

Islamic Banking Selection Criteria: Case in Indonesia Using Analytic Network Process

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Abstract: The Islamic banking industry is currently one of the main indicators of the development of Islamic economics in Indonesia. In Islamic banking issue, one of the important issues is related to people's preferences and behavior towards Islamic banks. The study of the criteria for selecting a bank has been the concern of many bank marketing researchers. Compared to conventional, such studies are relatively minimal, especially in Indonesia. This study tries to analyze the preferences and behavior of criteria for selection of Islamic banks in Indonesia through the Analytical Network Process (ANP) approach. The results conclude that the most priority criteria that influence the selection of Islamic banks in Indonesia are service factors and religiosity factors or the suitability of banks with sharia principles. Therefore, Islamic banks need to constantly improve the quality of services both services and products so that they can compete with conventional banks.

Keywords: Preference; Behaviour; Islamic Bank; ANP

Abstrak: Industri perbankan syariah saat ini merupakan salah satu indikator utama perkembangan ekonomi Islam di Indonesia. Dalam masalah perbankan syariah, salah satu masalah penting adalah terkait dengan preferensi dan perilaku pemilihan masyarakat terhadap bank syariah. Studi tentang kriteria pemilihan bank syariah telah menjadi perhatian banyak peneliti. Studi tersebut relatif minimal jika dibandingkan dengan bank konvensional, terutama di Indonesia. Penelitian ini mencoba menganalisis preferensi dan perilaku pemilihan kriteria bank syariah di Indonesia melalui pendekatan Analytical Network Process (ANP). Hasilnya menyimpulkan bahwa kriteria yang paling prioritas yang mempengaruhi nasabah dalam memilih bank syariah di Indonesia adalah faktor layanan dan faktor religiusitas atau kesesuaian bank dengan prinsip syariah. Oleh karena itu, bank syariah perlu terus meningkatkan kualitas layanan baik produk maupun jasa sehingga mereka dapat bersaing dengan bank konvensional.

Kata Kunci: Preferensi; Perilaku; Bank Syariah; ANP

Introduction

The Islamic banking industry, is always an interesting object of study. Especially if it is compared with the conventional banking industry conditions that already existed. The results of research conducted by Nurfalah et al. (2018) for example, which states that Islamic banking is relatively more stable compared to conventional banking in the face of both internal and external shock. This is an interesting finding that needs to be proven through various researches in the future.

The development of the Islamic banking industry in Indonesia is relatively showing a good tendency, although it seems slow. Data for April 2018, based on sharia banking statistics, the number of sharia banking has reached 13 Islamic Commercial Banks, 21 Islamic Business Units and 168 Sharia Rural Banks with a total of 2,460 office networks throughout Indonesia (Financial Services Authority, 2018).

Meanwhile, according to the 2017 Global Islamic Finance Report, the Islamic finance industry in Indonesia ranks seventh in the world after Malaysia, Iran, Saudi Arabia, UAE, Kuwait and Pakistan. The index score of the Indonesian Islamic financial industry in 2017 was 24.21 on a scale of 100 and ranked 7th in the world (GIFR, 2017). Apart from these data, the 2016 target set by Bank Indonesia in achieving a market share of 5% has not been satisfactory. Growth that occurs in Islamic banks is not much better when compared to an increase in the market share of Islamic banks themselves. Several issues such as the efficiency and productivity of Islamic banks (Rusydiana, 2018, also Rusydiana & Sanrego, 2018) as well as product innovation, surfaced. The target market share of sharia banks in 2016 that was not reached was a separate phenomenon to evaluate how effective the sharia bank's strategy was in understanding its customers and prospective customers.

Like conventional banks, Islamic banks also depend on depositors' money as the main source of funds. In fact, because interest is prohibited in Islam, the flexibility of Islamic banks in collecting money for fees and financing is limited (Abduh and Omar, 2012). Therefore, deposits are even more important in Islamic banks than conventional banks. The more depositors the more money received to improve the main functions of the institution. Thus, it is very important for Islamic banks to be able to recognize the factors that are the preference of the public and customers in the selection of Islamic banks.

The positive perception of both Muslim community customers and especially among non-Muslims towards Islamic banking in Indonesia is far more important to study, especially due to the fact that Islamic banks must compete with conventional banks that have long existed in the dual banking system in Indonesia. In the initial period, the response to Islamic banking, especially from the Muslim market segment, was concerned in the application of Islamic principles in all fields including banking.

