Consumers' financial literacy as tool for preventing future economic crisis

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Executive Summary

Financial literacy is an increasingly attractive research subject due to its implications for consumers' management of their personal finance. Financial literacy refers to consumers' ability to function independently in today's monetary economy, thus affecting their financial well-being. In the wake of the global financial crisis, financial literacy is becoming a relevant issue, not only for an individual consumer, but also for financial institutions and policymakers.

The objective of this paper is to investigate the nature and extent of financial literacy among consumers in European countries, and identify factors determining the decisions of consumers on the financial services market. To this end a survey was conducted using a structured questionnaire in Germany, Poland, Romania, Spain and the United Kingdom.

The research results have provided evidence that the level of financial literacy in selected countries is low, sometimes at the level of financial illiteracy, resulting in consumer misunderstanding and misinterpretation of basic financial services. The lowest level of financial literacy occurred in countries where financial crises had the strongest influence on economy.

Research results have also shown that financial illiteracy depends on gender, level of education and profession. Financial literacy significantly affected the financial decisions of individual consumers. Specifically, financial illiteracy had a negative effect on the image of financial institutions, neutral information, and personal financial needs as well on advocate information.

financial literacy…
has direct implications for how consumers earn, manage, and spend their finances

The objective of this paper is to assess financial literacy of individual customers in selected European countries. The study is also designed to examine the effect of demographic factors on financial literacy, especially gender, age, education, employment status, work activity and financial situation. In addition, it examined the relationship between financial literacy and the influence of factors affecting a financial decision.

In recent years financial literacy has become a prominent item on the public agenda worldwide. Financial crises have repeatedly dominated headlines throughout the last decade and beyond, with stock market collapses, malfunctioning credit markets and

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under-funded pension funds being only a few prominent examples. These undesirable outcomes have occurred in spite of the fact that in the vast majority of countries these aspects of economic life are extensively regulated within complex and ever-evolving legal frameworks, supported by arrays of government and non-government bodies.

Against this background, the received wisdom among many legislators and regulators is that improved levels of expertise in financial planning and decision-making might somehow enable consumers to better withstand such crises as may arise from time to time (Shambare and Rugimbana, 2011). Indeed it has also been suggested that higher levels of financial literacy can alleviate some of the regulatory burden, potentially reducing the need for legislation and the degree of government involvement in financial markets (Williams and Satchell, 2011).

Arguments are also made to the effect that extending financial education can improve the functioning of financial markets themselves, e.g. the European Parliament states that educated and confident investors can provide additional liquidity to capital markets for investment and growth (European Parliament, 2008).

These quotations suggest a relatively sophisticated contemporary notion of financial literacy, pitched at a practical level, with a specification of cause and effect and an embedded implication of measurable social benefit. This is quite different from an amorphous idea of educating consumers about finance with only vague goals (e.g. teaching how to run a household budget or the difference between a stock and a bond).

In recent years financial literacy has gained the interest of various groups including governments, bankers, employers, community interest groups, financial markets, and other organizations, especially in the European Union, where member countries are creating a joint financial market as well as representing different models of financial markets and levels of development.

Financial literacy – theoretical background

From an academic point of view, financial literacy has begun to attract a growing scientific interest. The concept cuts across many diverse fields of economics, encompassing issues at the level of an individual such as the consumer ability to manage the household budget or to make deliberate information-based decisions about credit facilities, and at the aggregate level, such as the impact of financial literacy on stock-market participation (Huston, 2010).

Financial literacy has been studied from different aspects. The first aspect mainly relates to the definition of financial literacy. According to Hassan Al-Tamimi and Kalli (2009) financial literacy is about how consumers manage their personal finances. The notion of financial literacy is borne from an individual's ability, or inability thereof, to function independently with respect to money and finance-related transactions. But Melitz (1970) defines money as a system of symbols organized according to an "elaborate code of rules concerning the correct way of employing the symbols and general rules applicable to all symbols".

Broadly, the ability to decipher and understand this "money code" constitutes financial literacy. But what constitutes money and financial markets varies across societies. For that reason, financial literacy is also context-bound.

