Analysis of Islamic Economic Principles in Financial Technology in Indonesian Islamic Banking

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Abstract. The purpose of this research is to provide an overview of the implementation of financial technology in the mobile banking system owned by Bank Muamalat Indonesia and what Islamic economic principles are used in its implementation. The research method uses qualitative with the type of case study at the lamongan sub-branch office, East Java, Indonesia. The result of the research is the implementation of financial technology in Islamic banking, namely Bank Muamalat Indonesia by implementing Muamalat DIN with mobile banking applications with financial and non-financial features. The principle of Islamic economics applied is not to make transactions that contain riba', gharar, maysir, tadlis, riswah and isyraf in financial technology services with Muamalat DIN features found in mobile banking.

Keywords: Financial Technology; Islamic Banking; Principles of Islamic Economics

1. Introduction

Financial Institutions are the most important part of society in Indonesia, especially in the fulfillment of financial matters. Banking is one of the financial institutions that often shows the main function in the financial circulation of families, whether individuals, groups or institutions. With the figure of the nation with the largest Muslim majority in the world, not a few people choose to try to transact in banks that carry out sharia principles in it (Latifah, 2023a).

Indonesia's first Islamic banking is Bank Muamalat. This banking company that runs operations by considering the values and principles of sharia always strives to provide the best service for the people. In the digital era, Islamic banking is guided to have innovation in providing services to the community with a touch of technology so that it can give the impression of being loyal and innovative with the times. The service system owned by Bank Muamalat is not far from financial technology which has become a necessity for customers and the people of Indonesia. One of the features of financial technology services at Bank Muamalat is Mobile banking (Latifah, 2023b).

One of them is mobile banking, namely the Muamalat-DIN (Muamalat Digital Islamic Network) application. Through this application, Bank Muamalat answers all current non-

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cash transaction phenomena, in Muamalat-DIN there are features in the form of transfers, top ups, and Muamalat QRIS (MQRIS) (Batubara, 2021). In addition, Muamalat-DIN also contains features for credit top-ups, bill payments, education, airline tickets, and so on.

In non-cash payments by transfer, customers per day can make transfers among Bank Muamalat ranging from Rp10,000-Rp50,000,000. For transfers to other banks, per day can make transfers ranging from Rp10,000-Rp25,000,000 with a transaction limit of Rp10,000,000. Transfer using SKN (National Clearing System) per day can transfer from Rp10,000-Rp.100,000,000, with a transaction limit of Rp10,000,000 and an admin fee of Rp2,900. As for transfers with RTGS (Real Time Gross Settlement), per day you can transfer from Rp100,000,000-Rp200,000,000, with a transaction limit of Rp200,000,000 and an admin fee of Rp30,000.

And to top up digital wallets and purchase credit or data packages on Muamalat-DINnasabah can make a maximum transaction of Rp2000,000. While for payment transactions using MQRIS the maximum transaction per day is Rp10,000,000 with a transaction limit of Rp2000,000.

In addition to containing financial and banking features, Mumalat-DIN also has an Islamic content feature that contains prayer schedules, Qibla directions, zakat calculators, and also information about Hajj and Umrah (Latifah & Paulina, 2019). In Muamalat-DIN there is also a complete ZISWAF (Zakat, Infaq, Shodaqah, and Waqf) payment service feature, so that customers can easily channel their obligations to the institution they choose.

Muamalat-DIN has advantages in terms of security, this application has been equipped with security features in the form of biometric login. So, customers can log in easily, namely with a fingerprint or with face recognition only. This biometric security feature is very safe because every human being has different physical characteristics. In addition, Muamalat-DIN is also equipped with One Time Password (OTP) (Marginingsih, 2021), which is a form of transaction validation in the form of a PIN sent via SMS. Muamalat-DIN also has a simple appearance and complete transaction features.

The phenomenon of the implementation of the use of financial technology through mobile banking in Islamic banking in Indonesia is not only mobile banking applications, QR codes are applications used for non-cash payments (Alfianti, 2020), this QRIS-based payment system can further assist MSME players in marketing their products online (Putri & Radiman, 2022). The use of fintech through mobile banking applications also shows the Islamic Network Digital Financial Innovation (DIN) towards Optimizing Banking Services in the Digital Age (Takdir, 2021).

