

Islamic Financial Literacy among Bankers in Kuala Lumpur

Mohamad Azmi Abdullah^{a,*}, Alex Anderson^b

^a*University Malaysia Sabah, W.P Labuan, 87000, Malaysia*

^b*Queensland University of Technology Australia*

Abstract

This article presents the findings on the study that determines the factors which influence financial literacy of bankers around Kuala Lumpur in term of Islamic financial products. The Governor of Central Bank of Malaysia pointed out several years ago that in order to make Islamic financial products acceptable to a wider spectrum of investors and businesspeople alike, financial literacy on Islamic financial products need to be enhanced. This is to facilitate transactions, with a clear understanding and appreciation of the unique characteristics and features of Islamic Finance and its real economic value. However, to date there is scarcity in the studies of Islamic financial literacy in Malaysia. This is proven when Kayed (2008) queries if there are any attempts by the research community to assess levels of Islamic financial literacy in various Muslim communities. In addition, Ahmad (2010) also points out the importance of Islamic financial literacy. These issues have actually motivated the current study to review available literatures on financial literacy mainly focusing on the Islamic financial literacy. The objectives of this study are (i) determine if the bankers possess adequate financial literacy to undertake financial decision with respect to Islamic financial products and services, and (ii) identify the significant factors that influence Islamic financial literacy among bankers. Factor analysis is used in order to identify those factors that indicate banker's Islamic financial literacy. The findings reveal that nine factors determine banker's financial literacy on Islamic financial products and services

Keywords: Financial Literacy; Financial Knowledge; Knowledge on Islamic Financial Products

1.0 INTRODUCTION

The recent financial crisis has shifted the attention of the world towards the importance of financial literacy. The crisis has revealed the severity of the consequences that people have made through their lack of knowledge especially when it comes to making decision on investment in the financial markets. The global financial crisis has also accelerated awareness of the need to improve financial literacy among the population (Wolfe-Hayes, 2010). In addition, Huston (2010) believed that the financially literate could do the most to boost financial literacy by becoming more informed on the economic issues and more

* Corresponding author. Tel.:087-460498; fax:087-460477.
E-mail address: azmi4386@ums.edu.my; azmi4386@gmail.com

importantly by demanding that people demonstrate a degree of economic literacy. She further exerted that financial mistakes can impact not only individual welfare but create negative externalities that affect all economic participants as well.

Financial literacy is an amalgamation of the understanding of financial products and concepts by both consumers' or investors' and their ability and confidence to make informed choices, and to take other effective actions to improve their financial well-being. It was further assessed that financial literacy is especially important today because of the various reasons such as the increasing complexity of financial products and services which are also accessible from a growing number and type of providers. Due to the increase in number and complexity of the financial products and services, individuals are also being asked to take more responsibility for important financial decisions and a large numbers of consumers are entering financial markets for the first time, both because income is growing in developing countries and because new financial institutions, such as microfinance providers, and new technologies, such as branchless banking, which have made it easier for consumers to participate in financial market (Miller et al., 2009).

The financial crisis has also led to the renewed focus of the world to Islamic Finance. The Islamic financial industry has been flooded with various different types of financial instruments and assets for not only Muslim investors but also the non-Muslim investors to choose from. Hence, an understanding of the features and differences between these instruments and assets are pertinent in order for investors irrespective of whether they are Muslims or Non Muslims to manage their portfolio. With respect to making these Islamic financial products acceptable to a wider spectrum of investors and businesspeople alike, the Governor of Central Bank of Malaysia several years ago has pointed that enhanced financial literacy on Islamic financial products will facilitate transactions, with a clear understanding and appreciation of the unique characteristics and features of Islamic Finance and its real economic value. Yet Kayed (2008) in his paper enquired if there are any attempts by the research community to assess levels of Islamic financial literacy in various Muslim communities? In addition, two years later, Ahmad (2010) questioned why Islamic financial literacy is important. These two queries have indicated that during those times, there was relatively very little study specifically focusing on the Islamic financial literacy.

The objectives of this study are two; (i) to determine if the bankers possess adequate financial literacy to undertake financial decision with respect to Islamic financial products and services, and (ii) to identify the significant factors that influence Islamic financial literacy among bankers.