Lusardi and Mitchell (2007) define financial illiteracy as being unfamiliar with the most basic economic concepts needed to make sensible saving and investment decisions, affecting saving, retirement planning, retirement itself, mortgage, and other financial decisions. Alternatively, the Organization for

Economic Cooperation and Development **(OECD)** describes financial literacy as the function of three aspects which the consumer needs to possess in order to be deemed financially literate. These are:

1. knowledge and skills pertaining to financial risk and financial opportunities,

2. ability to identify the source of assistance in financial matters, and

3. an ability to take effective actions to improve financial well-being (OECD, 2005).

The importance of financial literacy cannot be overstated since it has direct implications for how consumers earn, manage, and spend their finances (Hung et al., 2009; Yzaguirre, 2002). From a macro level, financial and economic stability depends on the collective financial well-being, including the financial literacy of the citizens (North, 2009; Yzaguirre, 2002; Senn, 1999). Overall, financial literacy raises consumer awareness of the nature of money.

Quite simply, financially literate consumers know more about money and are able to do more with their finances and maximize their financial position. In contrast, financial illiteracy often results in a plethora of financial problems. The American Financial Services Association (AFSA) reinforces this point and demonstrates that financial illiterate consumers are even at a greater risk of being ripped off by their financial institutions (AFSA, 2002).

The second aspect of the research refers to the relation between the level of financial literacy and the stage of economic development of the country. Government entities and private organizations in developed nations have conducted surveys to measure the financial literacy level of their population.

A study by the OECD (2005) reviewed financial literacy in 12 countries including the U.S.A., the UK, European countries, Australia, and Japan. The study showed that all of the surveys conducted in those countries concluded that financial literacy is very low for most respondents. Studies conducted by Lusardi (2008) also present some evidence of financial illiteracy in the United States. According to the study, the level of financial literacy in the U.S. is very low, which implies that financial literacy is independent of the stage of economic development of a country.

The third aspect of the study concerns the relationship between financial literacy and demographic variables. Consequently, the research conducted by Chen and Volpe (1998) in the U.S.A. was focused on investigation of the relationship between the level of financial literacy and gender, age, nationality, race, income, work experience, academic discipline, and class rank.

The results of the study indicated that subgroups of an academic discipline, a class rank, and work experience were significantly different in terms of financial literacy level. Non-business majors, lower-class students, and less-experienced workers had a lower level of financial literacy. In addition, women were far less literate than men, and foreign students were less knowledgeable than U.S. citizens.

On the other hand, Volpe et al. (2002) examined the investment literacy of online investors and the difference in the literacy level among various groups of participants on the basis of such variables as: age, income, gender, education, and previous online trading experience as variables.

The study demonstrated that the level of financial literacy varied depending on people's education, experience, age, income, and gender. Women, in particular, had much lower financial literacy than men, and older participants performed better than younger ones, whereas online traders had better knowledge than the others. Moreover, investors with higher income had more knowledge in investment than those with lower income, and investors with college or higher degree performed better than those with a lower level of education.

ACNielsen Research (2005), in turn, conducted a national survey of adult financial literacy in Australia. The main results of this survey indicated that the lowest levels of financial literacy were associated with people who were less-educated, unemployed or unskilled, who had lower income and who were single, and those at both extremes of the age profile. On the other hand, the 2005 results showed an overall improvement in the financial literacy of Australians.

Non-business majors, lower-class students, and less-experienced workers had a lower level of financial literacy [and] women were far less literate than men…

Thus, it can be concluded that researchers have discovered a strong relation between the level of financial literacy and gender, education, income level, and experience. Evidence has been made that women are less literate than men in financial matters. Less educated individuals and those at the lowest end of the income distribution are less literate with respect to financial matters.

The fourth area of the study comprises the relation between the financial literacy level and financial decisions. Research done in 2005 by the Money SENSE Financial Education Steering Committee measured whether Singaporeans were knowledgeable about common financial products and services, and whether they had been making effective decisions in managing their finances.

The research revealed that Non-business majors, lower-class students, and less-experienced workers had a lower level of financial literacy. In addition, women were far less literate than men, and foreign students were less knowledgeable than U.S. citizens. (Williams and Satchell, 2011).