There are similarities and differences shown by previous and future research, where previous research emphasized financial technology through mobile banking applications with Digital Islamic Network features in general, and other features such as QR codes and QRIS where only focused on each feature. While the current research further describes the use of financial technology through mobile banking applications with the Muamalat Digital Islamic Network feature as well as providing an overview of what Islamic economic principles are used in its implementation.

2. Methods

This research method has several scopes that are explained to provide understanding in the research scheme. The following are important points in the research method:
2.1. *Approach and Type of Research*

This research approach is descriptive and the analysis tends to be inductive. Qualitative research emphasizes a research process and utilization of theoretical foundations, this is done so that the facts obtained in the field match the focus of the research (Hasibuan et al., 2021). Qualitative research is often called naturalistic research, interpretative research, and also phenomenological research. Qualitative approaches emphasize meaning, reasoning, definitions of certain situations, and conduct more research related to everyday life (Mukhid, 2021).

The type of research is a case study. Where the type of qualitative method whose research is carried out is used to understand in depth about a particular case or phenomenon by collecting diverse sources of information. By using this type of research, researchers can conduct in-depth studies of individuals, groups, organizations, religions, cultures, regions, and even countries. Data in this research is obtained from observation, interviews and archives or documents (Semiawan, 2010).

With the use of this type of research, researchers can get to know more deeply related to financial technology that exists in mobile banking applications with features (Muamalat-DIN) at Bank Muamalat KCP Lamongan both related to the use and what Islamic economic values are applied in the application of existing applications.

2.2. *Research Data and Informants*

In this study, the data used are primary and secondary data. Primary data is data in the form of opinions from individual subjects, the results of observations of an object, event or activity related to the object of research (Creswell, 2010). Meanwhile, secondary data is data obtained from indirect research with the object of research. This secondary data can be obtained from books, documents, and other supporting data (Sangadji & Sopiah, 2010). In this study using secondary data which aims to strengthen the findings and complement the information that has been collected through direct interviews with managers, employees and some customers at Bank Muamalat KCP Lamongan.

In this study there are three informants needed in extracting data, namely:

1. Key informant is an informant who has comprehensive information about the problem being studied. The key informant not only knows the conditions or phenomena in the community, but he also knows the information that the main informant will provide (Ningsih et al., 2023). The key informant in this study is Mrs. Khalifah, S.T. as manager at Bank Muamalat KCP Lamongan.

2. The main informant is a person who knows in detail about the problem to be studied. The main informants in this study were Yunita Roudhotul as teller and Faurisma Hayyu Dewanti as customer service at Bank Muamalat KCP Lamongan.

3. Supporting informants are people who provide additional information to researchers as a complement to the information submitted by the main informant or key informant. Supporting informants in this study are customers of Bank Muamalat KCP Lamongan who use mobile banking (Muamalat-DIN) in non-cash transactions.

2.3. *Data Analysis Technique*

In analyzing research data, steps are needed to use an interactive model. The following is an illustration of the model used:
Figure 1. Interactive Model of Miles and Huberman

In data analysis techniques, researchers rely on both primary and secondary data sources, employing data triangulation from interviews, documents, and observations to ensure comprehensive data gathering. Subsequently, the collected data undergoes a process of selection, focusing on pertinent information essential for drawing meaningful conclusions from the research findings.

3. Results and Discussion

3.1. Profile of Bank Muamalat Indonesia

Bank Muamalat is the first bank in Indonesia to use the concept of Islamic banking. Bank Muamalat was founded on the idea of the Indonesian Ulema Council (MUI), the Indonesian Muslim Scholars Association (ICMI) and also Muslim entrepreneurs who then received support from the Government of the Republic of Indonesia. Bank Muamalat was established on November 1, 1991 AD or 24 Rabiul Akhir 1412 Hijriah before Notary Yudo Paripurno S.H. with Notarial deed No. 1 (permission of the Minister of Justice No.C2.2413.HT.01.01), but on May 1, 1992 / 27 Syawal 1412 Hijri just started operating. Bank Muamalat was inaugurated directly by President Soeharto in a gathering with the founders of Bank Muamalat at the Bogor Palace on November 3, 1991.

Not only in Indonesia, Bank Muamalat also flapped its wings to neighboring countries, namely Malaysia. Namely in 2009, Bank Muamalat received permission to open a branch office in Kuala Lumpur, Malaysia and this made Bank Muamalat the first bank in Indonesia and the only one that could realize business expansion in Malaysia.

