken into account of factors determination. It is clear from the component matrix table, that the coefficient value of all the six items was above .60. It is also found that all the six measured variables of influence factors Cronbach's Alpha value was achieved by .883. It is confirmed that the scale reliability analysis for influence factor with six indicators has achieved high internal consistency.

Figure: 1 P-P Plot showing Linear regression among six measured variables of influence factor

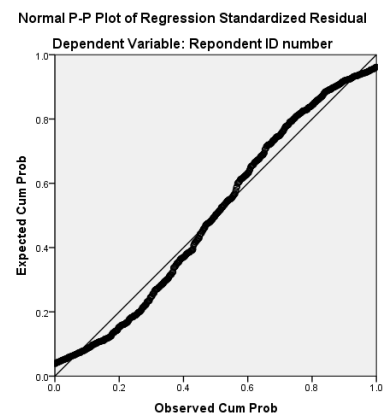
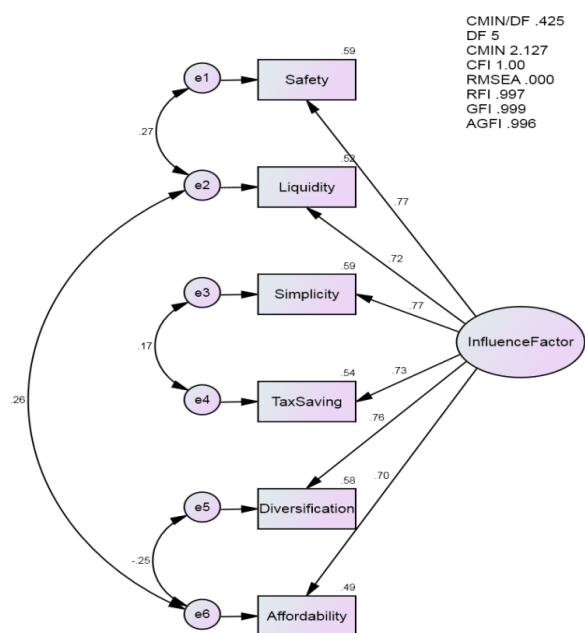


Figure: 2 Path analysis for six influence measures of investment



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Table No.6 Hypothesis Test Result – Regression weights

Observed	Latent	Estimate Weights	S.E	C.R.	P	Beta Weights	Result of Hypothesis
F1 - Safety	Investment Influence	.894	.042	21.346	***	.769	H ⁰¹ Supported
F2 - Liquidity		.843	.044	19.324	***	.718	H ⁰² Supported
F5 - Simplicity		1.000	Reference Point			.768	H ⁰³ Supported
F3 - Tax Saving		.894	.039	22.919	***	.733	H ⁰⁴ Supported
F4 - Diversification		.931	.046	20.351	***	.763	H ⁰⁵ Supported
F6 - Affordability		.820	.045	18.266	***	.699	H ⁰⁶ Supported

The above table shows the test result of hypothesis. It is found that all the six influence measures significantly influence investor's investment assessment. It is explained from above result that the probability of getting a critical ratio as large as 22.919 in absolute value is less than 0.001. In other words, the regression weight for investment influence component in the prediction of Tax saving is significantly different from zero at the 0.001 level (two-tailed). It is estimated that When investment influence Component goes up by 1 standard deviation, Safety of the particular investment goes up by 0.769 standard deviations, tax saving on the particular investment goes up by 0.733 standard deviations and Simplicity of the particular investment goes up by 0.768 standard deviations.

IX. FINDINGS:

1. The confirmatory analysis clearly indicates that all the six measured items emerged under investment Influence Dimension.
2. It is found that among the six measured variables under influence factor, highest mean score of 2.23 was achieved affordability of the people investment measurement.
3. It is also found that the lowest mean score was entered in to measured variables such as, Safety and Diversification of the investment.
4. All the six influence measures significantly influence investor's investment measurement.
5. It is found that the Safety of the particular investment was strongly influence investors investment measures.
6. Investor's consideration of affordability over the investment has least influence indicator among six influence measures of investment.

X. CONCLUSION AND FUTURE RESEARCH

It is concluded that the investment Influence factor has consist of six measured variables. The above confirmatory analysis clearly indicates that all the six measured items emerged under investors Influence dimension. The Coefficient of all the measured variables was above 0.6. Among the six influence variables, the highest score of .828 was occurred on "Safety of their investment" and lowest score .686 was occurred on "Affordability of the particular investment". The future of this research may be done by adding two more investment decision factors along with influence factor as a mediator to draw a better constructs. It may be analyze the impact of influence factor on different investment avenues.

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