Maditinos et al. (2007) examined the techniques and methods used by six different groups of Greek investors: official members of the Athens Stock Exchange, mutual fund management companies, portfolio investment companies, listed companies, brokers, and individual investors.

The results revealed that on average the participants ranked their instinct/experience as the most important factor followed by fundamental analysis and the movement of foreign financial markets. Market disturbance and portfolio analysis were considered the least important factors.

Volpe and Chen (2006) surveyed benefit administrators in charge of personal finance programs in U.S.-based companies in order to specify important personal finance issues for working adults and to assess their level of knowledge. The results revealed that the least important areas were estate planning and investment.

Specifically, the least important topics concerned knowledge of mutual fund prospectuses, mutual fund fees, and expense ratios. The participants also indicated that working adults were actually least knowledgeable about the topics that they viewed as the least important. In general, the benefit administrators indicated that the level of knowledge of working adults was relatively low.

Mirshekary and Saudagaran (2005) assessed how different users of financial statements use information items disclosed in annual reports, and evaluated the importance of diverse sources of information in making investment decisions. They distributed a questionnaire to seven different groups of users of financial statements in Tehran, including stockbrokers, bank investment officers, and institutional investors. In general, respondents ranked annual reports as the main influential source of information. The second most influential source of information was word-of-mouth and the third was daily share price quotations.

On the other hand, the respondents ranked as the least influential the following factors (in sequence of importance): friends' advice, tips and rumors, and stockbrokers' counseling. Mirshekary and Saudagaran concluded that the annual reports were used regularly in Iran as a basis for making investment decisions.

Al-Tamimi (2006), in turn, investigated the most and the least powerful factors affecting the UAE financial behavior. The most influencing ones comprised, in order of significance: getting rich quickly, stock marketability, past company performance, government holdings, and the creation of organized financial markets. In addition, two factors turned, quite surprisingly, to be the least powerful, namely religious reasons and family member opinions.

With reference to the above, a conclusion can be drawn that highly literate customers prefer to use different criteria when making a financial decision as compared to low-literacy customers. Highly literate customers prefer to use financial publications, whereas low-literacy investors tend to rely more on advice from family, friends, and personal advisers.

It should be emphasized that so far the research has been conducted mainly in highly-developed countries (OECD, 2005), and only few studies have been focused on transitional or emerging markets. Practically, there is no scientific evidence of financial literacy comparisons between "old" and "new" members of the European Union.

There is also a gap in the previous work with respect to relationship between financial literacy and customer financial decisions. In the current study, an attempt has been made to examine the relationship between financial literacy and financial decisions of customers from countries representing different models of financial systems and different levels of market development.

Research methodology

Determination of customer financial literacy in the "old" and "new" member countries of EU is an extremely complex process, which, on the one hand, results from a specific character of the category, and, on the other hand, from complexity of the financial situation on particular markets, and prospects of research conducted on an international scale. The organization of direct research into customer financial literacy was mainly concerned with precise definition of research goals and scopes, especially the subject and place of the research.

Highly literate customers prefer to use financial publications [but] low-literacy investors tend to rely more on advice from family, friends, and personal advisers.

The following study was designed to assess financial literacy of individual customers in selected European countries, and to examine the relationship between financial literacy and influence of factors affecting the financial decision-making process. Consequently, hypotheses were made to answer the following questions:

Q1. Is the financial literacy of EU customers within the acceptable level?

Q2. What are the most influential factors that affect the financial decisions made by the EU customer?

It was assumed that answering the first question could help explore the level of financial literacy of EU customers. Additionally, finding an answer to the second question would make it possible to find out factors which are the main determinants of the decision-making process of EU customers on the financial services market.

Based on the stated purpose of the study and on the research questions, the following hypotheses were formulated:

H1. The EU customers' financial knowledge is well below the needed level.

H2. There is a significant difference between the levels of financial literacy of EU customers based on their gender.

H3. There is a significant difference between the levels of financial literacy of EU customers based on their age.

H4. There is a significant difference between the levels of financial literacy of EU customers based on their financial situation.

H5. There is a significant difference between the levels of financial literacy of EU customers based on their employment status.

H6. There is a significant difference between the levels of financial literacy of EU customers based on their workplace activity.

H7. There is a significant difference between the levels of financial literacy of EU customers based on their education level.

