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RISK MANAGEMENT IN ISLAMIC FINANCIAL TECHNOLOGY

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Abstract
Digital developments have encouraged the development of financial technology (fintech) companies in the world, including fintech that upholds sharia principles. Until 2022, there are only seven sharia fintech companies registered with the Financial Services Authority (FSA/OJK) in Indonesia. Awareness of sharia products/services is still very small and tends to grow slowly. One way to catch up with Islamic fintech is to manage risk management. This is important to provide safe and comfortable services for consumers. The purpose of this study is to describe risk management and risk mitigation in Islamic fintech. This research is a literature study using secondary data in the form of journal articles published in reputable international journals. From the research results it is known that the importance of implementing risk management in Islamic fintech is closely related to technology risk. After all, the system is a media platform with connected hardware and software using the internet as an open trading system. The application of technology risk management needs to be adjusted to the objectives and policies of the digital financing business strategy (complexity).
Keywords: Finance, Fintech, Risk Management, Technology

A. INTRODUCTION

Indonesia is one of five middle-income countries that are still classified in the region; the wealthiest 10% of the population continues to control a share of national income much greater than the poorest 40% of the population (Fuentes-Nieva & Galasso, 2014). Indonesia is one of the countries with a strong presence for the Islamic finance industry. They are marked by the Indonesian Islamic finance sector, such as sharia banking, sharia insurance, sukuk and Sharia mutual funds, ranked in the world's top ten in total assets. Other sectors, such as other Islamic non-bank financial institutions, which currently do not have a sufficient presence in the global Islamic finance industry, need to be encouraged to optimize their growth.

Digital developments have encouraged the development of financial technology companies (fintech) worldwide. It includes fintech that upholds sharia principles. Based on the Salaam Gateway report, there will be 375 sharia fintech globally in 2022. Of this number, 16.27% or 61 sharia fintech is from Indonesia (Sadya, 2022).

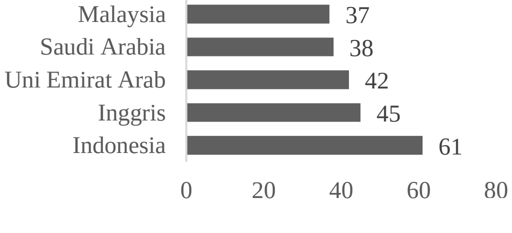

Figure 1. Countries with the Most Sharia Fintech in the World

Fintech is an innovation in the financial services industry that utilizes technology. Meanwhile, sharia fintech is a financial service or product that uses technology based on a sharia scheme (Rusydiana, 2019). The emergence of Islamic fintech in Indonesia is a response to the development of conventional fintech companies that use interest instruments in their operations (R. Muhammad & Lanaula, 2019). Look at the development of information technology, which is constantly experiencing significant improvements and updates. Muslims must be able to keep up with these developments, of course, do not hit the principles of Shariah. It is standard, and there has been a consideration from the scholars gathered in an independent organization.

Table 1. Non-Bank Financial Industry Sharia in Indonesia Overview September 2022

Items	Number of Sharia Industries (Units)	Number of Sharia Investment Package / Sharia Business Units (Units)	Assets (Billion Rp)
1. Sharia Insurance	**15**	**45**	**44,990**
a. Sharia Life Insurance	8	23	35,301
b. Sharia Non-Life Insurance	6	19	7,451
c. Sharia Reinsurance	1	3	2,239
2. Sharia Finance Institutions	**9**	**31**	**30,633**
a. Sharia Finance Company	4	28	20,972
b. Sharia Venture Capital Company	5	2	4,185
c. Sharia Infrastructure Finance Company	0	1	5,476
3. Sharia Pension Fund	**4**	**6**	**9,634**
a. EPF-DBPF	2	0	654
b. EPF-DCPF	1	1	679
c. FIPF	1	0	1,483
d. Sharia Investment Package FIPF	0	5	6,818
4.Sharia Specialized Financial Institution	**5**	**11**	**53,812**
a. Sharia Guarantee Company	2	7	4,838
c. Sharia Pawn Shop	3	1	9,845
b. LPEI Sharia Unit	0	1	9,676
d. Sharia Housing Secondary Financing Company	0	1	3,132
e. PNM Sharia Unit	0	1	26,321
5. Sharia Micro Finance Institution	**81**		**580.62**
6. Financial Technology Sharia	**7**		**122.96**
TOTAL	**121**	**93**	**139,774**

