

Indonesia Islamic Bank Development: An Interpretive Structural Modeling (ISM)

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This research is aim to identify the priority factors that being barrier to develop Islamic bank in Indonesia using Interpretive Structural Modeling (ISM) method. Here is also offered some solutions for the problems identified. ISM is an advanced planning methodology used to identify, analyze and summarize various relationship among factors that define a problem, model or issue. The development of Islamic bank in Indonesia with ISM framework is divided into three criteria: (1) Strategy or foundation required within the framework of developing Islamic banks, and (2) Stakeholders or actors involved in the development of Islamic banks in Indonesia. Result show that the core strategies or foundations that's needed in framework of Islamic banking development in Indonesia are: The improvement of public literacy and preference, Strengthening and align ruling and supervision, Strengthening policy synergy between the stakeholders and Improvement quality and quantity of human resources, information system & technology and other infrastructures.

Keywords: Islamic Banks, Management, ISM, Indonesia

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INTRODUCTION

The Islamic finance industry, being an object of study that is always interesting to be studied. Especially if compared with the conditions of the conventional financial industry that has already existed. For example, the results of research conducted by [Nurfalah et al \(2018\)](#) which states that Islamic banking is relatively more stable compared to conventional banking in the face of shock both internally and externally. This is an interesting finding that needs to be proven through various research in the future.

According to the data from Financial Services Authority (OJK) up to May 2018, in regard to Islamic banking statistic, there have been 13 Sharia Public Banks, 21 Sharia Business Units, and 168 Sharia Public Financing Banks with the total number of 2,460 offices networked nationwide.

In its recent development, Islamic banking industry turns out to experience a decrease in performance compares to conventional banking. This is reflected from, among others, the relatively high non performing financing or lower efficiency assessment compares to conventional banking industry. The existence of Islamic banks in Indonesia has not yet reinforced by supporting factors which enable Islamic banking to keep developing and running well.

There are several factors which keep Islamic banking industry in Indonesia from developing. Among these factors are: insufficient number of educated and professional human resources, poor human resources management, underdeveloped entrepreneurship spirit and culture of our people, relatively small and limited financing, ambivalence between Islamic management concept of Islamic banks and the operation in the field, trust issues from Muslims, and lack of perfect academic formula to develop Islamic financial institutions systematically and proportionally ([Rusydiana, 2016](#)). These complex problems impact public confidence in the existence of Islamic banks among conventional financial institutions.

While on the contrary, considering the background of its establishment, Islamic banks are the answer to Muslims' demands and needs. Islamic banks arise when Muslims are expecting an Islamic-based financial institution which is free from the considered-haram riba. Considering to the data, Islamic banks in Indonesia have been thriving so far. Islamic banking keeps making progress every year in terms of asset which grows above 30% in average (2007-2013 data). Their financing to deposit ratio (fund disbursed) also stays

around 100% with most part of it is financing to MSMEs. This proves that Islamic banking industry is acceptable for the public as an institution which is able to empower the small society.

The existence of Islamic banking is obviously essential to develop sharia-based economy especially in giving solutions to empower small and medium-sized enterprises, in being the core of populist-based economic power as well as in becoming the main support of national economic system. This proves that the role of Islamic banks is considerable for the people since they serve as an intermediary which is able to solve fundamental problems faced by small and medium-sized entrepreneurs particularly in terms of financing. Not only Islamic banks disburse capital, they also deal with social activities.

From the concept side, Islamic banks are an institution whose existence is highly needed by the people. However, on the other hand, there is still substantial weakness in their operation. Hence, the problematic aspect has to be overcome satisfactorily in order to build a positive image of Islamic banks as a clean and reliable Islamic financial institution.

This research tries to answer some of the following research questions: First, what problem aspects faced in the development of Islamic banks in Indonesia. What strategies or foundations are necessary and crucial in the framework of developing Islamic banks. Furthermore, any key ecosystem or stakeholders are involved in the development of Islamic banks in Indonesia. Through research using Interpretive Structural Model (ISM) approach, some of the above questions will try to be answered.