H8. There is a positive significant relationship between financial literacy and financial decisions of EU customers.

H1 was put to a rather informal test, whereas the other eight hypotheses were verified via a formal regression model. The hypotheses were formulated to examine whether or not the financial literacy level of EU customers was at an acceptable level. If not, how could it be improved? For financial literacy improvement, what is the most needed educational program, and to whom should it be addressed? For example, do women need more financial education than men and, if so, at what age or at what income level? For financial literacy improvement, it might also be important to consider the influence of an educational level, the type of work, and an employment status. Finally, it is necessary to look at the relationship between individual financial decisions and financial literacy, which is reflected in *H8.*

In order to verify the hypotheses, the direct research was carried out on test groups of consumers from Germany, Poland, Romania, Spain and the United Kingdom. The study of financial literacy in selected countries was organized in 2012 in Poland and 2013 in the rest of the countries, on test groups of 600 people each.

on average…investor's knowledge about finance is inadequate

The average questionnaire content equaled 49%, but after verification of the material, 42.4% of the questionnaires were approved for further analysis. The choice of the countries was deliberate and comprised Germany, Spain and the United Kingdom as the "old" members of EU.

In the group, Germany represents the bank-oriented financial system, while the United Kingdom represents the stock exchange system. Spain was undergoing a serious turmoil of its home economy. Poland was selected as the first "new" member of EU and the only country which has grown during the financial crisis. Romania, in turn, was chosen as the last country to become an EU member (at the time this research was conducted).

In the course of the study a decision was made to standardize the research and to use the earlier research experience gathered in Poland, as well as to ensure the equivalence of the data collection procedure (survey questionnaire) and that of the test group (based on a quota selection method according to age and education).

The research was done on the basis of a questionnaire modified from the one used by Al-Tamimi (2006) and by the Monetary Authority of Singapore (2005). It was designed to assess or measure financial literacy, and factors determining financial decisions. It should be underlined that objective measures were used to assess the financial literacy level, while subjective measures were used to assess the effect of different factors on the financial decision.

The questionnaire consisted of 62 questions of which six elicited demographic and socioeconomic information, 37 measured the influence of 37 different factors on a financial decision, and 18 gauged respondents' understanding of finance and investment. The questionnaire was divided into three parts.

The most powerful determinants of financial decision-making include the reputation of the financial institutions, perceived ethics of the firm, and diversification purpose…

The first part was devoted to the financial literacy level and contained 18 exam-type true-or-false questions. The second part identified 27 factors affecting customer financial decisions by means of a five-point Likert scale ranking the influence of each specified factor from 1 (strongly disagree) to 5 (strongly agree).

The factors, or items, were categorized into 6 items corresponding to the image of financial institutions, 6 items corresponding to accounting information, 6 items corresponding to neutral information, 4 items to advocate recommendations, and 5 items to personal financial needs.

The third part covered demographic and socioeconomic variables of gender, age, education level, employment status, workplace activity, and a financial situation. After the design of the questionnaires, the measurements were evaluated in terms of their wording and consistency by three experts, including marketing specialists and professors of statistics

Data analysis and results

The questionnaire asked each respondent to provide demographic data that included gender, age, education, subjective evaluation of financial situation, employment status, and workplace activity. Table 1 provides descriptive statistics for the respondents' characteristics.

Table 1
Respondents' characteristics

Characteristics	Germany	Poland	Romania	Spain	UK
Gender					
Female	42.2	49.7	47.9	46.9	41.7
Male	57.8	50.3	52.1	53.1	58.3
Age					
18-24	13.8	19.3	17.2	15.4	14.6
25-34	17.3	22.0	25.5	24.1	20.3
35-44	26.5	19.4	17.7	29.3	26.3
45-54	20.4	19.0	17.9	13.6	15.9
55-64	11.9	12.8	12.0	11.2	13.7
65+	10.1	7.5	9.7	6.4	9.2
Education					
Below high school	57.8	42.4	53.8	56.1	54.6
High school	29.8	41.4	36.5	47.9	27.5
Higher education	12.4	16.2	9.7	11.8	17.9
Employment status					
Full time	63.5	69.4	76.4	67.9	79.8
Part time	14.2	6.7	11.6	16.9	3.9
Own business	12.6	14.8	4.8	8.4	10.2
Unemployed	9.7	9.1	7.2	6.8	6.1
Workplace					
Finance/banking/investment	21.8	27.1	19.3	18.9	14.5
Other	78.2	72.9	80.7	81.1	85.5
Financial situation					
Very bad	2.5	1.7	3.1	2.4	7.2
Bad	32.7	20.9	30.4	29.7	41.3
Average	41.7	52.1	49.3	47.2	37.8
Good	19.2	18.2	14.5	14.5	8.5
Very good	3.9	7.1	2.7	6.2	5.2

