

Financial Awareness and Return through Financial Literacy: Pathway to financial Success of an Economy

Ayesha Saba* and Faisal Aftab†

Abstract

This research focuses to explore relationship between financial literacy and return on investment thorough studying mediated effect of awareness while having formal finance degree, influence of family and friends, and financial expert's consultancy services as independent factors. Data were collected from 300 individual investors from different cities (Islamabad, Lahore, Gujranwala, and Faisalabad) of Pakistan. The results were measured through application of cross tabulation and OLS method. A strong relationship is evident through results among financial literacy and formal finance degree, advice of financial experts, awareness and return on investment, while influence of family and friends do not have any strong link with financial literacy. This study has strong practical implications for Pakistani stock investors, markets, and Pakistani institutes. This study will help future researchers to explore the effect of these variables in other financial sectors of Pakistan and financial markets of the world.

Keywords: Financial literacy, financial experts, Stock markets, Economic growth, Pakistan.

Introduction

Financial mechanisms of the world are becoming more and more complex and sophisticated in current dynamic world. Financial institutions are launching new and innovative products in financial markets and individuals need more to be educated to cope up with complex phenomena of these financial markets (Almenberg, 2015). Economies of the world are in a new race of competing each other for healthiest financial aspects. Financial complexity of instruments, markets and environment has enforced every country to raise financial awareness in their environment for individuals. Governments around the world are keen in searching efficient approaches to improve the population's level of financial literacy through the commencement or improvement of national strategies for financial literacy with the objective of offering learning opportunities at different levels of education (Atkinson and Messy, 2012).

* Ayesha Saba, PhD Scholar, Bahria University Islamabad. Email: aswooasib@yahoo.com

† Dr. Faisal Aftab, Associate Professor (Director ORIC) Bahria University Islamabad. Email: faftab@bahria.edu.pk

Individuals are an agile part of every financial market and their mental grooming is adamant for enhancement of overall financial well being of an economy. Individuals' understanding of the financial mechanism is mainly dependent upon their financial awareness and education.

“Just as it was not possible to live in an industrialized society without print literacy—the ability to read and write, so it is not possible to live in today's world without being financially literate... Financial literacy is an essential tool for anyone who wants to be able to succeed in today's society, make sound financial decisions, and—ultimately—be a good citizen.” Annamaria Lusardi (2011).

Education gives the meaning of life to every individual and financial literacy demonstrates knowledge of an individual about overall financial well being of that person through rational decision making. In developing economies, financial illiteracy is a relevant problem because majority of households possess limited financial literacy (Lusardi et al., 2007). Financial literacy about aspects of financial instruments is much necessary for an individual to avoid financial uncertainties. Financial literacy is actually the financial knowledge of an individual about basic characteristics of financial instruments. Huston (2010) says that financial literacy has two dimensions: understanding, which represents the personal financial knowledge of financial literacy, and use, which means the application of the management of personal financial knowledge. This is important for an individual to understand financial concepts and to apply these concepts in financial markets. An economy is not independent from the financial awareness of its individuals for its growth and prosperity. Financial literate people are more aware about current financial developments of the world.

A pure monetary perspective of financial literacy is defined by US Department of Treasury (2008) that “the ability to make informed judgments and to take effective actions regarding the current and future use and management of money”. Management of money is actually a concern of any country's financial markets. Financial literacy helps to manage and make more money for any country. In financial structure of any country, stock markets are an important part. Individual investors of any stock market are playing a vital role in the growth of any economy. Financial literacy can improve decision making (result in fewer errors) (Agnew and Szykman, 2005) by providing individuals with better information and understandings of decision problems and the means to be better able to process this information (Altman, 2012).

Different factors, for instance, influence of family background and friends, financial education, and advice taken by financial experts provide some type of financial knowledge to individual investors. There are many other factors which can affect the level of financial literacy but

the focus of this study is to determine the affect of the above mentioned variables.

This paper empirically investigates the level of financial literacy in Pakistani stock market investors. This paper demonstrates the benefit of financial literacy for individuals and the overall economy. Most of the studies have investigated the concept and importance of financial literacy in developed economies (Lusardi and Mitchel, 2007, 2008; Lusardi and Tufano, 2009). They focused on the importance of financial literacy for economic growth of any country. So, this study will measure the level of financial literacy with reference to different independent variables in Pakistan and will explore its benefits for investors and economy of Pakistan.