Previous studies on perceptions of Islamic banking customers can be categorized into four (Nawi et al, 2013). The first category is the study of perceptions of Islamic banking that has been carried out in Muslim-majority countries such as Pakistan or non-Muslim countries like Singapore. The second study group focuses on Islamic banking clients in general without separating them from religious affiliations such as Muslims and non-Muslims. The third category is comparative studies on Islamic and conventional banking customers. The final category is the study of perceptions of Islamic banking conducted on non-Muslim customers of Islamic banking. This research is included into the first category.

This research has two main objectives. First try to analyze the preferences and behavior of the selection of Islamic bank criteria in Indonesia. Secondly, from the determination of priority criteria, which Islamic bank then has a higher preference in the eyes of the public. If most of

the related studies that have been carried out use factor analysis or ordinary descriptive statistics, this research will use the Analytical Network Process (ANP) approach developed by Saaty (Rusydiana, 2016). In addition, ANP is a relevant method in decision making framework.

Literature Review

Factors that influence the selection of banks by consumers in general can be classified into external and internal factors (Kader et al, 2014). External factors that appear in much of the literature are sociological influences. Psychologically, people tend to react to the recommendations of friends and family members, hence the implicit power of word of mouth advertising. Likewise, the factor of customer religiosity and awareness.

In addition to social influences, bank customer preferences can be influenced by special factors that are internal to each bank. Convenience is a potential factor, as is service and product quality. Convenience is measured by the location of the bank in relation to homes and offices, ease of parking and the availability of ATM. Likewise, the availability of prayer rooms, and technological sophistication facilities owned by banks.

Different researchers have established different criteria for measuring customer perceptions as reviewed in the literature, where various studies have shown that several criteria usually influence customer perceptions of their banking choices. Nawi et al. (2013) for example, tries to identify six general criteria for the selection of Islamic banks. These elements are understanding the concepts of Islamic banking, Shariah compliance, religious contradictions, the quality and effectiveness of offers, willingness to deal with Islamic banks, and the prospects and potential of Islamic banking.

Several studies related to preferences on Islamic banks have been conducted in several countries. In Malaysia, research on important factors in the selection of Islamic banks was carried out by Nadarajan et al (2018), Shahrinaz et al (2017), Kader et al (2014), Jamshidi et al (2014), Nawi et al

(2013), Abduh dan Omar (2012), Ahmad etal (2011), Doraisamy etal (2011), Marimuthu etal (2010), Loo (2010), and Ahmad etal (2008).

Some important criteria for Islamic bank preferences in Malaysia are: bank reputation, reliability, profit and cost factors, service quality, peer influence, bank facilities, public understanding, compatibility with sharia, and prospects for sharia banks. In addition, other important factors are: ease of use, quality of interaction with customers, comfort, convenience and availability of outlets or branch networks, and no less important is the electronic services of the bank.

Meanwhile in Pakistan, research on important factors in the selection of Islamic banks was conducted by Naz and Farooq (2016), Tara etal (2014), Awan and Azhar (2014), Ullah (2014), Ahmad and Bashir (2014), and Hasan etal (2012). Some important criteria for Islamic bank preferences in Pakistan include: shariah compliance factors, offer quality, personal employee proximity factors, cost benefits, community understanding, bank reputation, networks, religious, influence from friends or family, service quality, mass media factors, bank image, and the cheap factor of the cost of bank products and services.

Research related to the preferences of Islamic banks in other places has been carried out at Tunisia (Chaouch, 2017), India (Dhinaiya, 2016), Libya (Abdesamed & Wahab, 2015), Turkey (Okumus, 2015), South Africa (Vawda etal, 2013 dan Saini etal, 2011), Thailand (Yamirudeng, 2013), Brunei (Bashir, 2013), Lebanon (Bizri, 2013), and Bangladesh (Rashid & Hassan, 2009, dan Khan etal, 2008). The preference factors for Islamic banks are relatively not much different from the criteria above.