2.0 LITERATURE REVIEW

There are voluminous literatures written on financial literacy (Huston, 2010; Remund, 2010; Walstad et al., 2010; Lusardi et al., 2010; Lusardi, 2008). Nevertheless, studies on financial literacy have not come up with a consensus definition of financial literacy. Even though Remund (2010) has reviewed the research studies on financial literacy ever since 2000, nonetheless he found that no one has come up with one definition of financial literacy that is agreed upon by majority of the researchers (Huston, 2010;

Remund, 2010). However, Remund (2010) was able to pin point that many conceptual definitions of financial literacy fall into five categories: (i) knowledge of financial concepts, (ii) ability to communicate about financial concepts, (iii) aptitude in managing personal finances, (iv) skill in making appropriate financial decisions and (v) confidence in planning effectively for future financial needs. He came up with a synthesised definition which draws upon the key concepts that were identified in the various studies on financial literacy. According to him, financial literacy is a measure of the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate, short-term decision-making and sound, long-range financial planning, while mindful of life events and changing economic conditions.

Meanwhile Huston (2010) refers financial literacy to the measurement of how well an individual can understand and use personal finance-related information. However, Huston in her study in 2009, conceptualised financial literacy into two dimensions, understanding (personal finance knowledge) and use (personal finance application). Financial literacy hence, refers to a person's ability to understand and make use of financial concepts (Servon & Kaestner 2008). However, Worthington (2006) defined financial literacy in term of the mathematical ability and the understanding of financial terms. Alternatively, Lois Vitt and colleagues (2000) define financial literacy as the ability to read, analyze, manage, and communicate about the personal financial conditions that affect material well-being. It includes the ability to discern financial choices, discuss money and financial issues without (or despite) discomfort, plan for the future, and respond competently to life events that affect everyday financial decisions, including events in the general economy (Johnson & Sherraden, 2007; van Rooij et al., 2011). Further Huang et al. (2008) also viewed something of similar in which they defined financial literacy as the ability of an individual to make informed judgments and to take effective decisions regarding the use and management of money. On the other hand, the term financial literacy as defined by OECD is the combination of consumers' or investors' understanding of financial products and concepts and their ability and confidence to appreciate financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being.

There are numerous studies undertaken in order to analyse the factors that affect the financial literacy of an individual. A study by Lusardi et al (2010) examined financial literacy among the young using a longitudinal data found that financial literacy among the young is not only low but it was also strongly related to socio-demographic characters and family financial sophistication. Meanwhile the findings of the study by Ford and Kent (2010) showed that female college students were more intimidated by, and less interested in, markets compared to their male counterparts. It is also found that women possessed lower levels of financial market awareness as compared to men. This finding is further supported by Worthington (2006). In his study, he found that financial literacy was at the highest for persons aged 50 and 60 years, professionals, business and farm owners, and university/college graduates. Additionally, he also found that literacy was at the lowest for the unemployed, females and those from non-English speaking background with low level of education.

In term of the assessment of financial literacy, Hill and Perdue (2008) examined the methodology issue in the measurement of financial literacy. While Huston (2010) undertaken a study on a broad range of

financial literacy measures that were used in research over the last decades, whereby she provided an overview of the meaning and measurement of financial literacy presented and assists researchers in establishing standardised, commonly accepted financial literacy instruments.

At the same time, Lusardi and Mitchell (2006) devised three questions to measure the basic concepts relating to financial literacy, for example basic concepts related to the working of interest rates, the effects of inflation, and the concept of risk diversification. The questions on the working of interest rates and effects of inflation concepts are aimed to evaluate whether respondents display knowledge of fundamental economic concepts and competence with basic financial numeracy. Question on the concept of stock risk evaluates respondents' knowledge of risk diversification which forms a crucial element of any informed investment decision. There is little consistency in the questions used to assess financial literacy other than those questions written by Lusardi and Mitchell which have been repeatedly used by other researchers. These questions test consumers' knowledge about inflation, compound interest, diversification, as well as stock and bond ownership. The questions that have appeared in multiple tests of financial literacy were either adopted exactly as the original or adapted with some modification. They pointed out that in term of the measurement of financial literacy, there are inconsistencies as to whether the measurement should assess a more comprehensive financial knowledge or just focus on a specific financial knowledge.

According to Huston (2010), financial knowledge is an integral dimension of, but not equivalent to, financial literacy. Financial knowledge is the stock of knowledge acquired through education and/or experience specifically related to essential personal finance concepts and products. Hence, an Islamic financial knowledge would be the stock of knowledge that one acquire specifically related to Islamic finance concepts and products.

