

Multi-Layer Analysis on Constraints of Budding Women Investors in Share Trading: A Comparative Study of Women Investors Pertaining to Professional and Non-Professional Fields

S. Jayadev⁽¹⁾, Veena M⁽²⁾, Suby Baby⁽³⁾

Abstract

As half the population of the world is constituted by women, their role in economic development is something inevitable. Though they have marked their progress and valuable contributions in all walks of life, their presence in stock market is very much limited. Past researches show that there is a wide gender gap in share trading especially in a developing nation like India. The root cause is that, women undoubtedly face various constraints related to share trading. Therefore, it is imperative to study the influence of these constraints faced by women in share trading, on the resultant outcomes and find possible solutions to it, to improve women participation in this arena. The major intention of the present study is to identify the extent of influence the constraints are causing on the outcomes or the results, and to identify whether there is any difference in its impact on women investors from professional and non-professional working backgrounds in share trading using multi-layer analysis. Primary data was collected using a structured questionnaire which was distributed among women investors in the district of Ernakulam, who are having professional work background as well as non-professional work background. The study concludes on the note that the constraints influence the outcomes or results significantly, and the most affected are the women investors with non-professional work background. The study offers possible solutions to overcome the issues.

Keywords: Women investors, Share trading, Multi-layer analysis, Constraints.

Introduction:

In order to enhance the economic development of a nation, women's role and contribution is inevitable. Their participation in the arenas of commerce and finance has gradually advanced over these years especially in equity markets.

Despite this fact, the number of women investors in the country is nowhere near to that of men investors. The brokerage concern Sharekhan's director, Shankar Vailaya, proclaimed that out of the active traders in the country, the women investors constitute around 20% (Bhatt,

(1) Assistant Professor of Commerce, M.G. College, Thiruvananthapuram

(2) Research Scholar, Commerce & Management, Amrita School of Arts and Sciences, Kochi

(3) Assistant Professor of Commerce, Nirmala College, Moovattupuzha

S., 2021). According to the reports of the Upstox (a reputed brokerage house), there have been a 32% growth in share-trading account openings by women investors from the time period of April to June in the year 2020 in contrast to the previous months and out of which almost 70% of them are recognized to be first time in this domain (Oberoi, R.,2020). But unfortunately, it is noted that, in spite of the fact that in this era, women can be spotted in all walks of life, such a huge gap is witnessed between the proportion of women investors and men investors in share trading which is pointing fingers at gender equality in a country like India (Bucher-Koenen, et.al.,2021). Why is this happening? This paper intends to answer this question and suggest possible solutions.

Significance of the Study

It is an undoubtful fact that, women have produced a lot of advancements in almost all spheres of life. But their presence is not much evident as that of men in stock market as they face so many constraints compared to men (Bucher-Koenen.et.al.,2021). If these constraints are identified and solved, it not only instills confidence in the budding women investors, but also aids the potential women investors to come out of their cocoons and fly high.

Objective of the Study

To ascertain the relationship of the constraints faced by women investors in share trading who are engaged in professional areas of work and non-professional areas of work, with the outcomes resulting from such constraints.

Hypothesis of the Study

HO: There is no linear relationship between the constraints of women investors with the outcome which are the resultant problems faced by them.

Research Methodology

For the present study data was collected from 50 women investors who are having a professional work background pertaining to Info Park, Ernakulam and 50 women investors from non-professional work background that is, in Government services and private sectors in the district, using structured questionnaire designed using google form. The sampling technique relied was convenient sampling on the assumption that a fairly larger sample will automatically reflect the peculiar feature of the population. In the present study a total of 100 respondents were selected with an assumption that it will ascertain the relationship of the constraints faced by women investors in share trading who are engaged in professional areas of work and non-professional areas of work, with the outcomes resulting from such constraints. The employees were identified and selected from the personal contact and contact with the peer group members. The data collected was analyzed using Multi-Layer analysis. Multilayer perceptron is often applied to supervised learning problems: they train on a set of input-output pairs and learn to model the correlation (or dependencies) between those inputs and outputs. The Multilayer Perceptron (MLP) procedure produces a predictive model for one or more dependent (target) variables based on the values of the predictor variables.