In Indonesia, there is not much research on the preferences and behavior of customers and the general public regarding Islamic banks. Research conducted by Setiawan and Panduwangi (2017) is an exception. His research proves that assurance, service quality, bank physical factors and

the application of sharia principles are important factors in Islamic bank customer preferences in Indonesia. In addition, research by Abduh and Omar (2010) proves that the issue of shariah (shariah comply) and bank marketing strategies are important factors that influence the selection of criteria for an Islamic bank in Indonesia.

From the use of the research methods used, most researchers used the Multiple Regression Analysis (MRA) approach, factor analysis, and relatively simple descriptive statistical analysis such as: Pearson, Mann-Whitney, Cronbach, ANOVA, t-test and cross tabulation analysis. Some different methods in preference research on Islamic banks are: Rasch model (Setiawan & Panduwangi, 2017), cluster analysis and discriminant (Bizri, 2013), AHP method (Abduh & Omar, 2012), and logistic regression (Abduh & Omar, 2010). This research itself will use a relatively new method and has never been used in the analysis of the preferences of Islamic banks, namely the Analytical Network Process (ANP) method developed by Saaty (Rusydiana and Devi, 2013).

Table 1. Islamic bank preferences study in several countries

NO	SOURCE/OBJECT	METHODS	ISLAMIC BANK PREFERENCES
1	Nadarajan etal (2018)/Malaysia	MRA	Bank reputation, religiosity, cost benefit
2	Setiawan & Panduwangi (2017)/Indonesia	Rasch	Assurance, quality of service, physical evidence, application of sharia principles
3	Shahrinaz etal (2017)/Malaysia	Pearson	Service quality, influence of friends, religion
4	Chaouch (2017)/Tunisia	Mann-Whitney	Awareness
5	Naz and Farooq (2016)/Pakistan	Qualitative	Sharia compliant, quality of offerings, Friendliness of bank personnel, cost benefit, awareness
6	Dhinaiya (2016)/India	Factor analysis	Service, gift & coupon, physical environment, employee behavior, brand

NO	SOURCE/OBJECT	METHODS	ISLAMIC BANK PREFERENCES
7	Abdesamed & Wahab (2015)/Libya	Mann-Whitney	Service quality
8	Okumus (2015)/Turkey	Cronbach	Awareness
9	Kader etal (2014)/Malaysia	ANOVA	Religiosity, service satisfy, cost benefit, provision
10	Jamshidi etal (2014)/ Malaysia	Qualitative	Banking service, facilities
11	Tara etal (2014)/ Pakistan	MRA	Awareness, reputation, network
12	Awan and Azhar (2014)/ Pakistan	MRA/OLS	Religion, benefit cost, influence of friends, service quality, mass media, bank image
13	Ullah (2014)/ Pakistan	Cronbach	Low cost product and services
14	Ahmad and Bashir (2014)/ Pakistan	MRA	Awareness
15	Vawda etal (2013)/South Africa	Descriptive statistic	Efficient service, confidentiality of bank, skills & expertise, brand image, financial strength
16	Yamirudeng (2013)/Thailand	Factor analysis-SEM	Religion, reputation, knowledge, attitude, convenience and services.
17	Bashir (2013)/Brunei	MRA	Profitability, religious principle, awareness
18	Bizri (2013)/Lebanon	Cluster & discriminant	Trust, sharia compliance, customers familiarity with modes of finance, cost of financing, accessibility, service quality
19	Nawi etal (2013)/ Malaysia	Literature review	Awareness, sharia compliance, religiosity, attractiveness of offering, willingness to deal and prospect of Islamic banking
20	Abduh and Omar (2012)/Malaysia	Analytic Hierarchy Process	Sharia compliant, profitability, reputation, bank status, facilities & service, friendship
21	Hasan etal (2012)/ Pakistan	One sample t-test	High profit & low charge, religiosity, serviceQuality
22	Saini etal (2011)/ South Africa	Descriptive statistic	Availability of ATM and extensive branch network, religiosity
23	Ahmad etal (2011)/ Malaysia	Factor analysis	Brand, ease of use, quality of customer interaction