Of the total amount of respondents, 54.3% were males and 45.7% were females. About 16.1% of the respondents were 18-24 years old, 21.8% were 25-34 years old, 42% were 35-44 years old, 17.2% were 45-54, 12.3% were 55-64 and the remaining 8.6% of the respondents were 65 years or older.

As for education, 51.8% of the respondents had a certificate less than high school, 36.6% were high school graduates, and the remaining 11.6% had higher degrees. About 71.4% of the respondents were full-time employees, 9.3% were self-employed, 10.6% were part-time employees and 8.6% were either unemployed, or retired.

In terms of work activity, 20.3% of the respondents worked in finance, banking, or investment, whereas the remaining 79.6% were employed in other fields. As for how they felt about their own financial situation, about 46% described their situation as average, 38.2% as bad or very bad, and less than 20% as good or very good.

Reliability of the five categories of factors affecting the customer financial decision was investigated with Cronbach's alpha to measure how strong the scale of internal consistency is. As a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and a good indication of construct reliability (Gorniak, 2000). The results of reliability coefficients (alpha) as shown in Table 2 indicate that the five categories strongly meet the acceptable level of 0.7 or higher.

Table 2
Reliability of categories that influence financial decisions

Category	Cronbach's alpha
Image of financial institution	0.812
Accounting information	0.754
Neutral information	0.781
Advocate recommendation	0.742
Personal financial needs	0.803

The measures of financial literacy used in studies that cover financial literacy are often basic. Many of the studies used self-assessment questions or 5-10 exam-type questions. For example, Byrne (2007) relies on only four questions to measure investment knowledge, and Alexander *et al.* (1997) depend on nine questions related to mutual funds. Volpe *et al.* (1996) rely on ten questions, as do the OECD studies, which use a self-assessment survey. These limitations have made the validity and reliability of those surveys questionable. The current study overcomes this problem by using a comprehensive exam-type questionnaire of financial literacy that covers the main aspects of financial decisions.

Table 3 presents the overall participants' scores on the financial literacy test. The results demonstrate that on average participants answered 40.55% of questions correctly, suggesting that the investor's knowledge about finance is inadequate

Table 3
Overall financial literacy level in EU countries

Central tendency	Percentage				
	Germany	Poland	Romania	Spain	UK
Mean	42.37	41.73	38.23	40.59	41.84
Median	40.59	39.95	37.47	38.82	41.07
Minimum	0.00	0.00	0.00	0.00	0.00
Maximum	88.61	90.92	88.47	88.76	87.08

Since the questions are fundamental, the fact that the participants answered less than half of them correctly indicates that they have a low financial literacy level. The median percentage of the correct score is 38.78 percent. The results confirm *H1*, namely that EU customers' knowledge is far from the necessary level.

One of the objectives of this study is to determine if there is a significant difference in financial literacy level among different groups of respondents according to gender, age, education level employment status, work activity, and financial situation. In order to test *H2* through *H7*, a one-way ANOVA was run.

Table 4 indicates that there is no significant difference in financial literacy among different groups of respondents according to their age, employment status and financial situation.

Table 4
One-way ANOVA test – financial literacy and demographic variables

Variables	Sum of square	df	Mean square	F	Sig.
Gender	1.187	1	1.187	5.102	0.024
Age	1.804	3	0.601	1.798	0.142
Education level	1.093	4	0.273	3.904	0.006
Employment	2.996	1	2.996	1.531	0.315
Work activity	1.517	6	0.252	6.728	0.000
Financial situation	3.115	3	1.038	0.983	0.397

Thus, *H3, H4,* and *H5* are not confirmed. It can be concluded that that there is no significant difference in the level of financial literacy of EU customers according to their age, employment status, and financial situation.