Results and Discussion

Table 1
Network Information

		1	Category
Input Layer	Factors	1	Inadequate financial support
		2	Lack of knowledge in online trading
		3	Less time to devote in online trading
		4	Poor internet connection
		5	Lack of confidence
		6	Socially influenced decision making
	Covariates	7	Lack of proper technology
		8	Lack of professional management
		9	Lack of advices from brokers
		10	Security issues
		11	Lack of share market knowledge
		12	Non-familiarity with the website design
Hidden Layer(s)	Number of Units ^a	14	
	Rescaling Method for Covariates		Standardized
	Number of Hidden Layers		1
	Number of Units in Hidden Layer 1 ^a		7
	Activation Function		Hyperbolic tangent
Output Layer	Dependent Variables	1	Mental strain and pressure
		2	Debt on trading
		3	Monetary loss
	Number of Units		3
	Rescaling Method for Scale Dependents		Standardized
Activation Function		Identity	
Error Function		Sum of Squares	

a. Excluding the bias unit

Source: Primary data

Here the category includes non-professional women investors and professional women investors. In the present study, the independent variables are Inadequate financial support, Lack of knowledge in online trading, Less time to devote in online trading, Poor internet connection, Lack of confidence, Socially

influenced decision making, Lack of proper technology, Lack of professional management, Lack of advices from brokers, Security issues, Lack of share market knowledge, Non-familiarity with the website design and the Dependent variables are Mental strain and pressure, Debt on trading and Monetary loss.

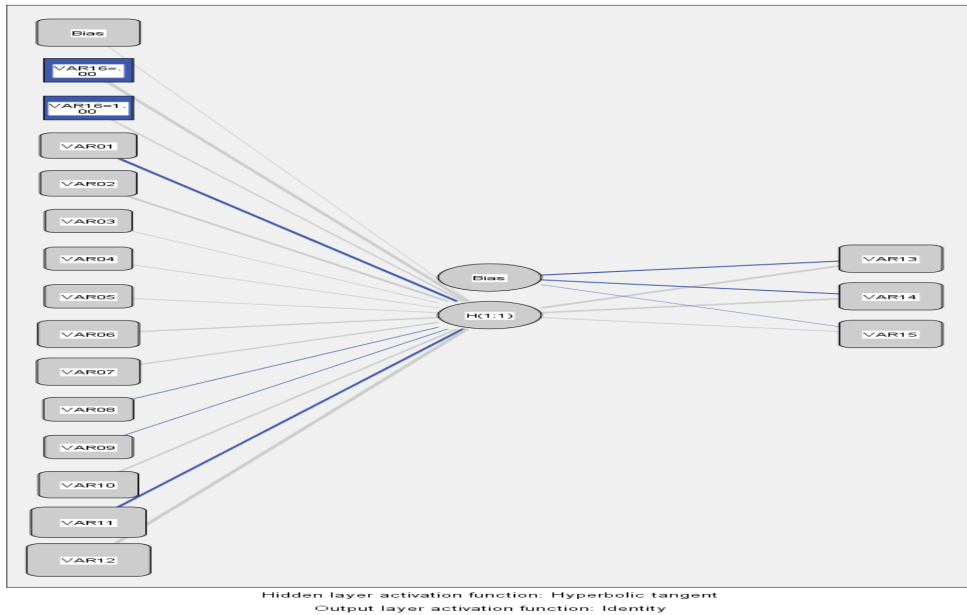


Fig 1: Influence of problems confronted by the women investors on the effect in share trading. Source: Primary data

Table 2
Parameter Estimates

Predictor	Hidden Layer 1	Predicted		
		VAR13	VAR14	VAR15
Education (Bias)	H (1:1)	.044		
Non-professional women investors		.525		
Professional women investors		.155		
Inadequate financial support		-.298		
Lack of knowledge in online trading		.299		
Less time to devote in online trading		.095		

	Poor internet connection	.100		
	Lack of confidence	.105		
	Socially influenced decision making	.298		
	Lack of proper technology	.290		
	Lack of professional management	-.087		
	Lack of advices from brokers	-.063		
	Security issues	.184		
	Lack of share market knowledge	-.292		
	Non-familiarity with the website design	.740		
Hidden Layer	(Bias)		-.165	-.161
1	H (1:1)		.606	.482
				-.017
				.152

Source: Primary data

The constraints faced by non-professional women investors is comparatively having high positive influence on the resultant effects than professional women investors, the former having an influence of 52.5% (high) and the latter with 15.5%. Before training, the highest positive influence by the constraints on the dependent variable is caused by the variables ‘Non-familiarity

with the website design’ (74%), ‘Lack of knowledge in online trading’ (29.9%) ‘Lack of proper technology’ (29%) etc: The highest negative influence on the dependent variable is caused by the variables ‘Inadequate financial support’ (29.8%), ‘Lack of share market knowledge’ (29.2%), ‘Lack of professional management’ (8.7%) etc:

Table 3
Independent Variable Importance

Particulars	Importance	Normalized Importance
Category (category of women investors as per the study: professional and non-professional)	.034	16.1%
Inadequate financial support	.072	34.0%
Lack of knowledge in online trading	.072	33.9%
Less time to devote in online trading	.024	11.2%
Poor internet connection	.026	12.1%
Lack of confidence	.029	13.5%
Socially influenced decision making	.097	45.5%
Lack of proper technology	.106	49.6%
Lack of professional management	.038	18.0%