This study has following objectives;

Objectives of the study

Above mentioned discussion gives logical rational for fulfillment of following objectives;

- To measure causal relationship between formal finance degree, influence of family and friends and advice of financial experts with the level of financial literacy.
- To explore the relationship between financial literacy and the portfolio return of an individual investor by examining the mediated effect of awareness.

Literature Review

The fast pace of change in technology and structure of financial markets has enforced the overall world to educate individuals more and more for deep insight of these financial structures. From 1980's structural design and change of financial markets, markets have been groomed and range of financial products is increasing speedily by introduction of new financial products. Financial markets are offering extended range of diversified products and these products are a source of persuasion for household investors (Rooij, Lusardi, & Alessie, 2007). For the improvement of social and economic welfare of the society, a society should be more equipped with education and as it is evident financial markets are significant players of any economy, so financial markets should be enriched with highly educated and sophisticated individuals.

Financial knowledge can be enhanced through some formal ways as well as through some informal ways. Financial knowledge of the investors has been measured through different techniques in different cultures by different researchers. Financial literacy rate is increasing in overall world day by day (Rooij, Lusardi, & Alessie, 2007). Financial literacy has been defined and searched by different researchers.

Bernheim (1991, 1995, and 1998) was the first who introduced the concept of financial literacy for households and he explored the idea that most of the household individual investors do not have the idea of financial instruments. Bernheim, Garrett, and Maki (2003) showed that if an individual have some knowledge of financial instruments they can get more profit and can save more in terms of money. Hilgert, Hogarth and Beverley (2003) defined it as financial knowledge; Finra (2003) defined it as “The understanding ordinary investors have of market principles, instruments, organizations and regulations”. In 2003, Moor defined it as “Individuals are considered financially literate if they show good finance skills and can apply these skills in financial decisions”. Lusardi and Mitchell (2011) explored as “Familiarity with the most basic economic concepts needed to make sensible saving and investment decisions”. ANZ Bank (2008), drawn from Schagen, “The ability to make informed judgments and to take effective decisions regarding the use and management of money.

Due to complex nature of markets and businesses of current era, financial literacy is becoming an emergent need of every country. Many of the empirical studies showed that many of the prominent countries are also lacking in financial knowledge and individuals from those countries are not able to answer the basic financial literacy questions. According to Lusardi and Mitchell (2011) only 30 percent people could do so, and this percentage for Germany is only 53.2% (Bucher-Koenen and Lusardi, 2011), 44.8 % for the Netherlands (Alessie et al., 2011), 27.0 % for Japan (Sekita, 2011), and 42.7% for Australia (Agnew et al., 2013), as well as in nations where financial markets are changing rapidly (only 3.7% for Russia (Klapper and Panos, 2011). In overall world, many of the developed countries are working for improvement of financial literacy ratio in their particular contexts.

United Nation is working seriously for improvement of financial literacy, in 2003; Congress established the financial literacy and education commission, for transparent and improved credit transactions in the country. This commission has a basic aim to improve all aspects of financial literacy in financial markets of the country. In 2006, furthering in this regard, commission publicized the strategy regarding financial literacy (Financial literacy Commission, 2006). This report is based on 13 different areas related to financial knowledge and offers insight about financial processes of the financial markets. Commission also offered services for online clearing house by introducing the website www.mymoney.gov . For exploration of financial knowledge, this website integrates informative resources of 20 agencies of (members of commission) regarding financial literacy service.

Financial literacy can be enhanced through different resources and many of the researchers examined different sources of financial literacy in different contexts (Adult financial literacy in Australia, 2007). Sources of information play a vital role in education of individuals, family of an individual and his friends can educate him /her financially, if they have financial backgrounds. For, instance, children of stock market investors gain financial knowledge from their parents. Stock market participation is an important economic decision (Almenberg, 2015). If parents are buying and selling stocks and are in business of securities, then their children learn a lot unintentionally and some time children gain more knowledge informally than a formal degree.

Shim et al (2009) showed that among other childhood factors parental teaching has a great influence on the financial knowledge of a person. Webley and Nyhus (2006, 2013) and Bucciol and Veronesi (2014) measured the positive direct effect of parental teaching on financial knowledge of a person about saving but they did not consider the role of financial literacy as a mediator. In Pakistan, there is need to examine the influence of parental teaching on the level of financial literacy of their children. Another aspect is adamant to explore that how financial exposures of friends and social links affect the level of financial literacy of Pakistani stock investors.