Table one shows that Indonesia's Non-Bank Islamic Finance Industry (NBIF) as of September 2022 has assets of around Rp 139.774 billion with only seven sharia fintech companies registered with the OJK (Indonesian Financial Services Authority).

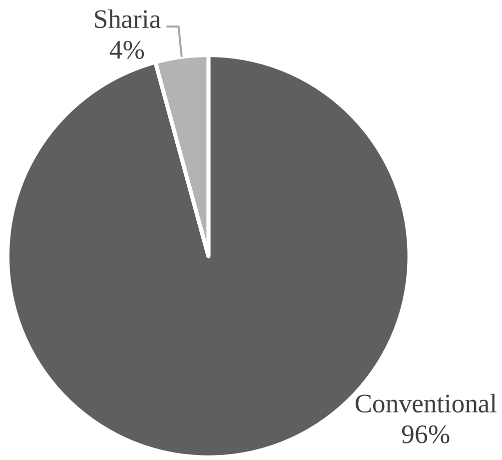

Figure 2. NBIF Market Share 2021

Figure two shows the development of sharia NBIF market share until 2021 to reach 4%. Seeing the reality, it is sad that for a country with the largest Muslim population in the world, awareness of the use of sharia products/services is still tiny and tends to grow slowly. The total assets owned by Islamic companies in Indonesia are still small in value, considering Indonesia's population of almost 270 million people. The development of Islamic finance in Indonesia is arguably slow compared to neighbouring countries. The Government of Indonesia's support for Islamic finance is still modest and has not touched on the subject matter. Likewise, the support of political parties is still very minimal. The presence of the OJK has not been able to increase the share of Islamic finance.

The condition is different from Malaysia. According to (Lai & Choi, 2014), the support of the government and the ruling political parties for Islamic finance is solid. The issue of Islamic finance has become one of the central issues that must be resolved immediately since the 1980s. Existing policies accelerate the growth of Islamic finance in Malaysia so that Malaysia's Islamic banking market share reaches 23%

As the experience of neighbouring countries, the role of regulators in increasing the growth of Islamic finance is significant. One of the issues is how to make efficient and effective regulations to support the development of the sharia economy. Indonesia's Islamic financial infrastructure system consists of three authorities: BI (Bank Indonesia), OJK and DSN_MUI. BI authorities are in the development of Islamic finance focusing on macroprudential policies; OJK has the jurisdiction over micro-prudential policy, and DSN-MUI (National Sharia Council-Ulama Indonesia Council) maintains the Sharia of all sharia financial transaction activities.

B. LITERATURE REVIEW

1. Basic Principles of The Use of Money in Islam

The principle of finance in Islam will not be established if one of the elements does not exist, namely ethics. Ethics is a set of morals to be able to distinguish what is right and what is wrong (Beekun, 2006). Islamic economics is an economic system that is not the same as the principles of the classical capitalist economy, and it can be realized essentially specifically in the rules and laws of Shariah known as "*Siraat al-Mustaqim*" which has the meaning of the straight path (Akhtyamova et al., 2015).

Essential Islamic economic principles instil a principle that does not exist in the position of a grey zone in the sense of halal or haram.