2.1 Conventional Aspect

In term of providing financial knowledge, Walstad et al. (2010) found that the effectiveness of financial literacy education has been mixed. However, their study offers additional evidence that well-defined and properly implemented financial education programs in high school can increase students' financial knowledge.

Financial literacy has also important implication on wealth planning and management of individuals. According to Lusardi (2008), financial literacy affects financial decision-making of which ignorance of the basic financial concepts can be linked to lack of retirement planning, lack of participation in stock market and poor borrowing behaviour. This will not only prevent individuals from accumulating wealth but also may witness the diminishing in their wealth due to wrong financial decisions.

Financial skills and competence which are based on financial knowledge and understanding actually are influenced by attitudes towards the use of money, such as spending and saving. In fact, financial skills and competence are know-how that are shown in the practices and habits formed in everyday and long-term financial management (Pellinen et al., 2011).

2.2 Islamic Aspect

Most studies on Islamic finance (Ahmad & Haron, 2002; Abdul Hamid & Mohd. Bordin, 2001; Nasser et al., 1999; Metawa & Almosawi, 1998; Gerard & Cunningham, 1997; Haron et al., 1994) was undertaken on bank selection criteria. Few studies have been undertaken people knowledge of Islamic financial products such as Bley & Kuehn, 2004; Hamid & Nordin, 2001).

Meanwhile, Abdul Hamid & Mohd. Bordin (2001) state that a study conducted in Malaysia in 1994, regarding knowledge on Islamic banking showed that almost 100 percent of the Muslim population was aware of the existence of the Islamic bank. However, out of these, only 27.3 percent completely understood the differences between Islamic bank and conventional banks; and only 38.7 percent patronize the Islamic bank strictly because of religion.

Bley and Kuehn (2004) in their study investigates the relationship between university student knowledge of relevant financial concepts and terms in conventional and Islamic banking, the impact of religion and language, and other individual variables on preferences for financial services. Findings of the study suggest that knowledge of conventional banking terms and concepts was higher among these students than was Islamic banking terminology. Review of the literature suggests that people had little knowledge on Islamic financial product. Several studies have been undertaken on knowledge on conventional financial products. The review of the literature thus suggests that very little work has been done to link knowledge of Islamic financial product to access and choice of financial products. Few studies have been undertaken on Islamic banking products and no such study has been undertaken on the financial literacy on these products.

3.0 METHODOLOGY

This study adopted a quantitative method. Data are collected through a survey by using a closed ended questionnaire. Questionnaires help gather information on knowledge, attitudes, opinions, behaviours, facts, and other information related to financial literacy. The survey instrument was designed to identify factors that could assist the study in identifying factors that would identify factors that determine the financial literacy of the bankers. Hence, the unit of analysis in this study is at the individual level.

Sampling was performed randomly. A total of 81 respondents from the Kuala Lumpur are collected. The response rate was 41.3% (150 distributed, 62 completed).

The Kaiser-Meyer-Okin (KMO) measure of sampling adequacy is a statistic for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients, with the requirement that the partial correlations should not be very large if distinct factors are expected to emerge from factor analysis (Hutcheson and Sofroniou, 1999). KMO overall statistic varies from 0 to 1.0 and the value of KMO overall should be 0.60 or higher in order to proceed with factor analysis (Kaiser and Rice, 1974). While the Bartlett's test of sphericity tests the null hypothesis that the individual indicators in a correlation matrix are uncorrelated. The statistic is based on a chi-squared

transformation of the determinant of the correlation matrix. The rejected null hypothesis indicates the appropriateness of using FA. However, according to Knapp and Swoyer (1967), Bartlett's test is highly sensitive to sample size. Therefore, Tabachnick and Fidell (1989) suggest implementing the Bartlett's test with the KMO measure.

After confirming the suitability of the data for FA, factor extraction is needed in order to determine the smallest number of factors that can best represent the interrelationships among the set of variables. Then, variables most 'belong' to which factor need to be clarified by performing factor rotation. This is to enhance the interpretability of the results. The rotation results in the oblique (correlated) factor solutions. The oblique rotation can be used to check the degree of correlation between the factors.

