INTEGRATING HALAL KNOWLEDGE TOWARDS SELECTION OF ISLAMIC BANKING PRODUCT: THE PERSPECTIVE OF MUSLIM STUDENTS

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ABSTRACT

The Islamic Banking product is meant for Muslim customers and those who are interested to use the Islamic-based product. In the real world, consumers particularly students are not aware of the contents of the products including the product's information as well as terms and condition. This study intended to examine the Halal Knowledge and Financial Information Disclosure in the selection of Islamic banking products among Muslim students. A survey questionnaire is used for data collection. The sample of this research is among the final year finance degree students. A multiple linear regression model is used for data analysis and discussion. The finding indicates that Halal Knowledge and Financial Information Disclosure are having a significant relationship in the selection of Islamic banking products. Interestingly to note that Muslim students have been exposed to Islamic Banking but not specifically to Halal knowledge in university courses. The exposure to the real Islamic banking sector is still minimal. Information related to Islamic banking products is also unclear and not well marketed. This research is expected to benefit the higher education provider to offer relevant and up-todate courses related to Islamic banking products. The bankers also need to enhance their product information to serve the interest of this group. Lastly, this study is expected to enrich the literature on Halal Knowledge and Financial Information Disclosure on Islamic banking products.

Keywords: Islamic Banking Product, Islamic-based product, Halal Knowledge, Financial Information Disclosure, Higher Education Provider

1. INTRODUCTION

Principally, Islamic banking product is based on the Islamic principle, whereby the term itself is deemed to be a banking system that complies with Shariah law. The element of mutual risk and profit-sharing between parties as well as fairness for all the business activity transactions are the core ideas of Islamic banking. The increasing number of Islamic Banks in Malaysia, currently 11 local and 5 foreign banks indicate the acceptability of Islamic based-products and services nationwide (Bank Negara, 2022; Bernama, 2021a, 2021b; Zakeria, 2018). Numerous types of banking products are available to cater to the financial need of both Muslims and non-Muslims (Amin, Rahman, Sondoh, Hwa, 2011). The acceptability of Islamic-based products among students is also depending on their awareness of it. From an education perspective, most Higher Education Provider (HEP) offers courses related to Islamic finance, financial management and equivalent, especially in their academic programs such as in the accountancy, finance, business and management program. In fact, Islamic finance are among the prominent topics several years ago that provides knowledge related to manage money by observing the Islamic rules on transaction and exposes students to Islamic banking and Islamic Financial Institutions (IFIs).

Financial knowledge can lead individuals to have good saving behaviour and is related to the literacy level of the individual. Literacy on financial products can help an individual to have a better understanding of the financial product chosen (Carvalho, 2019; Yew, Yong, Cheong and Tey, 2017; Rajna, Anthony & Sabri, Mohamad Fazli, 2015; Mahdzan and Tabiani, 2013). However, Halal knowledge can make individual able to distinguish the banking product whether it comply with the Islamic principle or otherwise. The awareness of Islamic banking products is also depending on the product information provided by the financial institutions or bankers. Sufficient and easy access information could help users to obtain needed financial information. With a wide range of Islamic banking products, an individual is needed to have sufficient and relevant knowledge to be able to choose the right products as well as to determine the *Halal* element in the products to serve their interest. The objective of this research is to examine whether *Halal* knowledge (HL) and Financial Information Disclosure (FID) have a relationship with the selection of Islamic banking products (SBP). Although much research has been conducted on Islamic banking in Malaysia (Mokhlis, Salleh, & Nik Mat, 2011; Muslichah & Sanusi, 2020; Alshannag, Eneizan, Odeh, Ngah & Abutaber; 2020; Zakaria, Zainudin, Abdul Hadi, 2021) but there is still a lack of studies that emphasize on the relationship of HL and FID towards SBP. To the best of our knowledge, this is the first study in Malaysia that examined these relationships. Hence, this

study must be carried out. The remainder of the paper is structured as follows: literature review, methodology, finding and discussion and, finally, draws some conclusions, highlighting both contribution, recommendation as well as the limitation of the study.