NO	SOURCE/OBJECT	METHODS	ISLAMIC BANK PREFERENCES
24	Doraisamy etal (2011)/ Malaysia	MRA	Profitability and service quality
25	Marimuthu etal (2010)/ Malaysia	Cross tabulation	Cost benefit, Service delivery, convenience, friends influence
26	Loo (2010)/ Malaysia	Descriptive statistics	Religion, products and services, reliability, availability of outlet
27	Abduh and Omar (2010)/Indonesia	Logit regression	Sharia issue, bank marketing
28	Rashid and Hassan (2009)/ Bangladesh	MRA	Corporate efficiency, core-banking services, confidence
29	Ahmad etal (2008)/ Malaysia	Factor analysis	Electronic services
30	Khan etal (2008)/ Bangladesh	Chisquare&t-test	Religiosity

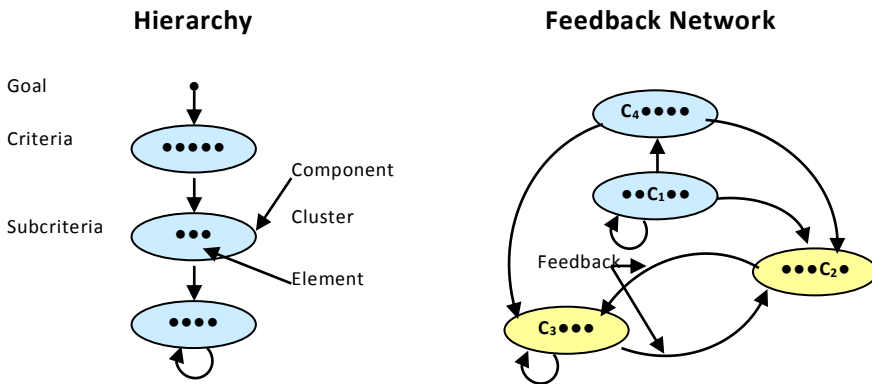
Analytic Network Process

Analytic Network Process or ANP is a general theory of relative measurement used to derive composite priority ratios from individual ratio scales that reflect relative measurements of the influence of interacting elements with respect to control criteria (Saaty, 2003). ANP is a mathematical theory that allows one to treat dependence and feedback systematically which can capture and combine tangible and intangible factors (Azis, 2003). ANP is a new approach to the decision making process that provides a general framework for treating decisions without making assumptions about the independence of elements at a higher level than elements at a lower level and about the independence of the elements in a level.

ANP is a development of the Analytic Hierarchy Process (AHP) where levels have a hierarchy. In the AHP network there are levels of objectives, criteria, sub-criteria, and alternatives, where each level has elements. Meanwhile, in the ANP network, the level in the AHP is called a cluster that

can have criteria and alternatives in it, which are now called vertices (see figure 1).

Figure 1. Comparison between Hierarchy and Network



Source: Azis (2003)

There are three basic principles of ANP, namely decomposition, comparative judgments, and the composition or synthesis of priorities (Saaty, 1996). The principle of decomposition is applied to structure complex problems into a hierarchical framework or network of clusters, sub-clusters, sub-clusters, and so on. In other words, decomposition is modeling the problem into the ANP framework.

The principle of comparative assessment is applied to build pairwise comparison of all combinations of elements in the cluster seen from the parent cluster. This pairing comparison is used to get the local priority of the elements in a cluster seen from the parent cluster. The principle of hierarchical composition or synthesis is applied to multiply the local priority of the elements in the cluster with the 'global' priority of the parent element, which will produce global priorities throughout the hierarchy and add them together to produce global priorities for the lowest level element (usually an alternative).

During its development, the method that was first developed by Thomas L. Saaty underwent several 'extensions' and analytical development. The following are some of the analyzes that began with the Analytic Hierarchy Process since 1977 (see table 2).

Table 2. Development analysis of AHP/ANP

NO	SOURCES	YEAR	AUTHOR
1	A scaling method for priorities in hierarchical structures	1977	Saaty
2	Reciprocal matrices with random coefficients	1984	Vargas
3	A note on the analysis of subjective judgement matrices	1985	Crawford & Williams
4	Axiomatic foundation of the analytic hierarchy process	1986	Saaty
5	The theory of ratio scale estimation – Saaty AHP	1987	Harker & Vargas
6	Uncertainty and rank order in the analytic hierarchy process	1987	Saaty & Vargas
7	How to make a decision – The analytic hierarchy process	1990	Saaty
8	Remarks on the analytic hierarchy process	1990	Dyer
9	An exposition of the AHP in reply to the paper remarks on AHP	1990	Saaty
10	Highlights and critical points in the theory & application of AHP	1994	Saaty
11	Using AHP for resource allocation problems	1995	Ramanathan & Ganesh
12	Aggregating individual judgements and priorities with the AHP	1998	Forman & Peniwati
13	A decision support system for supplier selection using AHP&LP	1998	Ghodsypur & Obrien
14	Decision making with dependence & feedback: The ANP	2001	Saaty
15	The encyclicon: A dictionary of decisions with dependence and feedback based on the analytic network process	2004	Saaty & Ozdemir
16	A study on the utilization of compatibility metric in the AHP	2005	Yoon & Jung