4.0 DATA ANALYSIS

The technique of analysis for FA is used in performing the multivariate data analysis. The FA is able to determine the number of factors to retain without losing too much information. It also explains the variance of the observed data through a few linear combinations of the original data. Table 3 gives the eigenvalues of the correlation matrix of the nine individual indicators that compose the factors that determine the Islamic financial literacy of bankers.

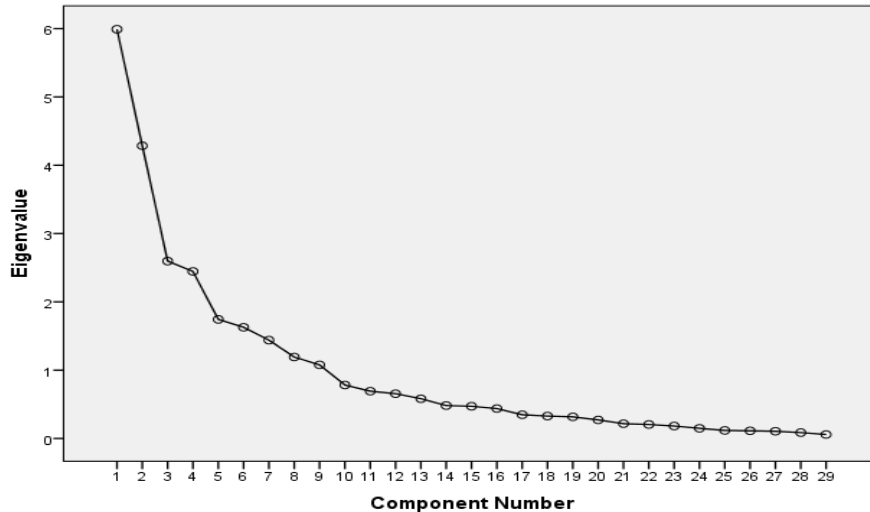
Table 3: Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	5.991	20.659	20.659	4.347
2	4.285	14.775	35.435	3.931
3	2.597	8.954	44.388	2.190
4	2.445	8.432	52.821	4.027
5	1.743	6.011	58.832	2.391
6	1.628	5.614	64.446	1.945
7	1.440	4.964	69.410	2.720
8	1.192	4.111	73.521	3.046
9	1.077	3.715	77.237	1.833

The Kaiser Criterion is used for deciding on the number of factors to retain. The rule of Kaiser Criterion is that components that have an eigenvalue of 1 or more are considered. According to this rule, only nine factors should be retained in the analysis with an eigenvalue of 5.991 and 1.077. From Table 3, the first principal component explains the maximum variance in all the individual indicators (eigenvalue of 6.870). The second principal component explains the maximum amount of the remaining variance, with a variance of 4.899. The nine components explain a total of 77.237% of the variance. The remaining principal components have eigenvalues less than one and they explain the remaining 15.978% of the variance in the data set. This result is supported by Figure 1. When there is a change (or elbow) in the shape of the plot in Figure 1, then only components above the point are retained. In this case, there is

quite a clear break between the nine and tenth components. Therefore, only nine principal components are retained.

Figure 1: Scree Plot



In this study, in order to test the suitability of data for factor analysis, the following steps were followed: The correlation matrix was computed which depicted that there were enough correlations to carry out factor analysis. Since the partial correlations were low, it implied that true factors existed in the data.

KMO measure of sampling adequacy was estimated and the KMO value was obtained as 0.674 for overall sample that indicated that the sample was good enough for analysis. Barlett's test of sphericity was carried out and showed statistically significant number of correlations among the variables. Hence, the data was found to be fit for factor analysis.

Principal component analysis was used for extracting factors and the number of factors to be retained was based on latent root criterion, variance explained and Scree Plot analysis. All three methods indicated that nine factors may be extracted to give valuable results and these factors accounted for 73.17 percent for overall sample.

The results were obtained through oblimin rotation and all factor loadings greater than 0.55 (ignoring the sign) were retained. The results of principal component analysis with oblimin rotation in the form of the pattern matrix which is actually the rotated factor loading is shown in Table 6.

All the factors have been given appropriate names according to the variables that have been loaded on to each factor.

The factor loadings and the nine factors described in Table 3 are discussed as follows.