The use of money, according to Islam, refers to Islamic economics that reflects the principles of the Islamic worldview and morality. Islamic jurists and scholars extract Sharia law and the values of the Islamic economic system from the Qur'an and the performance of the Prophet and Imam (Taleghani et al., 2011; Widana et al., 2015). The main Shariah rules relating to banking and finance include the following:

1. Money has no intrinsic value and is only used as a medium of exchange to preserve the value of goods, services, and property.
2. Emphasis on real sector economic activity
3. Not running a financial system prohibited by Islam can damage social impacts, including trading alcoholic beverages, gambling, and other activities.
4. Interest (*riba*)
5. Ambiguous transactions as well as significant risk impacts *(gharar)*

Professionals in managing finances require skilled personnel, especially those related to money issues, to facilitate the world of business or commerce. Business and business activities will always be connected to commodities, such as money, banks, checks, securities, and others (Indraswari & Nafik HR, 2015; Rosyidin, 2013).

2. Types of Commercial Activities in the Use of Money

Tijarah comes from the Arabic form *masdar* (basic word), which means business or trade (Misbach, 2020; Musaffa et al., 2022). Business or buying and selling activities is one form of *muamalah* practice that is narrated in Islam in a narration conveyed by the Prophet Muhammad (peace be upon him) said nine out of ten doors of human sustenance are through trading. Buying and selling activities are generally said to be a business because they are part of economic activity and have a vital role in meeting human needs. Business activities affect all levels of human life, whether individual, social, regional, national, or international. Every day millions of people do business activities as producers, intermediaries and consumers.

The practice of *tijarah* in the book of *Mausū'ah al-Fiqhiyyah* divides into two types of commercial applications, including:

1. Buying and selling
   They were exchanging an item in exchange for each other sincerely with a change of ownership (Ahdi & Firmansyah, 2021; Shifa, 2021). The meaning of buying and selling, according to four *mahzab,* including: Hanafi *mahzab*, buying and selling is exchanging something that is desired to him for something like that. Maliki *mahzab*, buying and selling, is a *muāwadah* agreement that is mutual compensation or compensation for other than benefits. Shafii *mahzab* is an agreement containing the exchange of property on the condition that it obtains ownership of the object or benefit forever. Hambali *mazhab*, buying and selling are agreements in the form of exchanging property with property in the form of property transfer and ownership.
2. Realtor
   Brokers are commonly known as agents who are intermediaries between sellers and buyers to facilitate the buying and selling process by getting a reward, be it a gift or a service fee that initially has no agreement. Conversely, if there is a reward agreement at the beginning, it becomes the law of *riba nasi'ah.*

According to the *jumhur* ulama *tijarah*, its application in all its agreements has a profit purpose. The concept *of tijarah* in *Muamalah* Islam proved to be very broad, especially business processes aimed at reaping profits in various ways. Below are the forms of the agreements in question:

1. *Mudārabah*
   Akad is a form word that means agreement and binding (Ayu & Musjtari, 2021). *Mudārabah* is a contract between the owner of capital and the user of funds to be used in productive activities/needs. In the future, if the user get a profit, it will be divided between the two (which has been agreed).
2. *Greeting*
   This agreement is the nature of the transaction in dependents for one tempo with the price given in cash at the place of commerce. *Jumhur* Ulama argues that this *greeting* agreement for goods and objects can be exchanged or weighed.
3. *Syirkah*
   This agreement is the meaning of *ikhtilāt,* a mixture of communion. The mix in question is not a couple of lovers of the opposite sex who have not mixed their *mahram* as married couples. This agreement occurs to two or more people in one business by dividing the profits in the future. The form of communion in *syirkah* can be capital, skills/skills or intermediaries with *ratio* division which has been adjusted to the proportion of engagement with each other.
4. *Ijārah*
   The meaning of this agreement is a reward or wage from a person or entity that has been employed. Generally, *ijārah* is often done by one party who has agreed on a person or entity for the benefits received in terms of wages and rewards of services and rent.

Based on the conceptual and theoretical *explanations* above*, tijārah* in Islam leads to *muamalah* activities based on the Law of Allah Subhanahu Wa Ta'ala.

3. Financial Technology Laws and Regulations

Regulations regarding fintech sharia in Indonesia previously existed. It was conveyed that all rules related to fatwas, laws, and so forth exist in the principles of the National Sharia Council and the Assembly Ulama Indonesia (DSN-MUI, 2018) about Information Technology-based Financing Services (digital).