2. LITERATURE REVIEW

Islamic banking refers to a system of banking that conforms with Islamic law or Shariah Law. Kayed and Hassan (2011) have added that the pillars in running Islamic banks are ethics and compliance with Shariah. The core values of Islamic banking prohibit any banking activities that involve interest (riba), gambling (maisir) and speculative trading (gharar) (Bank Negara Malaysia, 2020a). The Islamic finance concepts such as *ijarah* (leasing), *mudharabah* (profit sharing), musyarakah (partnership) are among the most known. Financial institutions have a great deal of flexibility, creativity and choice in the creation of Islamic finance products. Islamic banks in Malaysia provide numerous types of banking products that cater to the financial needs of both Muslims and non-Muslims. Malaysia's Islamic finance industry has been in existence for over 30 years with the enactment of the Islamic Banking Act 1983 enabled the country's first Islamic bank to be established and thereafter, with the liberalisation of the Islamic financial system, more Islamic financial institutions have been established. At present, Malaysia's Islamic banking assets reached USD254 billion as of December 2019 with total funds placed with Islamic banks now representing 38.0% of total banking sector deposits (Bank Negara Malaysia, 2020b). Presently, Malaysia has a significant number of full-fledged Islamic banks including several foreign-owned entities; conventional institutions that have established Islamic subsidiaries and entities that are conducting foreign currency business. Up to now, 16 Islamic Banks currently operated in Malaysia indicate that development has shown that the Islamic bank has been widely accepted by most Malaysian.

Buerhan (2015) found that Muslim consider religion as the main reason that motivate them to deposit money in Islamic banks while non-Muslims are motivated by the profitability reason only. He added that Muslims are more convinced with the increase in the number of bank branches that offer a wide range of Islamic financial services and interest-free loans that can help the community in a fair and efficient manner. Buerhan (2015) also shows that Islamic bank offered fast and efficient services and high confidentiality which attract more customers to use their services. Meanwhile, Mark (2010) found that Muslims are more willing to do business with Islamic banking. Islamic Banks in Malaysia provides numerous types of banking products that caters to the financial need of both Muslim and non-Muslims. In general, conventional and

Islamic products are somewhat similar, in terms of categorizing into consumer and commercial products (Amin, Rahman, Sondoh & Hwa, 2011). But the most distinct difference is in the interest-bearing portion. Most local banks use terms such as *Mudarabah*, *Ijarah*, *Bai Bithaman Ajil* (BBA), *Al-Ijarah Thumma Al-Bai'* (AITAB) and *Murabahah* in introducing their products. In terms of products, generally Islamic banking products offered by Islamic banks can be categorized into deposits, investments, financing, trade financing and card services (Saidatolakma, Zuraidah & Rahimah, 2017).

2.1 Halal Knowledge

The term Halal means 'that which is permitted' as per the Shariah Law. Halal is demanded by every Muslim consumer as the basis of their faith and hereafter as well as in their daily life (Utomo, Sekaryunim Widarjono & Tohirin, 2020). Meanwhile, financial knowledge refers to the basic understanding of financial concepts and procedures as well as the ability to demonstrate this knowledge to solve financial problems (Darmawan & Pamungkas, 2019). Financial knowledge is also linked to a person's ability to understand, analyze and manage their finances in avoiding financial problems (Halim & Astuti, 2015). Knowledge related to Islamic banking includes information about the products, services, mechanisms and activities of Islamic banks that influences the intention of people to save in Islamic banks (Shome, Jabeen, & Rajaguru, 2018). Muslichah & Sanusi (2020) also indicates that business players' intention to use Islamic banking products are influenced by religiosity, literacy and attitude. The integration of Halal elements in the financial knowledge composites the HL. Financial knowledge with the understanding of Halal concepts leads to the selection of Islamic banking products. Knowledge about Islamic banks can be obtained from many sources, particularly universities that offer Islamic economic/ finance/ accounting subjects to enhance the knowledge of students. Ibrahim, Fisol and Othman (2017) indicated that the level of knowledge influences customers' intention in choosing Islamic home financing products. Despite the knowledge, the awareness to educate clients and other stakeholders of the Islamic banking industry should be increased (Bashir, Sultana, Dweikat, & Anwar, 2021). Jamlus Rafdi and Ahmad Sabri (2021) and Mohamad and Che Majid (2016) in their study, found that several factors contribute to the acceptance of Islamic banking such as customer's knowledge and understanding. Therefore, the first hypothesis proposes that:

H1: there is a significant relationship between HL and SBP.