Table 3: Name of Dimensions and their Factor Loadings

Factor no	Name of Dimension	Statement Label	Statements	Factor Scores
F1	Views on Banking Product	VBP2	I believe both conventional and Islamic products are no different.	-.854
		VBP14	I consider both conventional and Islamic products the same.	-.835
		VBP13	I do not see any difference between the conventional and Islamic products.	-.784
		VBP11	I think both conventional and Islamic products are similar	-.765
F2	Views on Islamic Banking Product	VIBP13	I believe the Islamic banking products are easy to understand	-.895
		VIBP15	Most of my clients prefer Islamic products more than then conventional products.	-.859
		VIBP16	Most of my clients view it is easy to understand the Islamic financial concepts and terms.	-.854
		VIBP12	I prefer to explain Islamic banking products to my clients.	-.753
		VIBP14	I am familiar with the Islamic banking products.	-.644
F3	Parents' influence on Islamic Financial Product & Services	PIIFS10	My parent(s) has/have always checked on the permissibility of the products before buying.	.931
		PIIFS11	My parent(s) reminded me that <i>haram</i> products and services are to be totally avoided,	.853
F4	Factors Determining Investment in Securities	FDIS17	Follows strict adherence to ethical consideration	.819
		FDIS15	Risk	.766
		FDIS18	Follows strict adherence to religious rulings	.763
		FDIS13	Returns on investment	.671
		FDIS16	Professional financial Advice	.668
F5	Views on Conventional Banking Product	VCBP11	My clients view it is easy to understand the conventional financial concepts and terms.	.756
		VCBP10	Most of my clients prefer conventional products more than then Islamic products.	.645
F6	Attitude on Personal Financial Management	APFM4	To keep some of one's money in the cash vault at home.	-.836
		APFM3	To make sure one pays at least the minimum on one's credit balance.	-.752
F7	Influence of Personal Financial Management	IPFM11	Friends keep record of their income and expenditure.	.953
		IPFM12	Colleague at work keeps record of his/her income and expenditure.	.934
F8	Knowledge on Wealth Planning & Management	KWPM23	To keep a list of the assets that one has.	-.874
		KWPM24	To prepare monthly budget for one's expenditure	-.808
F9	Attitude on Islamic Financial Product & Services	AIFPS3	Islamic financial Products provide competitive returns as the conventional financial Products.	.853
		AIFPS2	Islamic financial products are safer alternative investment products for Muslim	.789

Factor 1: Views on Banking Product. This is the most important factor of the overall sample and it alone accounts for 20.66 percent of the total variance. 4 out of 6 statements load significantly on to this factor. These statements exemplify the importance of views of bankers' on banking product in general, that is if they perceived that both Islamic and traditional banking products are the same and no different from each other.

Factor 2: Views on Islamic Banking Product. This is the next important factor, which accounts for 14.78 percent of the variance. Five statements constitute this factor and all these statements load on highly for this factor. This shows that even though they are perceived as to be no different with each other, the bankers still prefer to promote Islamic banking product to the clients.

Factor 3: Parents' influence on Islamic Financial Product and Services. Two statements load on to this factor and together account for 8.95 percent of total variance. The information revealed the importance of parents' influence their views of Islamic financial product and services.

Factor 4: Factors Determining Investment in Securities. This factor accounts for 8.43 percent of total variance and is constituted of five statements. This shows the factors that bankers perceived as important when investing in securities.

Factor 5: Views on Conventional Banking Product. This factor accounts for 6.01 percent of total variance and is constituted of two statements. This shows views of the bankers' on conventional banking product based on their interactions with their clients.

Factor 6: Attitude on Personal Financial Management. This factor accounts for 5.61 percent of total variance and is constituted of two statements. This factor indicates how bankers' attitude of personal financial management affects their financial literacy.

Factor 7: Influence of Personal Financial Management. This factor accounts for 4.96 percent of total variance and is constituted of two statements. This factor signify how personal financial management influence bankers' financial literacy

Factor 8: Knowledge on Wealth Planning and Management. This factor accounts for 4.11 percent of total variance and is constituted of two statements. This factor point to how bankers' knowledge on wealth planning and management affects their financial literacy

Factor 9: Attitude on Islamic Financial Product and Services. This factor accounts for 3.72 percent of total variance and is constituted of two statements. The above factor scores clearly explain how attitude on Islamic financial product and services ascertain the financial literacy of bankers.