Formal education in finance is very essential for understanding the current financial mechanism of the world. In current business world, financial markets are excelling in higher rate. For capturing the pace of this growth and for playing a role in this growth an individual needs to learn more through formal educational means. Economies are concerned to teach their younger adults about stock markets. Secondary schools in international scenario are facing great demand to educate younger adults financially (JumpStart Coalition for Personal Financial literacy, 2010; National Association of State Boards of Education, 2006; President's Advisory Council on Financial literacy, 2008; U.S. News & World Report, 2009). Hendriks (2010) described that good level of financial education can help to commence saving plans, manage debt and make strategic investment decisions for own and children's welfare. Fernandes, Lynch and Netemeyer (2014) argued in opposition of the finance education that the effect of financial education on financial behavior of an individual is not long lasting it will decay with the passage of time like many of other educational degree.

Opletalová (2015) demostarted in his research that finance students have more awareness, and are more equipped with financial knowledge and they are able to take part in growth of financial markets. Finance students are aware about interest policies, securitization process,

components of securities, and overall financial mechanisms. Financial education is a step forward to inject awareness in the young investors. In Russian context, Sabitova (2014) demonstrated that all higher education institutes should have finances as subject and it should be taught at Master's degree level because graduation level is general level. In the same way, in Pakistan there is need to evaluate the link of financial literacy in financial sector with formal finance education and to examine how financial education affects the level of financial awareness of individual investors. This study will try to fill this gap through providing evidence from Pakistani stock markets.

Finance experts' advice is another way of getting finance education. An unaware person about working of financial instruments is not able to take part in finance activities than he/she can take help of financial experts of stock markets. Financial experts are working as agents directly in stock markets and are more exposed to financial structures of the stock markets. Gine et al. (2013), described that if investors are rational and are sufficiently knowledgeable then they will demand professional advice from agents and will get benefit otherwise less informed investors will either purely prefer to advice of the agent or will not consider it. In the contrary, Georgarakos and Inderst (2011) showed that investors with full information normally disregard the advice and investors with less information normally prefer to seek advice.

In Pakistan, normally people want to take advice from financial experts because majority of the investors are not too much financially literate. So, this study will help to unveil the truth that in reality how much Pakistani investors are dependent upon financial experts' advice? And is it really practical for them or not? There is no such evidence from Pakistani research so this study will help to bridge up this gap.

The level of financial literacy increases the level of awareness about financial instruments all over the world and in turn research shows that investors make rational financial decisions and earn high profits. There is need of such study in Pakistan to explore this link between financial literacy and return of investors.

Above mentioned discussion from literature helps to develop the following conceptual from work for the study and also provides backup to the following hypotheses.

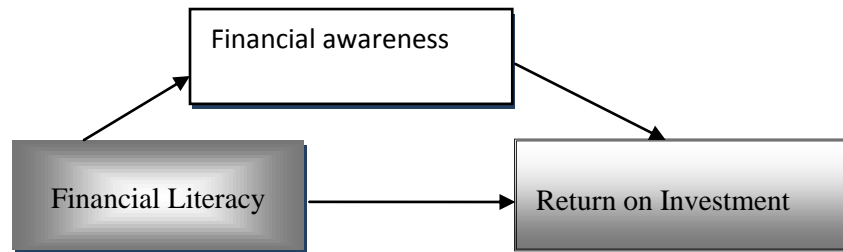


Figure 1. Theoretical frame work

Hypotheses

- H₀₁ =Financial literacy does not causes increase in portfolio return of retail investor.
- H₁₁ =Financial literacy causes increase in portfolio return of retail investor.
- H₀₂= Financial literacy does not increase in portfolio return by increasing awareness of an investor.
- H₁₂= Financial literacy increases portfolio return by increasing awareness of an investor.

Measurement of Variables

IV= Financial Literacy is measured through five basic questions used by HRS (2004), Lusardi and Mitchell (2007) and NFC's (2009) surveys.

MV= Mediator named as awareness is measured through examining the knowledge about 15 basic resources and types of securities, for coding awareness level this variable is divided into three levels on basis of correct filling of blanks about resources.