2.2 Financial Information Disclosure

Financial information disclosure (FID) is information cascaded to customers, in a form of news, data and operations that may influence users in choosing their Islamic banking products. The disclosure of information provided by these financial institutions or bankers are considered a primary source of information to customers. Customers gain more confidence, trust and loyalty in Islamic banks that provide financial disclosure in annual reports and websites. All disclosure available increases their confidence that the activities undergone in the bank and financial transactions are conducted in line with Shariah principles (El-Halaby, Hussainey, Mohamed, & Hussien, 2018). A study conducted in several Indonesian universities indicated the FID influenced their intention to save (Nugraheni & Widyani, 2020). They added that customers are willing to change to a different bank if Shariah's compliance is violated. FID is related to the religious duty of Islamic banks to provide relevant and reliable information to the users. By highlighting the products and the mechanisms applied, customers' perceptions and attitudes towards Islamic banking products will increase (Yunus, Kamaruddin, & Embong, 2017). Dusuki and Abdullah (2007) on the other hand also commented that students will observe the financial information such as brochures, information boards, annual reports or websites as one of the determining aspects of the selection of Islamic banking products. The student with no such financial background rather looks to the advertising or based on recommendations. Therefore, providing relevant information on Islamic banking products to the customers is needed. Therefore, the second hypothesis proposes:

H2: there is a significant relationship between FID and SBP

2.3 Conceptual Framework

Figure 1 indicates the research framework of this study:

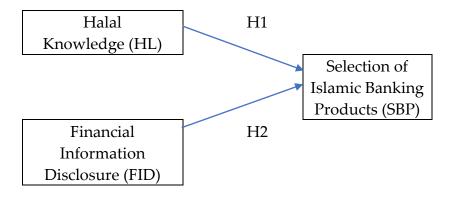


Figure 1: Conceptual Framework

Indicators:

H1: there is a significant relationship between HL and SBP. H2: there is a significant relationship between FID and SBP.

3. METHODOLOGY

Simple random sampling for data collection is used in this study. The sample of this study is Muslim undergraduates taking Bachelor of Finance in a private university at Shah Alam Selangor. The selection of finance background students is in line with the proposed research objective to examine the relationship between HIL and FID towards SBP. This group of students possesses extensive financial knowledge such as Islamic finance, investment, financial management and others as well as having financial awareness through the courses they have taken in their academic programs. This study utilised a survey method via self-developed questionnaires. The total population is 70 based on the listing given by the program coordinator. Based on the sample size determination table by Krejcie and Morgan (1970), the sample required is 59. The total questionnaire received was 62 out of 70 sent. Two survey questionnaire was excluded due to incomplete response. Hence, the valid questionnaires used in data analysis are 60. The response rate is 86 percent. The questionnaire consists of two sections, the first section is the demographics of respondents such as gender, age, highest education level, studying of the subject of Islamic economics/ finance/ accounting and whether having saved in an Islamic bank or a conventional bank. The second section includes questions related to the independent and dependent variables. The questionnaires use a five-point Likert scale with values of 1 =strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. This study processes the gathered data using multiple linear regression and analyses the data output including a descriptive statistic and multiple linear regression. The proposed multiple regression model can be expressed in equation 1 as follows:

SBP= $β_0$ + $β_1$ HL + $β_2$ FID + ε (equation 1)

Where,

SBP = Selection of Islamic Banking Products

 β_0 = Intercept

 $\beta_1 HL$ = Beta coefficient for *Halal* Knowledge

β₂FID = Beta coefficient for Financial Information Disclosure

 ε = random error term

4. FINDING AND DISCUSSION

4.1 Summary of Descriptive Statistics

Table 1 provides the respondent's backgrounds. A total of 60 questionnaires of valid responses were received from the finance students at that university with a response rate achieved of 86%. 75% of the respondents consist of females, 19-22 years old and having diplomas as their highest education level. All the respondents stated that they have taken an Islamic finance course or equivalent in their study. 67% (40 respondents) use both Islamic and conventional based products. Among the products used were saving accounts with Islamic banks, Takaful and Islamic credit card supplied by their parents. Interestingly to note that the respondents have been exposed to the Islamic banking courses or awareness of Islamic finance (100 percent, 60 respondents) but some of the respondents mentioned that they did not extensively expose to the real *Halal* financial product available in the market during their study. The exposure to the real Islamic banking sector is still minimal. Information related to Islamic banking products is also unclear and not specific.