NO	SOURCES	YEAR	AUTHOR
17	An approach to avoiding rank reversal in AHP	2006	Wang & Elhag
18	A new MADM method: Hierarchical fuzzy axiomatic design	2009	Kahraman & Cebi
19	Financial service sector performance measurement model: AHP sensitivity analysis and BSC approach	2011	Wu, Lin & Tsai
20	The neural network process (NNP): Generalization of the AHP and ANP to the continuous case of neural firing	2015	Saaty

Methods

This study uses the ANP method. In accordance with its basic principles, the main functions of AHP/ANP are three, namely structuring complexity, measurement, and synthesis. The following will explain the steps of the ANP method so that the final result is an eigenvalue weight value. Eigenvalue weights are obtained through pairwise comparison procedures and get the ratio scale from the super matrix like this.

$$A = \begin{matrix} & A_1 & A_2 & & & A_n \\ \begin{matrix} A_1 \\ A_2 \\ \cdot \\ \cdot \\ A_n \end{matrix} & \begin{bmatrix} w_1 / w_1 & w_1 / w_2 & \dots & \dots & w_1 / w_n \\ w_2 / w_1 & w_2 / w_2 & \dots & \dots & w_2 / w_n \\ \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots \\ w_n / w_1 & \dots & \dots & \dots & w_n / w_n \end{bmatrix} \end{matrix}$$

ANP has several advantages compared to other approaches, such as:

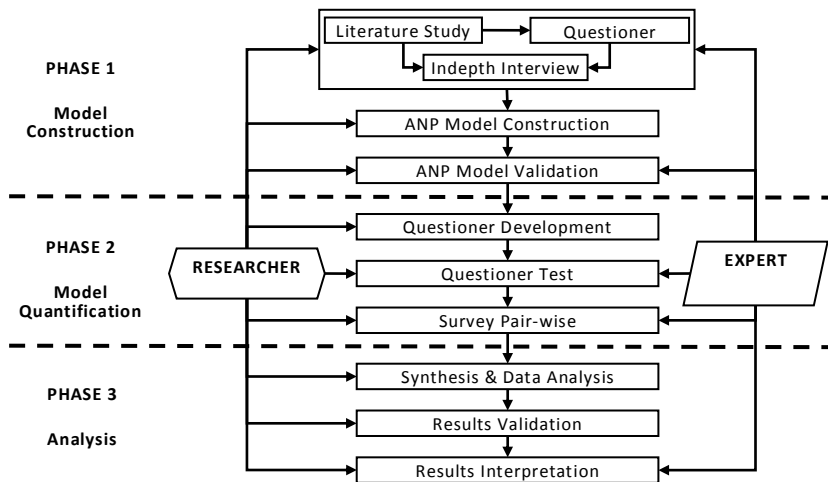
1. This approach allows a holistic and non-partial analysis, where all factors and criteria are considered in the framework of the model both hierarchically and by the relationship between one factor with other factors and between criteria one with another (Saaty, 2006).

2. This approach requires a deep understanding and experience of the subject to be studied, and does not depend on the ability to logically segment. Feeling and intuition play a very important role to make a decision or to draw conclusions on a problem (Saaty, 2006).
3. Lower costs for Respondents, because in-depth interviews are conducted directly with experts who understand the problem well and deeply.
4. Conducting surveys that do not require a long time.

Therefore, respondents who will be involved in this study include customers and the public who are users of Islamic banks. The total number of respondents interviewed in this study uses the principle of sampling with the method of random sampling.

Research using the ANP method covers three main phases, namely model construction, model quantification and results analysis. The complete steps of the research can be seen in Figure 2.