On the other hand, the results reveal significant difference in financial literacy level based on gender, work activity, and education level. Therefore, *H2, H6,* and *H7* are confirmed.

parents, school, and work are important sources of financial education

The findings illustrate that there is a significant difference between the financial literacy level with respect to gender, work activity, and education level, which is consistent with the findings of Volpe et al. (2002). Surprisingly, the difference in financial literacy level is insignificant when it comes to age, income level, and employment status.

Table 5 presents the mean and standard deviation of each of the five categories. The results illustrate that the most influential group is the Image of the Financial Institution with a mean of 3.8. The order of the other four categories according to their influence on financial decision is as follows: neutral information with a mean of 3.6, accounting information with a mean of 3.4, personal financial needs with a mean of 3.4, and advocate recommendation with a mean of 3.1.

Table 5
Mean and standard deviation of the five categories

Category	Mean	Standard Deviation
Image of financial institution	3.879	0.679
Neutral information	3.643	0.624
Accounting information	3.490	0.582
Personal financial needs	3.417	0.609
Advocate information	3.188	0.561

Regarding the most and the least influencing factors on investment decision, Table 6 reveals the classification of the factors within each category, and their mean.

Table 6
Classification of factors within each category

Number	Factor	Mean
I. Image of financial institution		
1	Feelings for financial institution's services	4.27
2	Reputation of financial institution	4.12
3	"Get rich quick"	3.46
4	Financial institution status on market	3.74
5	Perceive ethics of financial institution	3.68
6	Increase of financial institution's involvement in solving community problems	3.12
II. Accounting information		
7	Past performance of financial institution	3.88
8	Stock marketability	3.76
9	Condition of financial statements	3.05
10	Information obtained from internet	3.59
11	Insiders' information	3.25
12	Rumors	2.74
III. Neutral information		
13	Governmental holding	3.09
14	Fluctuation in the stock index	3.57
15	Coverage in press	3.12
16	Statements from government officials	3.38
17	Current economic indicators	3.49
18	Recent price movement in financial institution's stock	3.26
IV. Advocate information		
19	Financial advisor recommendation	3.57
20	Family member opinions	2.45
21	Friends opinions	2.91
22	Opinions of financial institution's members	3.13
V. Personal financial needs		
23	Diversification purpose	4.02
24	Ease of obtaining borrowed funds	3.28
25	Minimizing risk	3.19
26	Expected losses	3.05
27	Maximizing earnings	3.62

The seven factors according to their mean are as follows:

1. reputation of the financial institution with a mean of 4.27,
2. feelings for the financial institutions and services with a mean of 4.27,
3. diversification purpose with a mean of 4.02,

4. past performance of the financial institution with a mean of 3.88,

5. stock marketability with a mean of 3.76,

6. financial institution status in industry with a mean of 3.74., and

7. perceived ethics of the firm with a mean of 3.68.

Only three factors were considered the least influencing factors, namely friend recommendations with a mean of 2.91, rumors with a mean of 2.74, and family member opinions with a mean of 2.45. This part of the study reveals that the reputation of the financial institution is the main factor that influences financial decisions of EU customers, whereas the least influencing factor is the opinion of family members. In addition, the main category that affects the investment decision is the image of the financial institution.

In order to test the last hypothesis, a positive significant relationship between financial literacy and financial decisions of the EU customers, a regression model was used. In this model, the sum of the financial factors is considered as the dependent variable and the overall score of the financial literacy as the independent variable. The results presented in Table 7 indicate that there is a negative significant effect of financial literacy on the total financial factors. However, only 2.9% of the variation in the total financial factors can be explained by the financial literacy level. Accordingly, *H8,* which stated "There is a positive significant relationship between financial literacy and financial decisions of CEE customers," is rejected.