Overall, nine factors could be found to ascertain the financial literacy of bankers on Islamic financial product and services. Views on banking products are very important according to the bankers as well as

their parents' influence on their views of Islamic financial product and services. This also correlates with the banker's perception of the factors that consider when making investment.

1.5 CONCLUSION

The findings of the study suggest that nine factors determine the financial literacy of bankers in Kuala Lumpur, namely; views on banking product, views on Islamic banking product, parents' influence on Islamic financial product & services, factors determining investment in securities, views on conventional banking product, attitude on personal financial management influence of personal financial management, knowledge on wealth planning & management and attitude on Islamic financial product & services.

REFERENCES:

- Abdul Halim Abdul Hamid & Norizatun Azmin Mohd Nordin (2001). A Study on Islamic Banking Education Experience and The Strategy for the New Millenium - A Malaysian Evidence. *International Journal of Islamic Financial Services*. Volume 2. Number 4, Jan-Mar.
- Ahmad, N., & Haron, S. (2002). Perception of Malaysian Corporate Customers Towards Islamic Banking Products & Services. *International Journal of Islamic Financial Services*, 3(4).
- Ahmad, M. (2010). Why Islamic financial literacy is important. *Personal Money*. March.
- Atkinson, A. & F. Messy (2012), *Measuring Financial Literacy: Results of the OECD/ International Network on Financial Education (INFE) Pilot Study*. OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing.
- Bley, J. & Kuehn, K. (2004). Conventional Versus Islamic Finance: Student Knowledge and Perception In The United Arab Emirates. *International Journal of Islamic Financial Services* Vol. 5 No.4. pp 17-30
- Cole, S. & Fernando, N. (2008). Assessing the Importance of Financial Literacy. *ADB Finance for the Poor*. A Quarterly Newsletter of the Focal Point for Microfinance. Volume 9, Number 3, September 2008
- Fidell, Linda S., and Barbara G. Tabachnick. "Preparatory data analysis." *Handbook of psychology* (2003).
- Fogarty, Gerard J. & MacCarthy, Karina (2006) Financial literacy: a psychologist's perspective on an emerging societal problem in Australia. In: *Psychology Bridging the Tasman: Science, Culture and Practice*, 26-30 Sep 2006, Auckland, New Zealand. pp. 115-119.

- Furtuna, F. (2008). College Students' Personal Financial Literacy: Economic Impact and Public Policy Implications. *Undergraduate Economic Review*. Volume 4, Issue 1, Article 1, pp.1-33. Available at: <http://digitalcommons.iwu.edu/uer/vol4/iss1/1>.
- Graeme D Hutcheson, and Nick Sofroniou. *The multivariate social scientist: Introductory statistics using generalized linear models*. Sage, 1999.
- Haron, S., Ahmad, N., & Planisek, S. L. (1994). Bank Patronage Factors of Muslim and Non-Muslim Customers. *International Journal of Bank Marketing*, 12(1),32 - 40.
- Haron, Sudin, Norafifah Ahmad, and Sandra L. Planisek. "Bank patronage factors of Muslim and non-Muslim customers." *International Journal of Bank Marketing* 12.1 (1994): 32-40.
- Hill, Robert R., and Grady Perdue. "A methodological issue in the measurement of financial literacy." *Journal of Economics and Economic Education Research* 9.2 (2008): 43-57.
- Huang, R.; Samy, S.; Tawfik, H. & Nagar, A.K. (2008). Application of Support Vector Machines in Financial Literacy Modelling. *Second UKSIM European Symposium on Computer Modeling and Simulation 2008, IEEE*.
- Huston, Sandra J. "Measuring financial literacy." *Journal of Consumer Affairs* 44.2 (2010): 296-316.
- Intiaz Mazumder, M., and Nazneen Ahmad. "Greed, financial innovation or laxity of regulation? A close look into the 2007-2009 financial crisis and stock market volatility." *Studies in Economics and Finance* 27.2 (2010): 110-134.
- Johnson, E. & Sherraden, M.S. (2007). From Financial Literacy to Financial Capability among Youth. *Journal of Sociology & Social Welfare*, September, Volume XXXIV, Number 3, pp.119-146.
- Kayed, Rasem N. (2008)"Appraisal of the status on research on labor economics in the Islamic framework." 7th International Conference on Islamic Economics, 2008.
- Knapp, Thomas R., and Vincent H. Swoyer. "Some empirical results concerning the power of Bartlett's test of the significance of a correlation matrix." *American Educational Research Journal* (1967): 13-17.
- Koid Swee Lian (2010). OECD: Financial Literacy Measurement Pilot. Consumer and Market Conduct Department, Bank Negara Malaysia, AFI Financial Inclusion Data Workshop. 21-22 June 2010, Kuala Lumpur.