Table 1. Background of Respondents

	0 1			
Particular	Category	N	%	
Gender	Male	15	25	
	Female	45	75	
Age	18-19 years old	10	17	
	20-22 years old	45	75	
	23-25 years old	5	8	
Highest Education level	Diploma	45	75	
	STPM	15	25	
Subject taken related to	Yes	60	100	
Islamic economics/ finance/	No	0	-	
accounting				
Islamic bank or conventional	Islamic bank	5	8	
bank	Conventional bank	15	25	
	Both	40	67	
<u> </u>				

4.2 Multiple Regression Analysis

Table 2 provides a regression analysis of the tested variables. For H1, Table 4.1 shows the coefficient value is 0.365 and the significance value of HL is 0.000 (a = <0.05), meaning that HL significantly affects Muslim students in selection of Islamic banking product (SBP). The proposed hypothesis (H1) is

supported. The results indicate that HL plays an important role in helping students to better understand Islamic banking products. Sufficient HL will help students to be able to identify the Islamic criteria on the products selected. The HEP shall also take the initiative to promote Islamic banking knowledge to enhance students' understanding as well as to motivate them to select Islamic banking products. This finding is in line with the study by Mokhlis et al. (2011), who states that, in general, university students have a deeper knowledge of banking profiles and transactions and will, therefore, choose a bank based on this knowledge. The finding is also consistent with the study conducted by Shome et al. (2018), Ibrahim et al. (2017), Bashir et al. (2021), Jamlus Rafdi et al. (2021) and Mohamad et al. (2016).

Table 2. Multiple Regression Analysis

M	odel	Unsta	ndardized	Standardized		
		Coefficients		Coefficients	t	Sig.
	- -	В	Std. Error	Beta		
	(Constant)	111	.336		331	.731
1	Halal Knowledge (HL)	.365	.101	.257	3.483	.000
	Financial Information	.323	.085	.291	3.719	.000
	Disclosure (FID)	.525	.005	.271	5.717	.000

a. Dependent Variable: SBP

In addition, Table 2 shows that FID has a coefficient and significance value of 0.323 and 0.000 (a = <0.05) respectively and show that this variable has a significant relationship with the SBP among Muslim students. The proposed hypothesis (H2) is supported. FID is related to the information provided by the banking institutions to the users. For the users to be able to select, they must possess the knowledge and ability to screen and find the banking product information then only they can decide. In conclusion, the multiple regression analysis indicates that both proposed hypotheses, HL and FID are significant to SBP. The finding is also consistent with the previous studies conducted by El-Halaby et al. (2018), Nugraheni et al. (2020) and Yunus et al. (2017).

Overall, the finding of this study shows that both proposed hypotheses are significantly associated with SBP. HL is related to *Halal* financial literacy, knowing the *Halal* concept will bring the students to choose Islamic banking products. A Muslim student who better understands the Islamic principle together with the concept of *Halal* will deem themselves to choose a financial product that embraces the Islamic principles. To accelerate this, the HEP should provide more information related to the Islamic banking courses. They can expose students to the real Islamic banking products, systems and structure.

^{*}significant level at 5% (p<0.05)

^{**}significant level at 10% (p<0.1)

Providing access to Islamic banking information channel, can stimulate students' understanding and equip them with the latest information and knowledge. Financial institutions or bankers on the other hand, can actively provide readable and easy access channels for users to find financial information. Less information and somewhat ambiguous about the Islamic banking product could lead individual to not being able to select it. With the growth of the Islamic banking sector in Malaysia, the SBP is one of the most appropriate decisions to be considered by students. However, all parties such as HEP, financial institutions or bankers, policymakers, the government shall play their role to increase the acceptability of Islamic banking products.