- 1 =High Awareness if 15 out 15 blanks are filled
- 2 =Moderate awareness if 10 out of 15 blanks are filled
- 3 =Low awareness 5 out 15 blanks are filled

DV= Return on Investment was measured by using the formula;

$$ROA = \frac{SALE\ PRICE - PURCHASE\ PRICE}{PURCHASE\ PRICE}$$

Respondents were asked in questionnaire to mention their investment in securities of last one year and then sale price of those securities for one year. On the basis of this information ROA Return on investment for one year is calculated. Further this return is categorized in to 4 categories for statistical operation. Total 25 percent or less profit is recognized as 1 in SPSS sheet, 50 percent or less profit is considered as 2, 75 percent or less than this is considered as 3 and 100 percent or less profit is coded as 4. This variable was measured by respondents' self reporting about their portfolio returns and ROA was examined as dependent factor.

Research Design and Methods

In developed and developing countries there are different ways for measurement for financial knowledge of individuals. OECD (2005) has focused to use some standardized tool for measurement for financial literacy in different countries. For this specific cross sectional study, an instrument was developed based on the five major areas of financial literacy initiated by Health and Retirement Study (HRS) in 2004 and National Financial Capability Study (NFCS) in 2009, Lusardi and Mitchell (2007) for measurement of financial literacy concepts of individuals. These areas were intentionally selected for having the homogeneity in measurement instrument for financial literacy. A survey form was developed based on these five questions of financial literacy with inclusion of some questions related to some background variables (age, gender, education level, income level etc). A section of instrument was enhanced for examination of causal relationship between independent factors and financial literacy, financial literacy and awareness, and awareness and portfolio return.

The respondents selected for this study were from both financial institutions (banks, DFI's, Stock markets etc) and other institutions (Universities, colleges, different businesses other than finance). Before surveying the respondents, piloting was done with 105 respondents and result of Cronbach Alpha was above than .730 which indicates that reliability of the overall instrument is good. A total of 300 people were selected for collection of responses. The convenience sampling technique was used for the fair and reliable selection of the respondents. For examination of causal relationship between variables, linear regression with mediation effect introduced by Prof. Andrew Hayes was used and Sobel test was also used for measuring mediation effect. For checking the ratio of financially literate people with effect to independent factors cross tabulation was used.

Results and Discussion

Theory of financial literacy as discussed in literature review implied that there is some influence of different variables on the level of financial literacy in different countries. Most of the concerned variables are mentioned in following conceptual framework. Advice taken by financial experts is an adamant variable. Is here any influence of advice or counseling of financial experts on financial knowledge, is a question to unveil. The other variable is formal finance education of investors, so the question is, Is here any link between finance degree of investors and his/her level of financial literacy. The third important concern is influence of family and friends, so this study explored through cross tabulation that how many individuals are influenced in their financial

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knowledge by their family and friends. So, below is the graphical representation of this concept and measurement of this concept through cross tabulation.

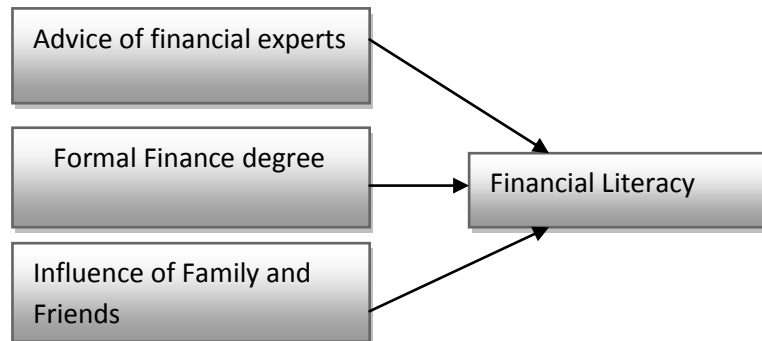


Figure 2. Relationship of Background variables and financial literacy

Table 1 Financial literacy * Advice of Financial experts Cross tabulation

Financial literacy	Advice Of Financial Experts			Total
	No Expert Services	Expert Services	Others	
Financially Illiterate	105	22	19	146
Financially Literate	25	118	11	154
Total	130	140	30	300

Table 1 shows the results of cross tabulation for financial literacy and financial expert’s service. This table shows that from total of 300 people 146 individuals are financially illiterate while 154 people are financially literate and they answered the questions related to financial literacy in a good way. It shows that from financially illiterate people, 105 individuals are not taking financial expert services while 22 individuals are taking services of financial experts while 19 individuals are taking other services for information. While from financially literate people total of 118 people are taking financial expert services for getting financial information, 25 people are not taking financial expert services while 11 people are using other sources for getting financial advice. So, this shows that majority of financially literate people want to seek advice from financial experts and get benefited from it.