- Kristopher Gerardi, Lorenz Goette, & Stephan Meier (2010). Financial Literacy and Subprime Mortgage Delinquency: Evidence from a Survey Matched to Administrative Data. Working Paper 2010-10, April.
- Lassala, C.; Momparler, A. & Carmona, P. (2013). Determinants of performance of independent financial advisors. *Int Entrep Manag Journal*, 9, pp.581–601.
- Lusardi, A. & Tufano, P. (2009). Debt literacy, financial experiences, and over indebtedness, CFS Working Paper, No. 2009/08, <http://nbn-resolving.de/urn:nbn:de:hebis:30-63796>
- Lusardi, Annamaria, and Olivia S. Mitchell. "Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth." *Journal of monetary Economics* 54.1 (2007): 205-224.
- Lusardi, A. (2008). Financial Literacy: An Essential Tool for Informed Consumer Choice? 2008-WP-13, Networks Financial Institute at Indiana State University, October.
- Lusardi, A. & Tufano, P. (2009). Debt literacy, financial experiences, and over indebtedness, CFS Working Paper, No. 2009/08, <http://nbn-resolving.de/urn:nbn:de:hebis:30-63796>
- Matthew W. Ford & Daniel W. Kent (2010) Gender Differences in Student Financial Market Attitudes and Awareness: An Exploratory Study ,*Journal of Education for Business* Volume 85, Issue 1
- Melissa A. Z. Knoll & Carrie R. Houts (2010). The Financial Knowledge Scale: An Application of Item Response Theory to the Assessment of Financial Literacy. *The Journal of Consumer Affairs*, Fall 2012: 381–410.
- Metawa SA, Almosawi M (1998). Banking behaviour of Islamic bank customers: perspectives and implications. *International Journal of Bank Marketing*. 16(7): 299-313.
- Miller, M.; Godfrey, N.; Levesque, B. & Stark, E. (2009). The Case for Financial Literacy in Developing Countries: Promoting Access to Finance by Empowering Consumers. | OECD, The World Bank, DFID, CGAP
- Miller, Margaret, et al. ",The Case for Financial Literacy in Developing Countries: Promoting Access to Finance by Empowering Consumers"." World Bank, DFID, OECD e CGAP, <http://www.oecd.org/dataoecd/35/32/43245359.pdf> (2009).
- Naser K, Jamal A, Al-Khatib K (1999). Islamic banking:a study of customer satisfaction and preference in Jordan. *International Journal of Bank Marketing*. 17(3):135-150.
- Nicolini, G.; Cude, B.J. & Chatterjee, S. (2013). Financial literacy: A comparative study across four countries. *International Journal of Consumer Studies*. 37, pp.689–705.