5. CONCLUSION

The objective of this study is to examine the relationship between HL and FID towards SBP among undergraduate Muslim students. The finding of this study shows that both proposed hypotheses are significantly associated with SBP. This implies that HL and FID can be the important determinants for student to select the Islamic banking products. Thus, all parties such as HEP, financial institutions or bankers, policymakers, the government shall play their role to increase the visibility of Islamic banking products as well as to attract users to use the Islamic banking products. This study provides some insight to the HEP to continuously enhance their curriculum by offering relevant courses related to this subject matter. The financial institutions or bankers as well as the government can anticipate into creating the awareness as well as providing relevant and assessable information to the public so that the Islamic banking product is not just a concept but can be materialised into the real practice. From academic perspective, this study enriches the literature on HL, FID and SBP. There are some limitations of this study including the sample data, however, the data received is not affecting its generalisability as it is consistent with the previous studies. Future studies could enlarge the samples size across many universities and including other segments of users such as different background of students, graduates, young executives to encourage the findings. In addition, other factors can also be considered in assessing SBP.

6. REFERENCES

- Alshannag, F. M., Eneizan, B., Odeh, M. H., Ngah, A. H., Abutaber, T. A. (2020). Consumer Acceptance of Islamic Banking System: The Moderating Effects of Marketing Advertising. International Journal of Advanced Science and Technology Vol. 29, No. 5, (2020), pp. 7800-7816.
- Amin, H., Rahman, A.R., Sondoh, S.L.Jr., Hwa, A.M.C. (2011). Determinants of customers' intention to use Islamic personal financing: The case of Malaysian Islamic banks. Journal of Islamic Accounting and Business Research, 2(1), 22-42.
- Bank Negara Malaysia (2020a). Islamic banking & Takaful. Retrieved from https://www.bnm.gov.my/islamic-banking-takaful
- Bank Negara Malaysia (2020b). Financial Stability Review Second Half 2019, Annual Report 2020.
- Bank Negara Malaysia. (2022). Islamic Banks. Retrieved from https://www.bnm.gov.my/islamic-banks
- Bashir, S., Sultana, A., Dweikat, Z., & Anwar, M. (2021). Understanding of The Customers' Perception on Islamic Banking and Financial Services in Malaysia. International Fellowship Journal of Interdisciplinary Research, 1(1), 74–90.
- Bernama. (2021a, September 21). Big demand for Islamic finance. Retrieved from https://www.thestar.com.my/business/business-news/2021/09/21/big-demand-for-islamic-finance
- Bernama. (2021b, October 29). Islamic financial market to remain vibrant, resilient to complement economic recovery | New straits times. Retrieved from https://www.nst.com.my/news/nation/2021/10/740905/islamic-financial-market-remain-vibrant-resilient-complement-economi
- Buerhan Saiti (2015). The Awareness and Attitude towards Islamic Banking: A study in Malaysia, Global Review of Islamic Economics and Business, Vol 2 No.3.
- Carvalho, M. (2019, March 4). Guan ENG: Low financial literacy among Malaysian youth contributing to high bankruptcy rates. Retrieved from