LITERATURE REVIEW

Islamic financial institutions are financial institutions which operate based on sharia concept under the principle of profit loss sharing as its main method. The structure of Islamic financial institutions is categorized as Islamic public banks, Islamic rural banks, Islamic insurance, and Baitul Maal Wat Tamwil (BMT). Each of those institutions has different products and market share. However, from the side of principle and instruments, there is no significant difference among the said Islamic financial institutions, only in terms of their operational working scope.

The principle of Islamic finance can be widely applied in an economic system which does not only focus on the profit sharing system, but also impeccably instills ethical codes (moral, social, and religious) in promoting fairness and welfare to the wide community.

There is no difference in principle among the Islamic financial institutions (Insurance, Banks, and BMT) because in general these institutions emphasize on the partnership relation (mutual investor relationship) with profit sharing scheme as its fundamental basis.

In short, Islamic banks are a financial institution which operates under sharia principles. The difference with conventional banks lies in the interest system, where Islamic banks do not charge interests since to them interest system means *riba*. In regard to their basic concept, Islamic banks are a financial institution which serves to support economic mechanism in real sector through business activities (investments, trades, et cetera) under the sharia principle that is agreement rules based on sharia law between the banks and other parties in terms of fund saving and/or business activities financing, or other activities which meet the micro or macro Islamic values (Ascarya & Yumanita, 2005).

Islamic banks are one of the few sharia-based financial institutions namely banks, finance and investment institutions, and insurance. These three kinds of financial institutions have been operating in Indonesia. The purpose of developing them is to improve social welfare, materially and spiritually, according to Al-Qur'an and Hadiths. The three fundamental principles of Islamic banking are: Productivity Oriented, Fairness, and halal Investments.

Among other aspects included in the Productivity Oriented principle are: (a) Capital and Human Resources are deployed in production and distribution which generate welfare, (b) There cannot be idle capital or resources, and (c) Profit taking is allowed merely to stimulate business. From those aspects, it can be said that even Islamic financial institutions are welfare oriented, but do not take account of the motivation to yield financial return.

To uphold the fairness principle, interest system is considered haram; whereas investments are made under the principle of risk sharing. The sanctity of the contract/covenant must be maintained where transparency and openness between both parties are highly important to reduce the risks posed from unequal information and moral hazard. In terms of halal investments, Islamic banks are prohibited from investments in haram sectors such as liquor, gambling, prostitution, et cetera. They are also not allowed to make investments in speculative activities (Manurung and Raharja, 2004).

Islamic banking in Indonesia has made good progress. However, there are numerous obstacles to develop it further namely Fiqh obstacle such as the

opinion from the Ulama on whether interests are halal, haram, or *syubhat* (Muhammad, 2002); inadequate dissemination on Islamic banking; insufficient human resources and expertise; limited Islamic banks' office network; complicated liquidity; and asymmetric information possibility (Karim, 2013).

Several previous studies on Islamic bank development strategy in Indonesia has been done by the researcher. For the example research by Rusydiana (2016). The results of this study show that the arising problems in developing Islamic banks in Indonesia consist of 4 important aspects namely: Human Resource Aspects, Technical Aspects, Legal/Structural Aspects, and Market/Communal Aspects. The elaboration of problems aspect on the whole generated the following priority order: 1) The inadequate Islamic banks funding; 2) The limited understanding from Islamic bank practitioners; 3) The lack of government support; and 4) The public trust issues and relatively low interest in Islamic banks.

Other research related to Islamic banks strategies to increase efficiency and productivity have been carried out. The first is the Masalahah Efficiency Quadrant or MEQ (Rusydiana & Sanrego, 2018). This framework combines measurement from an efficiency perspective with a *maqasid shariah* perspective (Rusydiana & Firmansyah, 2017). Second is the framework for measuring the efficiency and stability of Islamic banks in one framework (Rusydiana, 2018a). And finally the measurement of the level of Islamic bank productivity in terms of changes in efficiency levels (EFFCH) and the changes in technology use (TECH) that have an impact on productivity (Rusydiana, 2018b). These researches are complemented by several Islamic bank development strategies in terms of increasing efficiency. Other studies related to the development of Islamic banks in Indonesia have been carried out by several researchers, for example Shah et al., (2023), Mai et al., (2023), Pambuko & Sriyana (2023) and also Nugraha et al., (2022).