- OECD. Improving Financial Literacy: Analysis of Issues and Policies Organisation For Economic Co-Operation And Development OECD 2005.
- Pellinen, A.; Tormakangas, K.; Uusitalo, O. & Rajjas, A. (2011). Measuring the financial capability of investors: A case of the customers of mutual funds in *International Journal of Bank Marketing*. Vol. 29, No. 2, pp. 107-133.
- Philip Gerrard, J. Barton Cunningham, (1997). Islamic banking : a study in Singapore. *International Journal of Bank Marketing* , Vol.15 Issue:6, pp 204-216.
- Remund, D. L. (2010). Financial Literacy Explicated: The Case for a Clearer Definition in an Increasingly Complex Economy. *The Journal of Consumer Affairs*, Vol. 44, No. 2, pp. 276-295.
- Sandra J. Huston (2010). Measuring Financial Literacy. *The Journal of Consumer Affairs*, Vol. 44, No. 2, pp. 296-316.
- Servon, Lisa J., and Robert Kaestner. "Consumer Financial Literacy and the Impact of Online Banking on the Financial Behavior of Lower-Income Bank Customers." *Journal of Consumer Affairs* 42.2 (2008): 271-305.
- Sondra G. Beverly & Emily K. Burkhalter. (2005). Trends & Issues: Improving the Financial Literacy and Practices of Youths. *Children & Schools* Volume 27, Number 2, April, pp. 121- 124.
- Van Rooij, M.C.J.; Lusardi, A. & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*. 101, pp. 449–472.
- Van Rooij, M.C.J.; Lusardi, A & Alessie, R.J.M. (2011). Financial literacy and retirement planning in the Netherlands, *Journal of Economic Psychology*, 32, pp. 593–608
- Van Rooij, M.C.J.; Lusardi, A & Alessie, R.J.M.. (2012). Financial Literacy, Retirement Planning and Household Wealth. *The Economic Journal*, 122 (May), 449–478. Doi: 10.1111/j.1468-0297.2012.02501.x.
- Vitt, Lois A., et al. "Personal finance and the rush to competence: Personal financial literacy in the US." The Fannie Mae Foundation (2000).
- Wachira, M.I. & Kihiu, E.N. (2012). Impact of Financial Literacy on Access to Financial Services in Kenya. *International Journal of Business and Social Science* Vol. 3 No. 19; October
- Walstad, W.B., Rebeck, K. & MacDonald, R.A. (2010). The Effects of Financial Education on the Financial Knowledge of High School Students. *Journal of Consumer Affairs* 44 (2) (June 1), pp. 336-357.

Wagland, S.P & Taylor, S. (2009). When it Comes to Financial Literacy is Gender Really an Issue? The Australasian Accounting Business & Finance Journal, May, Vol. 3, No.1, pp. 13-25.

Wolfe-Hayes, Molly A. "Financial literacy and education: An environmental scan." *The International Information & Library Review* 42.2 (2010): 105-110.

Worthington, AC. (2004). The Distribution of Financial Literacy in Australia. School of Economics and Finance. Discussion Papers and Working Papers Series 185, School of Economics and Finance, Queensland University of Technology.

Worthington, AC. (2006) Predicting financial literacy in Australia, *Financial Services Review*, 15(1), Spring 2006, 59-79. Available at: <http://www.albawaba.com/business/islamic-finance-growth-537327>.

Appendix:

Table 5: Correlation Matrix

Component	1	2	3	4	5	6	7	8	9
1	1.000	-.183	.042	.153	-.074	.092	.163	-.118	.115
2	-.183	1.000	-.026	.092	.145	-.095	-.202	.076	-.052
3	.042	-.026	1.000	.114	-.137	-.083	.101	-.046	.172
4	.153	.092	.114	1.000	.074	-.013	.172	-.346	.017
5	-.074	.145	-.137	.074	1.000	.005	-.107	-.014	-.031
6	.092	-.095	-.083	-.013	.005	1.000	.044	.093	-.082
7	.163	-.202	.101	.172	-.107	.044	1.000	-.166	.115
8	-.118	.076	-.046	-.346	-.014	.093	-.166	1.000	-.002
9	.115	-.052	.172	.017	-.031	-.082	.115	-.002	1.000

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Table 6: Factor Loadings

	Component								
	1	2	3	4	5	6	7	8	9
Banking Product In General2	-.854								
Banking Product In General4	-.835								
Banking Product In General3	-.784								
Banking Product In General1	-.765								
Islamic Banking Product13	-.895								
Islamic Banking Product15	-.859								
Islamic Banking Product16	-.854								
Islamic Banking Product12	-.753								
Islamic Banking Product14	-.644								
Parent Influence On Islamic Finance Product & Services10			.931						
Parent Influence On Islamic Finance Product & Services11			.853						
Factor Consider Invest In Securities17				.819					
Factor Consider Invest In Securities15				.766					
Factor Consider Invest In Securities18				.763					
Factor Consider Invest In Securities13				.671					
Factor Consider Invest In Securities16				.668					
Conventional Banking Product11					.756				
Conventional Banking Product10					.645				

Attitude On Personal Financial Management4							-		
							.836		
Attitude On Personal Financial Management3							-		
							.752		
Influence On Personal Financial Management11								.953	
Influence On Personal Financial Management12								.934	
Knowledge On Wealth Planning And Management23									-
									.874
Knowledge On Wealth Planning And Management24									-
									.808
Attitude On Islamic Financial Product And Services3									
Attitude On Islamic Financial Product And Services2									.853
									.789

A. Rotation Converged In 13 Iterations.