- https://www.thestar.com.my/news/nation/2019/03/04/guan-eng-low-financial-literacy-among-malaysian-youth-contributing-to-high-bankruptcy-rates/
- Darmawan, D., & Pamungkas, A. S. (2019). Pengaruh Financial Attitude, Financial Behavior, Dan Financial Knowledge Terhadap Financial Satisfaction. JEMMA | Journal of Economic, Management and Accounting, 2(2), 9.
- Dusuki, A.W. and Abdullah, N.I. (2007). "Why do Malaysian customers patronise Islamic banks?", International Journal of Bank Marketing, Vol. 25 No. 3, pp. 142-160.
- El-Halaby, S., Hussainey, K., Mohamed, M., & Hussien, M. (2018). The determinants of financial, social and sharia disclosure accountability for Islamic banks. Risk Governance and Control: Financial Markets and Institutions, 8(3), 21-42.
- Halim, Y. K. E., & Astuti, D. (2015). Financial Stressors, Financial Behavior, Risk Tolerance, Financial Solvency, Financial Knowledge, dan Kepuasan Finansial. Jurnal Finesta, 3(1), 19–23.
- Ibrahim, M. A., Fisol, W. N., & Haji-Othman, Y. (2017). Customer intention on Islamic home financing products: An application of theory of planned behavior (TPB). Mediterranean Journal of Social Sciences, 8(2), 77-86.
- Jamlus Rafdi, N., & Ahmad Sabri, S. (2021). Contributing Factors Towards the Acceptance on Islamic Banking in Malaysia. Proceeding of the 8th International Conference on Management and Muamalah 2021 (ICoMM 2021 (pp. 47-53). Malaysia: KUIS.
- Kayed, R. and Hassan, M. (2011). "The global financial crisis and Islamic finance", International Business Review, Vol. 53 No. 5, pp. 551-564.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610.
- Mahdzan, Nurul & Tabiani, Saleh. (2013). The Impact of Financial Literacy on Individual Saving: An Exploratory Study in the Malaysian Context. Transformations in Business and Economics. 12. 41-55.
- Mark L. (2010). Attitudes and Perceptions towards Islamic Banking among

- Muslims and Non-Muslim in Malaysia: Implication for Marketing to Baby Boomers and X-Generation, International Journal of Art and Sciences 3(13):453-485.
- Mohamad, J., & Che Majid, M. F. (2016). A study on the customer's acceptance towards Islamic banking products among Non-Muslim in dual banking system. International Journal of Management Studies.
- Mokhlis, S., Salleh, H. S., & Nik Mat, N. H. (2011). What do young intellectuals look for in a bank? An empirical analysis of attribute importance in retail bank selection. Journal of Management Research, 3(2).
- Muslichah, I., & Sanusi, S. (2020). The effect of religiosity and financial literacy on intention to use Islamic banking products. *Asian Journal of Islamic Management (AJIM)*, 1(2), 85–92.
- Nugraheni, P., & Widyani, F. N. (2020). A study of intention to save in Islamic banks: The perspective of Muslim students. Journal of Islamic Marketing, 12(8), 1446-1460.
- Rajna, Anthony & Sabri, Mohamad Fazli. (2015). Financial Management Practices of Medical Practitioners in the Private and Public Medical Service in Malaysia. International Review of Management and Business Research. Vol. 4, 1105.
- Saidatolakma M.Y, Zuraidah K., Rahimah E. (2017). Towards Banking Jurisprudence: Understanding Islmaic Banking Product in Malaysia" International Journal of Academic Research in Business and Social Sciences, Vol 7, No. 8.
- Shome, A., Jabeen, F., & Rajaguru, R. (2018). What drives consumer choice of Islamic banking services in the United Arab Emirates? International Journal of Islamic and Middle Eastern Finance and Management, 11(1), 79-95.
- Utomo, S.B., Sekaryuni, R., Widarjono, A., Tohirin, A. and Sudarsono, H. (2020). 'Promoting Islamic financial ecosystem to improve halal industry performance in Indonesia: a demand and supply analysis', *Journal of Islamic Marketing* [online]
- Yew, S.Y. and Yong, C.C. and Cheong, K.C. and Tey, N.P. (2017) Does financial

- education matter? Education literacy among undergraduates in Malaysia. Institutions and Economies, 9 (1). pp. 43-60.
- Yunus, S. M., Kamaruddin, Z., & Embong, R. (2017). Towards banking jurisprudence: Understanding Islamic banking products in Malaysia. International Journal of Academic Research in Business and Social Sciences, 7(8).
- Zakaria M. H., Zainudin Z., Abdul Hadi A. R. (2021). Assessing Customer Selection Criteria of Islamic Banking in Malaysia. Journal of Environmental Treatment Techniques 2021, Volume 9, Issue 1, Pages: 44-49.
- Zakeria, M. Z. (2018). Malaysia should leverage on growing halal industry globally | New straits times. Retrieved from https://www.nst.com.my/business/2018/04/355141/malaysia-should-leverage-growing-halal-industry-globally

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