Figure 2. ANP Research Process



Source: Ascarya (2005)

Phase 1 is the construction of a model or decomposition to identify, analyze and structure the complexity of the problem into an appropriate ANP network, which includes: a) literature review, questionnaires and in-depth interviews with experts and practitioners of marketing and behavior of Islamic banks to understand the problem; b) build an ANP network based on the above understanding; c) validation of the ANP network designed to experts and practitioners.

Phase 2 is the quantification of the model using pair-wise comparison, which includes: a) designing a pair-wise questionnaire that is consistent with the ANP network designed in phase 1; b) test the pair-wise questionnaire to prospective expert respondents and practitioners; and c) a survey of expert respondents and practitioners to guide them to complete the pair-wise questionnaire correctly and maintain consistency.

Phase 3 is the synthesis and analysis of results, which include: a) processing the data obtained in phase 2 with ANP (superdecisions) software, performing synthesis and obtaining the results, and calculating the geometric mean and rater agreement; b) validation of the results obtained; and c) interpret the results, analyze the results, and provide policy recommendations.

In practice, the use of the ANP method in research is very varied in various fields, as stated by Sipahi & Timor (2010), Lee (2010) and Ho (2008). Meanwhile, in Islamic economics and finance, research using the ANP method has been carried out by Rusydiana et al. (2019), Setianingrum et al. (2019), Rusydiana and Devi (2018), Nugroho and Rusydiana (2019), Rusydiana (2016), Ascarya (2015), Rusydiana and Devi (2013), and other studies.

Result and Discussion

Demographic of Respondent

The table below shows that of the total respondents interviewed, 72 respondents were male (60%) and 48 respondents were female (40%). The distribution of marital status is relatively balanced ie 64 respondents (53%) were married and 56 respondents (47%) were not married. Respondents with the age group below 30 years had the most number, namely 79 people (66%) while respondents over the age group of 30 years numbered 41 people (34%). In the perspective of the employment sector, only 16 respondents have a civil servant/public sector background (13%) while 104 respondents (87%) have a private background.

Table 3. Demographic of Respondent

NO	VARIABLE	LEVEL	FREQUENCY	(%)
1	Gender	Male	72	60%
		Female	48	40%
2	Age	< 30	79	66%
		> 30	41	34%
3	Education	Postgraduate	24	20%
		Undergraduate	72	60%
		Diploma & below	24	20%
4	Merital Status	Married	64	53%
		<i>Single</i>	56	47%
5	Employment Sector	Public sector (PNS)	16	13%
		Privat sector	104	87%
6	Islamic economic Background	Yes	78	65%
		No	42	35%

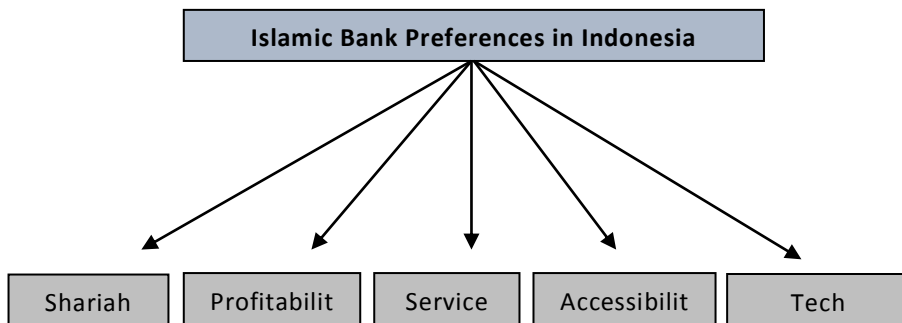
Regarding education, 24 of the total respondents (20%) have reached graduate school, 72 respondents (60%) have a bachelor's degree and the remaining 24 respondents (20%) have a diploma or below. As for the

educational background of Islamic economics, the majority of respondents have an Islamic economic education background of 78 respondents (65%), although there are also respondent who do not have an Islamic economic background of 42 respondents (35%).

Model Analysis

The researcher at this stage conducted a literature review of all aspects of people's preferences towards Islamic banks in Indonesia. In addition, in-depth interviews were also conducted with some respondents who were considered to be the most knowledgeable about the problem being studied. And the search for priorities is also done through filling out the questionnaire so that with these three ways the writer can find aspects that will be the priority of the selection of Islamic banks in Indonesia. Furthermore, a model is made and then analyzed using software.