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Table 2 Financial literacy * Formal finance degree Cross tabulation

Financial literacy	Finance Degree					Total
	MAF	FC	BAF	Other	Uneducated	
Financially Illiterate	1	3	10	98	34	146
Financially Literate	96	31	14	8	5	154
Total	97	34	24	106	39	300

MAF=Masters in Finance, FC= Finance Certifications, BAF=Bachelor in Finance

Table 2 shows the results of the cross tabulation for the financial literacy and formal finance degree. This table shows that from financially illiterate people (nfl) total of 1 individual has masters degree in finance, 3 individuals have finance certifications, 10 people have bachelor degree in finance, 98 individuals have other degrees and certifications while 34 individuals are uneducated.

On the other hand from financially literate people 96 individuals have master's degree in finance, 31 have finance certifications, and 14 individuals have bachelor degree in finance while 8 have any other degree than finance specialization while 5 are uneducated. So this shows that majority of the financially literate people have any finance specialization while without finance specialization financial education is at low level in individuals.

Table 3 Financial literacy * Influence of Family and friends Cross tabulation

Financial literacy	Influence of family and friends				Total
	FB	FP	NFP	Uneducated	
Financially Illiterate	3	9	98	36	146
Financially Literate	89	59	3	3	154
Total	92	68	101	39	300

FB=Financial Background, FP= Financial Professional, NPF=Non finance Professionals

Table 3 shows the results of cross tabulation for financial literacy and influence of family and friends. This table shows that total of 3 individuals from financially illiterate people have financial background , 9 individuals from financially illiterate people have financial professionals in their family and friends circle, 98 individuals have no financial professional in their family and friends circle, while 36 individuals have uneducated people in their family and friends circle.

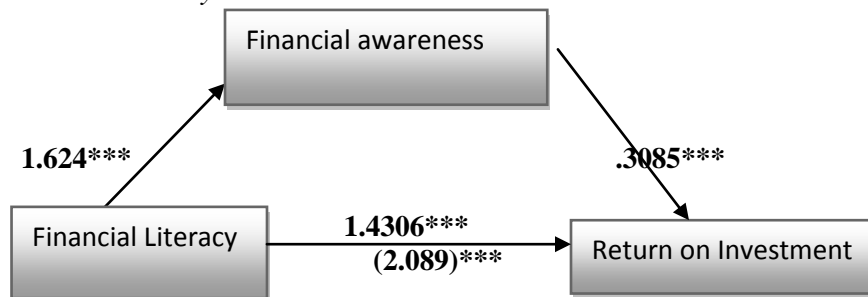
On the other hand from financially literate group 89 people have financial backgrounds, 59 people have financial professionals in their

family and friends circles, 3 individuals belong to non finance professionals while 3 are uneducated. So, this table demonstrates the importance of financially educated family and friends and unveil that majority of the financially literate individuals have some link with any financially literate persons and finance education of family and friends of an individual have a link with the level of financial literacy of an individual.

Causal relationship of financial literacy, awareness and, return on portfolio.

For examination of causal relationship between variables independent (Financial literacy) and dependent (portfolio return) a regression analysis was used by considering the effect of mediator (awareness) for testing the hypotheses (H1, H2). Results indicated that there is a significant effect of financial literacy on portfolio return of retail investors through financial awareness.

Mediation analysis



Following section of the paper shows the results in tabulated form for the above mentioned mediated relationship.