Legal and regulatory principles related to sharia fintech in Indonesia refer to the basic rules Bank Indonesia Regulation No. 9/19/PBI/2007 on implementing Sharia principles (Bank Indonesia, 2007). Article 1 point 3 explains the sharia financing equation that the principle has been stated in Law No. 10, 1998 and updated in 2008 to Law No. 21, 2008 (Republik Indonesia, 1998, 2008). Continuing the contents of article 1, point 3 are:

1. investment transactions based, among others, on *Akad Mudharabah* and *Musyarakah*
2. rental transactions based among others on *Akad Ijarah* or *Akad Ijarah* with the option of transfer of property rights (*Ijarah Muntahiyah bit Tamlik*)
3. buying and selling transactions based, among others, on *Akad Murabahah, Salam,* and *Istishna*
4. loan transactions based, among others, on *Akad Qardh*
5. multi-meritorious transactions based, among others, on *Akad Ijarah* or *Kafalah*

When reviewing what has been conveyed in the previous chapters, an agreement underlies an agreement in financing activities. *Akad* is a written agreement between the Bank, the customer, and other parties with rights and obligations for each party following sharia principles (Bank Indonesia, 2007). The focus of Sharia in Article 2 point 2 is stated to have a paradigm of the principles of justice and balance (*'adl wa tawazun*), welfare (*maslahah*), and universalism (*alamiyah*) and does not contain *gharar, maysir, riba, dzalim, riswah,* and *haram* objects (Bank Indonesia, 2007).

Article 3 OJK Law No. 4/POJK.05/202 is clearly stated in point 1 that all Non-Bank Financial Services Institutions (NFSI) are required to implement risk management systems effectively (Otoritas Jasa Keuangan, 2021). NFSI is obliged to implement effective risk management in the use of information technology that includes at least:

1. active supervision of the board of directors and board of commissioners
2. adequacy of policies and procedures for the benefit of information technology
3. sufficiency of the process of identification, measurement, control, and monitoring of risks of using information technology
4. internal control system over the use of Information Technology.

Still in the same OJK regulation said for NFSI organizers who are known to have total assets worth Rp. 1 trillion is strictly required for information technology steering committees at least consisting of: 1) Director (function of information technology), 2) Director or level who has risk management subordinates, 3) Recut or group that has subordinate information technology

Quoted from the OJK lama related to the use of information technology has potential risks that can harm NFSI and consumers. Therefore, to protect the interests of NFSI and consumers, NFSI is required to implement adequate risk management in the use of information technology; until now, not all types of NFSI have regulations regarding risk management in the use of information technology (MRTI). In contrast, existing arrangements for some kinds of NFSI have limited regulatory coverage. Therefore, it is necessary for the existence of agreements regarding the implementation of MRTI for NFSI comprehensively for all NFSI in one OJK Law (POJK). The preparation of arrangements for implementing MRTI NFSI is considered necessary to be harmonized with similar provisions in the banking sector while considering the complexity and characteristics of NFSI.

In POJK has been regulated on the subjects regarding MRTI NFSI, including:

1. The issue of the formulation of POJK MRTI NFSI regulations: a)
    a. Insurance companies and/or reinsurance companies
    b. Sharia-based insurance and/or reinsurance companies
    c. Insurance and/or reinsurance brokerage firms
2. Financing institutions
    a. Financing companies (conventional) or sharia-based
    b. Venture firm (traditional) or sharia-based
    c. Infrastructure finance companies
3. Other financial services institutions
    a. Pawn Company
    b. Guarantor Institution (sharia guarantor)
    c. Providers of technology-based lending services, either conventional or Sharia (fintech)
    d. Export-import financing institutions
    e. Housing finance companies (secondary)
    f. Social organizing

It is known that fintech has the potential risks that have enough to impact stakeholders in the country (Nizar, 2020), including:

1. For financial services, fintech has the potential to *"unbundle"* and restructure existing financial services. The existence of fintech can "break down" the concentration in the market.
2. The existence of fintech opens more significant opportunities for consumers—households and businesses, including small and medium-sized enterprises (SMEs)—to access financial services. FinTech also offers convenience, speed of service, and cheaper costs, as well as comfort for consumers enjoying financial services. Financial inclusion is the necessary implication and dividend of the various benefits of fintech. It is further expected to promote sustainable economic growth and enable diversification of exposure to overall investment risk.
3. The existence of fintech in addition to bringing benefits also has the potential to carry several risks. The earliest fintech risks are borne by consumers, especially data security risks, privacy, and data ownership and data governance.