Figure 3. Islamic Bank Preference Criteria in Indonesia

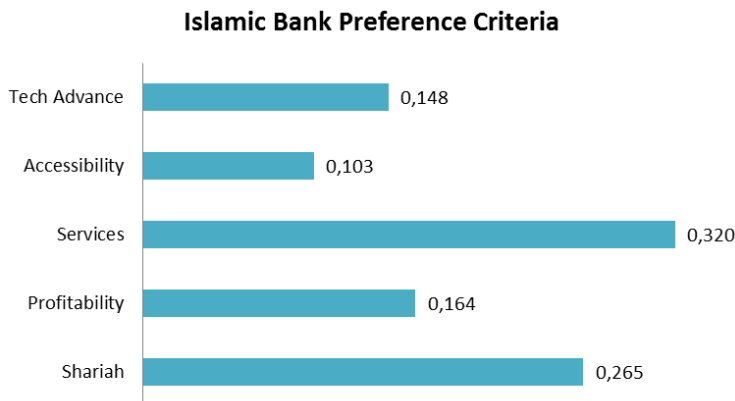


After determining the criteria and making the model is complete next, a questionnaire is distributed to all respondents to find the weight of the criteria that will be the priority of the selection of Islamic banks in Indonesia. The questionnaire data processing is done using SuperDecision software.

The results of data processing can be seen in the image below. The figure shows the mean geometric value of aggregate priorities for a total of

120 respondents based on the principle of pairwise comparison, both for bank criteria and alternative banks. Based on the results of calculations with the ANP method, the inconsistency index ratio value is 0.05. This value shows consistent and valid results where the maximum inconsistency index is 10% or 0.1.

Figure 4. Weight Value of Islamic Bank Criteria



Based on the eigenvalue weights generated from the super matrix, the most priority criterion that influences the selection of Islamic banks is the service factor (0.320) followed by the factor of religiosity or conformity of the bank to the Islamic principles (0.265). The next criteria are the profitability factor or bank profit (0.164), technological sophistication (0.148) and the factor of accessibility or affordability of Islamic banks by the customer (0.103).

In accordance with the results of research conducted by Shahrinaz et al. (2017), Dhinaiya (2016) and Bizri (2013), this study shows that the most important criteria affecting the selection of Islamic banks in Indonesia are good service factors. In fact, this service quality factor is the most important criteria compared to other criteria according to respondents. This implies that Islamic banks must always improve the quality of services both products

and services so that they can compete with conventional banks. Islamic banks need to have effective business and marketing strategies so as to be able to provide comfort and convenience for their customers and prospective customers.

The second criterion that is considered the most important in the selection of Islamic banks in Indonesia is the religious factor. This is relevant to the results of the research of Abduh and Omar (2012) and Ahmad et al (2011) which states that the 'sharia' factor of Islamic banks is an important factor in the selection of Islamic banks. This has an impact on bank decisions in determining its marketing strategy by for example providing education to the public regarding Islamic principles and muamalah.

No less important is the profitability factor of an Islamic bank being considered by respondents in choosing an Islamic bank. This result was agreed by Bashir (2013) who said that the profit factor generated by Islamic banks became an important factor in the selection of banks. Of course, Islamic banks in Indonesia need to be more competitive and more profitable compared to other banks.

Conclusion

The issue of Islamic bank selection criteria has always been an interesting subject, including in Indonesia. However, among several existing researches, it is still very rare to even be said that no one has ever applied the multicriteria decision making approach in the form of the Analytic Network Process method. This research tries to fill that gap. Some research results in countries with the existence of Islamic banks, show different results. But among the factors that influence the selection of Islamic banks by consumers can be classified into external and internal factors.

Based on the calculation results, the most priority criteria that influence the selection of Islamic banks in Indonesia are service factors (0.320) followed by religious factors or the suitability of banks with sharia principles

(0.265). The next criteria are the profitability factor or bank profit (0.164), technological sophistication (0.148) and the factor of accessibility or affordability of Islamic banks by the customer (0.103).

From this result, Islamic bank marketers and stakeholders in general must always improve the quality of services both products and products so that they are able to compete with conventional banks. Islamic banks need to have effective business and marketing strategies so as to be able to provide comfort and convenience for their customers and prospective customers.

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