METHODS

Interpretive structural modeling is an advanced planning methodology used to identify, analyse and summarize various relationship among factors that define a problem, model or issue (Sage, 1977). ISM provides a means by which researchers or academicians can impose an order and create models around factors of a system by developing the complexity of relationships among them (Warfield, 1974).

The method is 'interpretive' in the sense that the expert decisions develop the relationships among the variables. It is 'structural' on the basis of proposed relationships that create an overall structure extracted from a complex set of factors. Its a 'modeling' technique as the specific relationship and overall structure are portrayed carefully in a graphical model as well as words (Li and Yang, 2014). As a modeling technique, ISM has been extensively used in different domains to understand the relationship among the various factors that contribute to a whole system (Faisal and Al-Esmael, 2014). ISM analysis and modeling can help managers and practitioners visualize issues through a systems approach. It can then identify factors that have high levels of influence and therefore require significant attention and effort to resolve them (Jabeen and Faisal, 2018).

Interpretative Structural Modeling is a decision making method took from the complexity situation by correlating and organizing the idea into the visual map. ISM basic concept is using expert and practitioners to generate complexity system into some sub system (element) and build a hierarchy structural modeling. ISM also used to give the basic understanding from the complexity situation, and arranging the strategy to solve the problems (Gorvett and Liu, 2007).

There are some step to analyze ISM method, *first stage* is problem decomposition to the expert or practitioners (who has better understanding related to

the problem discussed/ brainstorming) to identify the ideas of the organization development, has better understanding about Islamic bank development problem. From this discussion, will be explored the development strategies, and the variables used in ISM model. *Second stage* is constructing Structural Self Interaction Matrix (SSIM) model. SSIM is constructed from the variables founded from decomposition step, then develop the contextual relationship among variables and gathering into one variable *i* and variable *j*.

Third stage is creating reachability matrix (RM) by conversing the V, A, X, and O used into the numbers 1 and 0. *Fourth stage* is creating canonical matrix to identify the level through the iteration. If the intersection is not found anymore, next step is creating the model resulted from the ISM software. The model resulted used to solve the problem (in this study: Islamic banks development model). From the model also explored the road map of organization development (level).

According to Marimin (2004) the process of ISM method is calculated according to the Transitivity Rule where the correction of SSIM is done until a closed matrix occurs. SSIM modifications require input from panelists / experts, with special notes for attention shown only on certain sub-elements. The revised results of the SSIM and the matrix eligible for the Transitivity Rules are further processed. For revision can also be done transformation matrix with computer program.

Table 1. Interconnection between Sub-elemen in ISM

No.	Type	Interpretation
1.	<i>Comparative</i>	. A more important than B
2.	<i>Definitive</i>	. A is attribut of B . A including inside B . A interpret B
3.	<i>Influence</i>	. A cause B . A is the cause of B . A develop B . A improve B
4.	<i>Spiral</i>	. A is south/north B . A above B . A to the left B
5.	<i>Temporate/Time Scale</i>	. A precedes B . A follow B . A have more priority then B

There are several studies on Islamic economics and finance that have been done using the ISM method. Some of them are done by Rusydiana and Devi (2018) about sharia cooperatives, Ascarya et.al (2012) about development of shariah banks, and Devi and Rusydiana

(2016) on group lending model. Meanwhile Bolanos et.al (2005), and Kanungo & Batnagar (2002) for other industrial applications. The research using ISM method with more theoretical has been done by Lee (2007) and Takkar et.al (2007).

ANALYSIS AND DISCUSSION

Based on the identification of Indonesian Islamic bank development problems, solutions, and strategies above, an ISM network structure was developed. To develop the contextual relationship among the factors, the ISM method suggests the use of experts opinions. For this research, an expert group was formed by contacting several academicians and practitioners. To develop the model initially, we decided to follow the traditional method of conducting a brainstorming and depth interview, where we could receive inputs of the expert and revise simultaneously. A summarized literature on Islamic banks development was communicated to the experts.

For analyzing the relationships among the enablers of Islamic bank development, a contextual relationship of 'leads to' type was chosen, meaning that one enabler led to another. On the basis of this, the contextual relationship between the factors was developed. Experts were asked in questionnaire to compare the column statement with the row statement for each cell and to choose a value from the set (V, A, X

and O) to represent their perception of direct relationship between two sources at each time.