Fintech risk delivered by formulates two ideas (Miswan Ansori, 2019; H. Muhammad & Sari, 2020), namely:

1. Consumer protection
   a. Protection of user funds: The potential loss caused by declining financial capabilities is both caused by abuse, fraud to force meujeur from what fintech implementation.
   b. Protection of user data: The spread of issues related to the dissemination of data from customers in fintech activities for the sake of privacy of fintech actors themselves.
2. National interest
   a. Anti-money laundering and prevention of terrorism financing (APU-PPT): The existence of an accelerated offer of borrowing services implemented by fintech actors raises suspicions of misuse of money laundering activities to the transfer of terrorism funds.
   b. Stability of the financial system: The existence of an Independent Institution as a risk management to maintain financial stability so as not to feel the huge impact of fintech losses.

The risks faced by customers have at least an influence on operational risks caused by systematic fraud-induced losses in accordance with statements by Narain (2016) and Wellisz (2016) that these risks can arise due to the vulnerability of systems and computer-based processes that are interrelated and can be utilized by *hackers* for pleasure or criminal intent.

C. METHOD

This research is a literature study using secondary data in the form of journal articles published in reputable international journals. The study aim to create a comprehensive summary, in colloquial terms, as well as specific events experienced by an individual or group to capture a phenomenon. Data collection involves the retrieval of structured and focused information.

D. RESULT AND DISCUSSION

1. Understanding the Risk Profile of Technology-Based Financing

The risk profile of technology-based fintech, according to Ayuningtyas & Tanaem (2022) and Dewi (2020), there are at least four potential risk profiles faced, including:

1. Strategic risk assessed the impact of business losses seen as the existence of a business plan *gap* with the realization that one of them is due to less effective financing products, whether due to market segments that are not true
2. Regulatory risk, as regulated and issued from POJK about fintech in Indonesia, is required to be transparent in implementing financing policies such as no link to terrorism financing, anti-money laundry, and privatization of customer data that has become part of the partner.
3. Operational risks, often faced by fintech organizers and become the primary failure caused by several things such as lack of periodic audit review, lack of data verification and completeness of the validity of prospective customer documents, and internal business processes that are too ended
4. The risk of technology is undeniable; this risk becomes a risk that becomes the scourge of fearing fintech organizers because of systemic failures, hacking, phishing, or even related to the device will change the provision of fintech management planning in running the financing business.

Referring to the Fatwa issued by DSN-MUI related to the sharia fintech service model correlated with the risks that the strategy needs to prepare are:

1. Factoring financing is financing that is done in the form of receivable billing management services. The risk associated with the bailout process *(qardh)* given directly to third-party collectors is the existence of sign streaming from the proposed financing.
2. Financing the procurement of third-party ordered goods at the time of financing provided by fintech organizers to borrowers who are business actors has the potential to pose regulatory risks because, until now, there has been no regulation and *Fatwa* that issues the details of related articles.
3. Financing procurement of goods carried out by borrowers who have an online business poses business risks because it is known until now that there are still online business actors who is a broker in the sense of having no business or self-produced goods

Community-based financing provides one form of a partnership coordinated by one administrator that can pose a risk: reputational risk. If the community is known to commit acts that are not commendable, then it is quite impactful on the reputation of fintech as a financier, such as terrorism financing. The potential risks that fintech providers may face are business risks due to default by borrowers. If a business loss occurs, it will impact other risks. The potential for default has increased significantly, especially during the global Covid-19 pandemic, which peaked in 2020 (Chairman of the Indonesian Sharia Fintech Association, 2021).According to POJK No. 65/POJK.03/2016 it is described in detail the types of risks that could potentially occur in the scope of Islamic Financial Institutions (Otoritas Jasa Keuangan, 2016) in table 2.