Lack of advices from brokers	.031	14.7%
Security issues	.088	41.2%
Lack of share market knowledge	.169	79.2%
Non-familiarity with the website design	.213	100.0%

Source: Primary data

The above results were based on the standardized regression after the training level based on the normalized importance. From the table it is clear that the categories (i.e., non-professional women investors and professional women investors) influence the effects by 16.1%. The highest influence is caused by the variable ‘Non-familiarity with the website design’ on

the effects (100%) followed by ‘Lack of share market knowledge’ (79.2%), ‘Lack of proper technology’ (49%), ‘Socially influenced decision making’ (45.5%) etc: The least influence is caused by the variables ‘Less time to devote in online trading’ (11.2%) followed by ‘Poor internet connection’ (12.1%), ‘Lack of confidence’ (13.5%) etc:

Table 4
Model Summary

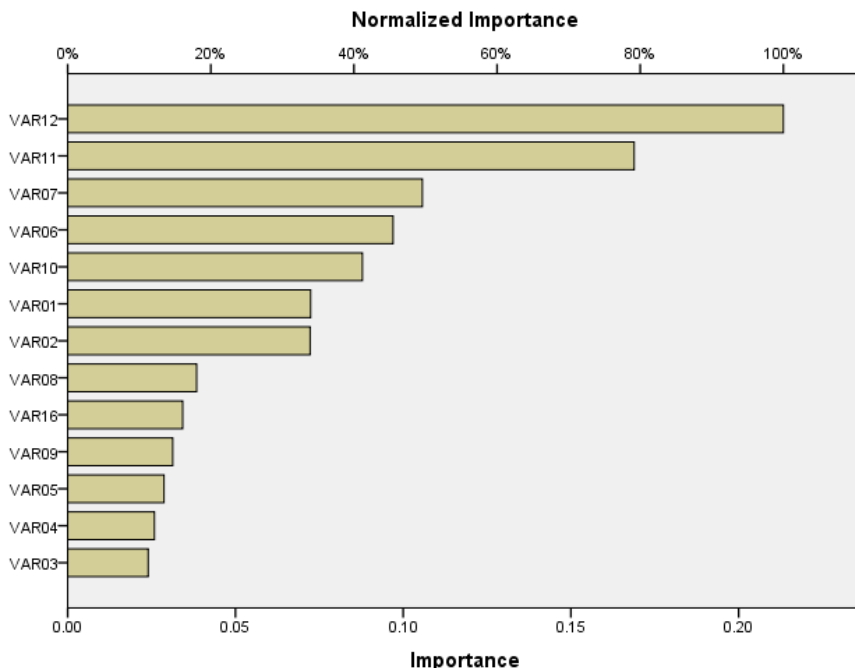
	Sum of Squares Error		260.904
	Average Overall Relative Error		.920
Training	Relative Error for Scale Dependents	Mental strain and pressure	.868
		Debt on trading	.905
		Monetary loss	.988
	Stopping Rule Used	1 consecutive step(s) with no decrease in errora	
	Training Time		0:00:00.06
	Sum of Squares Error		101.468
	Average Overall Relative Error		.932
Testing	Relative Error for Scale Dependents	Mental strain and pressure	.898
		Debt on trading	.853
		Monetary loss	1.054

a. Error computations are based on the testing sample.

Source: Primary data

The above table shows the influenced capacity of the constraints on the resultant effects caused on the investors after training. The constraints faced by women investors have high influence on the outcomes. If the constraints are

not curbed, it is noted that the highest influence is with regard to the ‘Monetary loss’ which has a possibility to occur 1.054 times, followed by ‘Mental strain and pressure’ (.898 times) and ‘Debt on trading’ (.853 times).



Graph1: The graph depicts the influenced capacity of individual variables.
Source: Primary data

Conclusion

Despite of making all the advancements in various spheres of life, stock market is still; an untouched and untrodden area by many women in the country. It can be noted from the interpretation part that the women investors who are having a non-professional background related to their work are facing more constraints than the ones who are having a professional work background. The main reasons for this are, non-familiarity with the website design, lack of share market knowledge, lack of proper technology, socially influenced decision making, lack of confidence etc: An educational programme regarding the investment opportunities available, online share trading related classes, tutorials to get oriented with the websites, professional advices to clear their ambiguities and queries while trading etc: can be provided to budding women investors as well as the existing ones. Besides in order to

instil confidence in them and encourage them to take share trading related decisions independently, expert advices and counselling can be provided to them through these educational programmes. Above all, the societal support especially the family’s support should be given to women who come forward and take decisions in online trading, so that women do not feel alienated and criticized for the financial decisions taken by them.

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