Table 7

Regression analysis results-financial literacy and total investment factors and each of five categories

Dependent variable	R^2	Adjusted R^2	SE of estimate	ß	t	Sig.
Image of financial institutions	0. 209	0.023	4.217	-0.223	-0.174	0.012
Neutral information	0.016	0.009	4.983	-0.301	0.069	0.006
Accounting information	0.000	-0.007	5.013	0.008	-2.334	0.847
Personal financial needs	0.021	0.015	3.960	-0.129	-3.259	0.019
Advocate information	0.037	0.033	4.277	-0.114	-2.372	0.016
Sum of financial factors	0.034	0.029	16.926	-0.166	-2.393	0.007

In addition, the results show a significantly negative effect of financial literacy on the preference of the image of financial institutions. Similarly, financial literacy has a significant negative effect on the categories of neutral information, personal financial needs, and advocate information.

By contrast, the relationship between financial literacy and accounting information has an insignificantly positive relation. The results are surprising and opposite to authors' expectations. One possible explanation to the findings is that highly financially literate customers reduce their dependency on a certain group of factors and take their financial decisions based on other factors from different categories.

In conclusion, it can be stated that there is a significant negative effect of financial literacy on financial factors. In addition, when each of the five categories is used as a dependent variable, financial literacy has a significantly negative effect on the image of financial institutions, advocate information, personal financial needs, and neutral information. However, the increase of the level of financial literacy does not considerably improve preference for accounting information, although the relation is positive.

Conclusions

In this study, the financial literacy level of EU customers and the factors that influence their financial decisions were subject to examination. It is possible to summarize the research findings by stating that financial literacy is far from the required level.

Even more so, one can venture a statement that financial *illiteracy* is present in EU countries. The financial literacy level has been found to be affected by financial situation, education level, and workplace activity. A significant difference in the level of financial literacy has also been observed with respect to respondents' gender, education level and work activity.

The top three most powerful determinants of financial decision-making have included the reputation of the financial institutions, perceived ethics of the firm, and diversification purpose, whereas the three least influencing factors have comprised rumors, family member opinions, ease of obtaining borrowed funds and friend's recommendations.

Financial literacy has significantly affected financial decisions of individual customers. Specifically, financial literacy has had a negative effect on each of the five factor categories with the exception of the accounting information category. The effect of financial literacy on the accounting information category has been positive, but statistically insignificant. The lowest level of financial literacy occurs in countries where financial crises had the strongest influence on economy.

Undoubtedly, future research should be more intensely focused on investigating what should constitute viable financial literacy in the context of globalization of the financial market. Similarly, it may be necessary to consider and embark on research into the most effective campaigns for financial literacy. Ultimately, that is the research that is likely to inform policymakers and financial institutions on the most sensible strategies to be implemented.

Invariably, this calls for further research in different countries from the region, as well as for comparative analyses to be made between well-developed countries and countries in emerging markets. In addition, it would be proper to commence with a more comprehensive study of consumers' perception of how they earn, manage, and spend their money.

It should be underlined that financial illiteracy, like language illiteracy, is not absolute in its own right (Harrison-Walker, 1995), and must be gradually replaced with financial literacy that comes with adequate exposure to financial markets (Yunus, 2008; Yzaguirre, 2002).

With proper training and guidance, consumers are likely to enhance their knowledge and become more comfortable using additional financial tools and media such as internet banking, debit cards, or even overdraft in a more responsible and considerate way.

When this financially literate generation becomes parents, then its knowledge, as suggested by Yzguirre (2002), will trickle down to the next generation. This social network, while informal, is also a more certain and effective way of transmitting knowledge. Evidence from this study indicates that parents, school, and work are important sources of financial education.

It has been previously argued that an increased exposure to financial services raises consumers' awareness to financial matters and, subsequently, their financial literacy (Yzaguirre, 2002). That is why consumer financial education should be considered as an integral and important aspect of financial institutions.

A more knowledgeable customer base has many advantages for financial institutions –

reduced risk profile, and reduced moral hazards (Koveos and Randhawa, 2004). All of these combined will ultimately protect the image and growth of financial institutions.

When viewed from a consumer perspective, consumers patronize financial institutions in order to optimize their financial management. The ultimate purpose of increasing financial education is to facilitate consumers' full participation in the market place (First Command Educational Foundation, 2008; Yunus, 2008). Therefore, if financial institutions meet this need more effectively, then they could affect themselves more positively.

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