Table 2. Risk Types of Islamic Financial Institutions

Types of Risk	Description
Credit Risk	Risk of failure to carry out obligations (default) of financing installments following the agreement
Market Risk	Risks that refer to balance sheets and administrative accounts caused by changes in market prices
Liquidity Risk	The risk of sharia fintech companies that are unable to carry out their obligations within the nearest period
Risks of Operation	Risks caused internally by sharia fintech companies either on the system, human error (employees), or external factors that affect the internal design of the sharia fintech company

Table 3. Risk Types of Islamic Financial Institutions (continued)

Types of Risk	Description
Legal Risks	Risks caused by legal action or weakness of juridical aspects
Reputational Risks	Risks caused by attitudes or activities carried out by the management of sharia fintech company that it has an impact on the decline in the level of public trust
Strategic Risk	Risks caused by lack of precise decision-making of sharia fintech company management
Compliance Risks	This risk is often applied to banking financial institutions, either conventional or Sharia, for non-banks have not been applied
Yield Risk	Risk of non-conformance of yields set by the fund channel
Investment Risk	Risk caused by the absence of profits obtained from the results of financing efforts

2. Determination of Financing Risk Level

The Islamic Financial Service Board (IFSB) located in Malaysia for the level of risk in sharia fintech; six risks may be faced (Islamic Financial Services Board, 2022) such as credit risk, equity-based investment risk, market risk, liquidity risk, revenue sharing level risk as well as operational risk. The six profiles of the level of risk have been published since 2005, considering the following country, Malaysia and Indonesia, has already grown on Sharia-based financing business. To facilitate the assessment of the level of risk, OJK formulates a risk classification following the category: high, moderate to high, medium, low to moderate, and low.

The following are the six levels of risk profile referred to by IFSB are:

a. **Credit risk**. It is a risks related to financing failure are due to the absence of proper management and supervision related to business development or sharia fintech partners. Islamic financing is not the same as establishing credit loans in conventional fintech that use interest rates as instruments. At the same time, sharia financing has different roles related to prospective customers' needs because the financing agreement's implementation functioned as an even agreement, both profit and loss according to the agreement. In its application, sharia fintech reduces the level of risk when facing credit risk (default) using various approaches. Among them are: 1) restructuring of financing, 2) rescheduling of payment terms, 3) disbursement of the security deposit and 4) closing of financing.

b. Equity-based investment risk. It is a risk that applies *mudharabah* and *musyarakah* agreements to financing cooperation patterns and profit-sharing systems. This level of risk is high because it impacts assets owned by sharia fintech in the event of credit risk in the running of financing. Reducing the risk level of this Islamic fintech can use stages such as 1) providing financing in stages to customers, 2) conducting supervision in a sustainable time, 3) determining the right time to stop financing and 4) making changes to agreements related to additional payment terms

c. Market risk. Market risk is a profile of the level of risk associated with potential price changes due to financing products offered by providers related to certain commodities, including 1) product price differences (in murabahah transactions), 2) currency exchange rates (if commodities are involved with foreign currency), 3) unstable prices of certain commodities in the market, and 4) changes in the value of certain assets. The potential risk can occur in sharia fintech transactions with a P2P lending pattern. For example, when buying and selling goods involving certain commodities, the provider needs to provide goods ordered by customers or partners for a certain time. It allows for price changes beyond the seller's expectations. At the same time, the agreement has been signed in advance. To minimize market risk, sharia fintech needs to implement incidental strategies with conditions beyond the reach of companies, such as commodity prices and financial services service innovation offered by similar competitors.