Table 4: Model Summary

Outcome: Awareness						
Model Summary						
R	R-sq	MSE	F	df1	df2	P
.6833	.4669	.7576	261.0359	1.0000	298.0000	.0000
Model						
	Coeff	se	t	P	LLCI	ULCI
constant	3.0205	.0720	41.930	.0000	.8788	3.1623
Financial Literacy	1.6244	.1005	16.1566	.0000	1.8223	1.4266

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Table 4 shows financial literacy has significant effect on the level of awareness of investors as $\beta = 1.6244$, $t (16.1566)$, $p = <.001$. Financial literacy accounts for total of 49.6 % variation in mediator as (R-sq is .4969). So, this means in Pakistan, financial literacy increases the level of financial awareness of retail investors. If an individual is financially literate then he can understand better financial terms and will be more aware about financial news about securities. Because he has basic knowledge of finance so, he shows interest in financial information and become more aware than a financially illiterate investor.

Table 5

Outcome: PROI							
Model Summary							
	R	R-sq	MSE	F	df1	df2	P
	.7258	.5269	1.0501	165.3569	2.0000	297.000	.0000
Model							
	Coeff	se	t	P	LLCI	ULCI	
Constant	2.7111	.2228	12.1700	.0000	2.2727	3.1495	
Awareness	.3805	.0682	5.5801	.0000	.5148	.2463	
Financial Literacy	1.4306	.1621	8.8239	.0000	1.1115	1.7496	

PROI= portfolio return on Investment

Table 5 shows the results of regression for portfolio return of retail investor by noticing the financial literacy as independent variable and awareness as a mediator. According to this, awareness has significant effect on portfolio return as awareness has $\beta = .3085$, $t (5.5801)$, $p = <.001$. Financial literacy also has strong significant effect on portfolio return of retail investors in presence of mediator as financial literacy has $\beta = 1.4306$, $t (8.8239)$, $p = <.001$.

Table 6 Total Effect Model

Outcome: PROI							
Model Summary							
	R	R-sq	MSE	F	df1	df2	P
	.6908	.4773	1.1563	272.0627	1.0000	298.0000	.0000
Model							
	Coeff	se	t	P	LLCI	ULCI	
Constant	1.561	.0890	17.5480	.0000	1.3865	1.7368	
Financial Literacy	2.0487	.1242	16.4943	.0000	1.8043	2.2932	

PROI= Portfolio Return on Investment

Table 6 shows that total effect of the model is also statistically significant and financial literacy has $\beta = 2.0487$, $t (16.4943)$, $p = <.001$. This result

demonstrates that financial literacy and awareness has strong total effect on portfolio return of retail investor. If a person is financially literate and is much aware about current news and information about stocks then he will have strong portfolio return.

Table 7

Total, Direct, And Indirect Effects				
Indirect effect of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
awareness	.6182	.1397	.3643	.9195
Ratio of indirect to total effect of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
awareness	.3017	.0749	.1698	.4686
Ratio of indirect to direct effect of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
awareness	.4321	.1669	.2045	.8819
Normal theory tests for indirect effect				
	Effect	se	Z	p
	.6182	.1174	5.2653	.0000

Table 7 shows the result of total effects, as indicated by first row, indirect effect of financial literacy on portfolio return is statistically significant through mediator. The effect size is .6182 at confidence interval of 95% so statistically strong mediation has occurred.

Standardize complete effect of financial literacy on portfolio return is also strong at confidence interval of 95 % through awareness. Results of the Sobel test suggested that the association between high financial literacy and portfolio return of retail investors is significantly mediated by awareness of the individual investor ($z' = 5.263$, $p < 0.01$). These results suggest that financial literacy increases the portfolio return by increasing the awareness of retail investors (Hypothesis 1, 2).”

Conclusion

This study was conducted to examine the relationship between level of financial literacy and portfolio return of an individual by having the meditation effect of awareness level. This study proved the theory that in cultural context of Pakistan, the level of financial literacy will increase the financial awareness of an individual investor and in turn portfolio return of an individual will also increase. In effect with these variables, some independent variables (advice of financial experts, finance degree of investors and influence of family and friends) were also examined by cross tabulation. It is evident though results that finance degree holders

are more financially literate and advice of financial expert also considered by more financially literate people and more financially literate people have financial backgrounds (family and friends).

There are some limitations of the study; this study did not examine some other variables linked with financial literacy due to money and time constraints. While practically this study will help Pakistani economy for increment in investment rate of investors by exploring the effect of different factors on investors' level of financial awareness, literacy and ultimately on their stock return. This study will help future researcher in Pakistan to explore different dimensions of financial literacy in stock markets and other financial markets of Pakistan and as well for international markets.

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