Structural Self-Interaction Matrix (SSIM)

The 7 variables were put in a row and column format (in Indonesia Islamic bank strategies), where variables in rows and columns are represented by *i* and *j*, respectively. Thus, each pair of variables is analysed separately after the formation of grid, which was obtained in the above process. Four keywords are used to represent the direction of the relationship between a set of the variables (*i* and *j*):

- (a) V indicates that variable *i* helps to achieve variable *j*;
- (b) A indicates that variable *j* helps to achieve variable *i*;
- (c) X indicates that variable *i* will help to achieve variable *j* and variable *j* will help to achieve variable *i*, or causality relationship; and
- (d) O indicates that variable *i* and *j* are unrelated.

The relationships between variables are presented in a matrix known as structural self interaction matrix (SSIM) with the value for each pair of variable being an agreed upon value among experts.

Table 2. Structural Self Interaction Matrix (SSIM)

No	Variable description	7	6	5	4	3	2	1
A1	Improve the quality of service product diversity	A	O	X	V	A	A	
A2	Improve public literation and preference	V	A	V	V	A		
A3	Strengthen and align ruling and supervision	X	X	V	V			
A4	Strengthen funding, business scale and efficiency	A	A	A				
A5	Improve funding structure to expand financing segment	A	O					
A6	Strengthen policy synergy between the stakeholders	X						
A7	Improve quality of HR, IT and other infrastructures							

Notes: Entry in the cell: V when row influences the column; A when column influences the row; X when row & column influences each other; and O when there is no relation between row & column.

Reachability Matrix

The reachability matrix is obtained from structural self-interaction matrix (SSIM) using a two-step process. In the first step, the alphabets used to indicate the relationships among the variables in SSIM are replaced by "0" or "1". The value in the reachability matrix depends on the type of relationship in the SSIM (Faisal, 2015) and is summarized below:

- (1) If the relationship between a variable in a row with another variable in a column is "V", then in the initial reachability matrix, the row entry becomes "1" while the column entry between these two variables becomes "0";

- (2) If the relationship between a variable in a row with another variable in a column is "A", then in the initial reachability matrix, the row entry becomes "0" while the column entry between these two variables becomes "1";

- (3) If the relationship between a variable in a row with another variable in a column is "X", then in the initial reachability matrix, the row entry becomes "1" while the column entry between these two variables becomes "1";

- (4) If the relationship between a variable in a row with another variable in a column is "O", then in the initial reachability matrix, the row

entry becomes “0” while the column entry between these two variables becomes “0”;

Based on the above rules, the initial reachability matrix for the enablers to Islamic bank development is constructed. Next, by incorporating transitivity (Ravi, 2015), the final reachability matrix is obtained. The transitivity of the contextual relation is a basic assumption made in the ISM. It states that if variable X is related to Y and Y is related to Z, then X is necessarily

related to Z (Venkatesh et.al, 2015; Jabeen et.al, 2017). The reachability matrix also provides the driving power and dependence power of each enabler. Thus, in the table final reachability matrix, the driving power for A1 (Improve the quality of service product diversity) is the sum total of the values of the entries in the row, which is 3. The dependence (the sum of the entries in the column) is 6. Similarly, the values of driving power and dependence are calculated for all the remaining enablers.

Table 3. Final Reachability Matrix (RM)

No	Variable description	1	2	3	4	5	6	7	Driving power
A1	Improve the quality of service product diversity	1	0	0	1	1	0	0	3
A2	Improve public literacy and preference	1	1	1	1	1	1	1	7
A3	Strengthen and align ruling and supervision	1	1	1	1	1	1	1	7
A4	Strengthen funding, business scale and efficiency	0	0	0	1	0	0	0	1
A5	Improve funding structure to expand financing segment	1	0	0	1	1	0	0	3
A6	Strengthen policy synergy between stakeholders	1	1	1	1	1	1	1	7
A7	Improve quality of HR, IT & other infrastructure	1	1	1	1	1	1	1	7
	Dependence Power	6	4	4	7	6	4	4	

From the final reachability matrix, the next step is to establish reachability and antecedent sets. The reachability set for a particular enabler consists of the enabler itself and the other enablers that it may help achieve. Similarly, the antecedent set consists of the enabler itself and the other enablers that influence it. The intersection of these sets is derived for all the enablers. The enablers for which the intersection and reachability set are the same form the top level of the hierarchy in the ISM model. These enablers would not help achieve any other enabler above their level (Jabeen and Faisal, 2018). The identified levels help in building the diagram and the final model of ISM.