d. **Liquidity risk.** Liquidity risk is related to the ability of sharia fintech to settle or pay off obligations in the short term. The character of Islamic fintech itself differs from Islamic banking or non-bank financial institutions such as Islamic insurance. In non-sharia financial institutions, liquidity is not the central aspect of their business because they only act as intermediaries between investors and customers or business partners. In this principle, the most significant risk will be borne by the investor as the fund's owner. However, sharia fintech providers must also have reserve funds in their internal business operations.

e. **Revenue share-level risk.** The risks faced on the investor side where the level of revenue sharing to be received is not as in the projections obtained from financing implementing *mudharabah* or *musyarakah* agreements. Sharia fintech transactions are basically between investor relationships with financing partners. The consequences will be experienced if investors are dissatisfied with the transaction process because the level of revenue share received is not following their expectations. There will be a risk of moving investment funds (displaced commercial risk), resulting in a decline in the reputation of sharia fintech providers. Minimizing this risk, sharia fintech may consider the formation of revenue share proportions with the level of conformity of risks that impact the parties concerned.

f. **Operating risk.** Operating risk is a risk that relates to risks that internal sharia fintech companies potentially cause. Preventive measures can be done to minimize the occurrence of operating risks are to creating systems and procedures to monitor compliance control activities. Carry out audits and Sharia Supervisory Board functions as internal controllers and sort out operating load needs considered inefficient and effective, resulting in swelling of operating cost value.

The practice of minimizing risks to sharia fintech companies generally looks at the characteristics of sharia fintech itself because the basis of sharia fintech regulation remains one, namely the application of the principal sharia system.

3. Understanding Strategic Risks

Something that is uncertain is certainly one of the realities in carrying out the series of life, including sharia fintech in its management ranks if it is inappropriate to take strategic decisions to anticipate external changes (business scope) is an understanding of strategic risks.

This strategic risk generally occurs due to not being in line with the strategic formulation of the vision, mission, and objective objectives of sharia fintech itself. Strategic risk profile measurement can be seen from the internal and external environment analysis. From these conditions, the honesty of the company's management can be seen in whether the sharia fintech company is in a safe position or even in good condition. The strategy of sharia fintech is currently seen in the trend of 2021 and is experiencing high aggressiveness to take the mid-to-low market segment because it expects a profit margin from the fund. Conversely, that aggressiveness can be an inverse position from the projected profit. However, it can be a strategic failure resulting in the name of a sharia fintech company that is considered harmful in the public's view, allowing existing customers to switch to other similar companies.

The main objective of strategic risk management is to ensure that the risk management process can be minimized the possibility of negative impacts from the lack of appropriate management taking strategic decisions and failure to anticipate changes business environment (Bromiley et al., 2015; Frigo & Anderson, 2011; Gutama & Pujawan, 2019; Lesser & Berghult, 2018; Susanto & Meiryani, 2018). The quality of implementing strategic risk management needs to look at four such things:

a. Risk governance that includes evaluation includes: formulation of risk level, adequacy of active supervision of the Board of Commissioners, Board of Directors, and Sharia Supervision
b. Risk management frameworks include: risk management strategies, the adequacy of organizational tools, and the adequacy of risk procedure policies
c. Risk management process to system adequacy, the effectiveness of risk management process and human resources
d. An independent risk control system and conducted periodic audits

4. Strategic Risk Profile

Once understood about the basic understanding of strategic risks, the risk can be described from all aspects of risk inherent in the operationalization of sharia fintech with inherent risks inherent in the financing business. Sharia can be quantified to affect the financial position of the sharia fintech company itself.

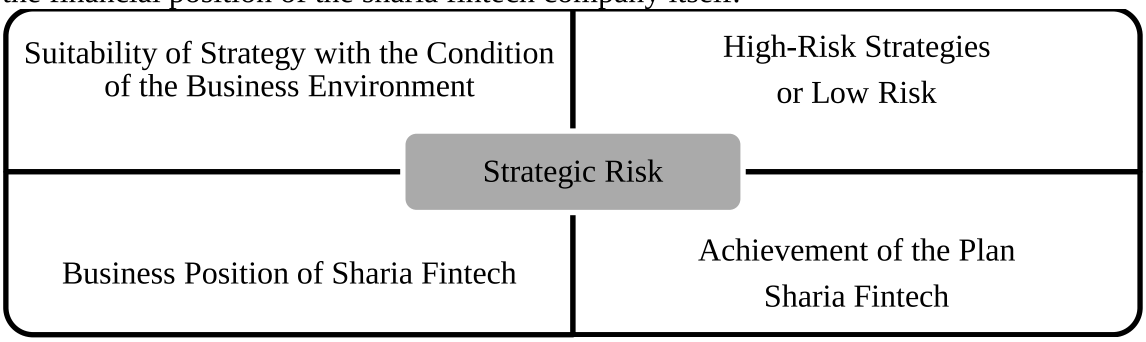

Figure 3. Strategic Risks of Sharia Fintech

As stated in the Circular Letter of the Financial Services Authority on the Health Level of Islamic Financial Institutions (Otoritas Jasa Keuangan, 2014), sharia fintech companies can see reference indicators of inherent risk assessment of strategic risks are:

a. Conformity of current strategy with the external environment of the financing business
b. High or low-risk strategies
c. Business position
d. Achieve sharia fintech business plan

Table 3 shows a matrix of strategic risk indicators for sharia fintech companies organized from SEOJK Number 10 of 2014.

Table 4. Strategic Risk Indicators

No	Inherent Risk	Indicators	Information
1	Conformity of strategy with the business environment	Internal factors: • Vision, mission, goals • Organizational culture • Organizational capability factors include resources • The strategic level of business risk tolerance External factors: • Macroeconomics • Development of technology (information) • Similar companies (competitors)	The management of sharia fintech companies uses this indicator assessment to measure the accuracy of strategic objectives related to the financing business with internal and external influences.
2	High or low-risk strategies	High risk: • The strategy that sharia fintech companies generally carry out entered business that is considered premature or newborn Low risk • Strategies are generally carried out on the value of profit margin growth that is easily projected numbers, meaning this is regular	This level of risk is influenced by how management makes strategic decisions, meaning it is appropriate or not. The strategy taken depends on the condition of the financing business environment
3	Sharia fintech position	• Market segment of sharia fintech scope • Similar competitors • The efficiency of business activities • Diversification of financing business activities from previously existing • Macroeconomic conditions that have an impact on sharia fintech	The amount of success rate or failure of sharia fintech in achieving vision and mission objectives related to the financial position of sharia fintech
4	Achievement of sharia fintech business plan	Comparison between strategic plan and sharia fintech business realization	This business achievement assessment aims to measure the amount of deviation realized.

The measurement of indicators that OJK has published in its Circular Letter is an effort to minimize strategic risks that may be faced or accepted by sharia fintech companies.

E. CONCLUSION

Sharia fintech is closely related to the risks of technology. After all, the system is a media platform with hardware and software connected using the internet as an open transaction system. The Financial Services Authority has issued regulations (POJK44, 2020) related to the registration of NFSI companies sharia fintech to enter the supervision of OJK as a regulatory policy that oversees the activities of all forms of financial services that exist in Indonesia. The application of technology risk management needs to be tailored to the objectives and policies of digital financing business strategies (complexity). Information technology controls include at least the following: 1) Active Supervision of the Board of Directors and Board of Commissioners; 2) Sharia Supervisory Council; 3) The ability of information technology infrastructure; and 4) Division of control of information technology systems.

The information technology briefing committee with capabilities adjustment and complexity in sharia fintech that already has entity legality so that the committee can provide advice or recommendations to the board of directors includes: 1) Strategic plan for the development of sharia fintech platform technology; 2) Policy formulation, risk management standards in information technology, and procedures for digitizing funds; 3) Conformity of the project with the steps taken; 4) Ease of use of financing application system; 5) Monitoring the performance of information technology systems; 6) The quality of resources owned by sharia fintech; and 7) System measures that minimize risks due to technology.

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