MICMAC Quadrant Analysis

On his research, Godet (1986) has popularized the matrix of cross impact multiplications applied to classification (MICMAC) analysis to classify the variables of the system under study. The basis of this classification is the driving power and dependence calculated in the final reachability matrix. Additionally, the MICMAC analysis may be used for examining direct and latent relationships among enablers obtained from the ISM technique. Thus, based on the driving power and dependence, enablers in the present study are classified into four clusters, as shown and explained below.

(1) Autonomous variables: These variables have neither high driving power nor high dependence. They are detached from the system, with which they have few links that may be very strong. Quadrant I represents autonomous variables. In this study, none of the variables included into this category.

(2) Dependent variables: Quadrant II represents dependent variables that have low driving power and high dependence. From the MICMAC analysis, enabler 1, 4 and 5 are dependent variables. That are to improve the quality of service product diversity, to strengthen funding, business scale and efficiency and to improve funding structure to expand financing segment.

(3) Linkage variables: These variables have high driving power and high dependence. Their characteristic is that any action on them will have an effect on the variables above their level and a feedback effect on themselves. Quadrant III represents linkage variables. In the present research, enabler 2, 3, 6 and 7 would fall in the category of linkage variables. To improve public literacy and preference is include in linkage variables. Other enablers are to strengthen and align ruling and supervision, to strengthen policy synergy between the stakeholders and to improve quality of HR, IT and other infrastructures.

(4) Independent variables: These variables have high driving power and low dependence. They represent Quadrant IV. In this research, none of the variables included into this category.

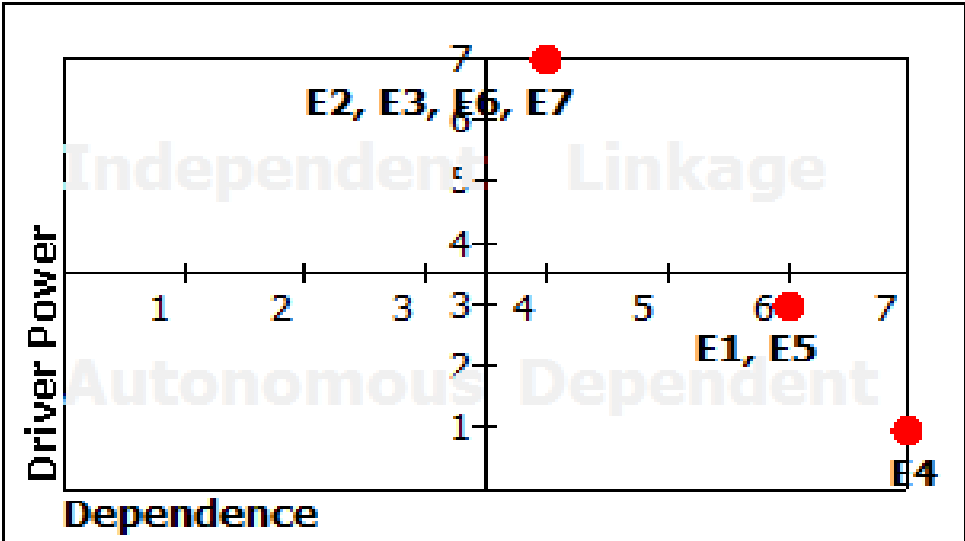


Figure 1. MICMAC Analysis of Islamic Bank Strategies

From the aspect of strategy or foundation that’s needed in framework of Islamic bank development, especially in Indonesia, the core foundation are (b) Improve public literacy and preference, (c) Strengthen and align ruling and supervision, (f) Strengthen policy synergy between the stakeholders and (g) Improve

quality of HR, IT and other infrastructures (Level 3). The next foundation are (a) Improve the quality of service product diversity and (e) Improve funding structure to expand financing segment (Level 2). The last but not least is (d) Strengthen funding, business scale and efficiency (Level 1).

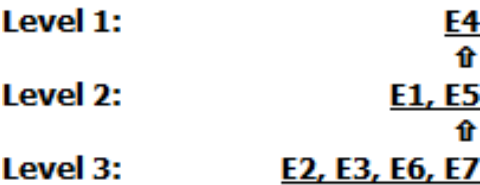


Figure 2. Level of Islamic Bank Strategy

The first priority of Islamic bank development in Indonesia is to improve public literacy and preference. The results of research conducted by OJK stated that the financial literacy of Islamic finance and banking was relatively low (OJK, 2016). Financial literacy is a critical component of financial inclusion. Individual subjective well-being plays an important role in the relationship between financial knowledge or literacy and preferences. The absence of financial literacy is the most significant barrier for poor countries (Grandolini, 2015). Customers select Sharia banking for a variety of reasons, one of the most important reasons is the quality of their products and services. As a result, Sharia banks must be able to preserve the quality of their products and services while also providing products and services that fulfill the needs of their clients (Yumna, 2019).

The next strategic priority is to strengthen and align ruling and supervision. Moreover, ruling and supervision from the authorities are of high importance. Indeed, support and alignment from the government are some of the keys to the development of sharia financial

institutions in Indonesia (Rusydiana, 2016). The government's inability to comprehend market change has hampered the adoption of innovative technology-based financial solutions. (Mogilevskii & Asadov, 2018). No less important with this, the strengthening policy synergy between the stakeholders is important too. Appropriate and/or ineffective policies, as well as the lack of risk management mechanisms, as factors for regulatory stagnation.

The next strategic priority on Islamic bank development in Indonesia is to improve the quantity and quality of Islamic bank’s human resources, as well as their information systems and technology. It is well known that the human resources factor is a typical problem faced by sharia banks which up to now has been a major concern for Islamic financial industry stakeholders. The priority is essential to be implemented, and included in it is to make general improvement in the ICT of sharia banks. Professional organizations for Islamic banking and sharia specialists, as well as a certification system, should be established to

encourage professional development in this area (Jamil & Seman, 2019). Islamic human resource managers should establish and implement specific technical proficiency standards for Islamic banking personnel.

The next strategic priority is to improve Islamic banks' funding structure to expand the financing segment. With a better funding structure, Islamic banks are expected to be able to give competitive rivalry to conventional banks. Last but not least, the development strategy of Islamic banks in Indonesia is to strengthen funding and business scale and increase efficiency. Efficiency, which represents a company's performance, has long been seen as a critical component for stakeholders in making logical strategic decisions in order to reduce the risk level of banking operations (Nailah & Rusydiana, 2020). This strategy is the answer to a few problems currently faced by sharia banks namely the inadequate funding, the high cost of production, and other related issues.

For the aspects of stakeholders or actors involved and related in the development of Islamic banks in Indonesia, the important actor is: (c) Government or regulator in this case Financial Service Authority (OJK), then (d) Bank Indonesia. The next level of stakeholder involved in Islamic bank in Indonesia are: (a) Community in general, (b) Islamic bank institutions, and (e) DPS-DSN MUI. As we know, the government significantly influences the development of Islamic bank in general. In this case, the regulation that provides support will be expected to help facilitate the development of the Islamic banks institution in the future. Several recent studies related to the development of Islamic banks in Indonesia can be seen, for example, in Saifurrahman & Kassim (2023), Azizah (2023), and Jan et al., (2023).

CONCLUSION

In general, Islamic banking in Indonesia today have considerable potential to develop in the future. Based on analysis, the development of Islamic banking in Indonesia with ISM framework is divided into two criteria: (1) Strategy or foundation required within the framework of developing Indonesia Islamic bank, and (2) Stakeholders or actors involved in the development of Islamic banking in Indonesia.

The core strategy or foundations that's needed in framework of Indonesia Islamic banking development is to improve public literacy and preference. The results of research conducted by OJK stated that financial literacy and inclusion of Islamic finance and banking in Indonesia was relatively low (OJK, 2016). The next

foundation in Islamic banking development in Indonesia are: Strengthening and align ruling and supervision, Strengthening policy synergy between the stakeholders and Improvement quality and quantity of human resources, information system & technology and other infrastructures. For the aspects of stakeholders or actors involved and related in the development of Islamic bank in Indonesia, the important actor is: Government or regulator, and Bank Indonesia.

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