The development of Bank Muamalat in Indonesia was also followed by the establishment of branch offices in various districts. One of them is Lamongan Regency. Along with the establishment of Bank Muamalat in Malaysia in 2009, Bank Muamalat also established its branch office in Lamongan Regency, namely on Lamongrejo Street No. 115, West Kitchen, Sidokumpul, Lamongan District, Lamongan Regency. At the beginning of its establishment, Bank Muamalat KCP Lamongan was led by Mrs. Dinar.

Lamongan Regency was chosen because after conducting a feasibility study it was found that in Lamongan district there was no sharia-based bank or financial institution. In addition, the majority of Lamongan district residents embrace Islam and also the portion of Hajj in Lamongan district is quite large in East Java, so Bank Muamalat chose to establish a branch in Lamongan Regency.
Until now, Bank Muamalat has 312 service offices spread throughout Indonesia and 1 branch office located in Malaysia. Bank Muamalat also has 619 units of Muamalat ATMs, 120,000 Prima ATMs and 80,000 shared ATMs, Bank Muamalat also has 51 units of mobile cash cars.

Based on the explanation of the history of Bank Muamalat, it can be concluded that Bank Muamalat was established on November 1, 1991, and began operations on May 1, 1992. Until now Bank Muamalat has 312 service offices throughout Indonesia and one of them is in Malaysia. The Lamongan branch office was established in 2009 and is located on Lamongrejo Street No. 115, West Kitchen, Sidokumpul, Lamongan District, Lamongan Regency.

The organizational structure at Bank Muamalat KCP Lamongan can be seen from the picture below:

**Figure 2. Organizational Structure of Bank Muamalat KCP Lamongan**

### 3.2 Use of Financial Technology with Mobile Banking Application (Muamalat-DIN)

Bank Muamalat has long implemented fintech in its services, evidenced by the ATM card which became the first fintech innovation at Bank Muamalat. This ATM card with the name Shar-e was launched in 2004. Then, followed by the existence of various e-banking products, namely phone banking, internet banking, virtual accounts, MADINA (Muamalat Digital Intergrated Access), shar-e debit online, and Muamalat-DIN (Muamalat Digital Islamic Network).

Mobile banking at Bank Muamalat has been around since 2016, initially it was called Muamalat mobile, but in November 2019 it changed its name as Muamalat-DIN (Muamalat Digital Islamic Network).

Since 2016 until now there have been at least 1,000 customers who use Muamalat-DIN at Bank Muamalat KCP Lamongan. At first, Muamalat-DIN users were dominated by...
customers aged 20-37 years. However, Bank Muamalat strongly supports digitalization, so there is a new policy that customers who want to open an account at Bank Muamalat are required to activate Muamalat-DIN, because based on an interview with Mrs. Faurisma it is known that:

"The board of directors wants the services at Bank Muamalat to be digitalized, instead of going all the way to make transfers or any transactions by coming directly to the teller at the branch office, it is better through Muamalat-DIN".

The board of directors intends that by requiring customers to activate Muamalat-DIN can facilitate customers in getting services without having to come to the branch office, just enjoy banking services via cellphone.

Although customers are currently required to activate Muamalat-DIN, but there are exceptions if the mobile phone owned by the customer is inadequate, the customer does not need to activate Muamalat-DIN. Every product in an Islamic financial institution must be in accordance with Fatwa DSN-MUI, one of which is mobile banking products. Based on an interview with Mrs. Khalifah as manager of Bank Muamalat KCP Lamongan found that:

"Muamalat-DIN was created directly by the Bank Muamalat IT team, so the one responsible is the IT team at the center, before Muamalat-DIN was made, previously the Bank Muamalat had taken into consideration with the DSN (National Sharia Council) or with the DPS (Sharia Supervisory Board), so that Muamalat-DIN was confirmed to be in accordance with the Fatwa DSN-MUI or had fulfilled sharia".

Based on the statement from Mrs. Ifa, it can be seen that Muamalat-DIN was made directly by the Bank Muamalat IT team which had previously been considered by the DPS, so that it was ensured that it was in accordance with Islamic law or in accordance with the DSN-MUI Fatwa on electronic money.

How to activate Muamalat-DIN, namely:(Latifah, 2023b)

![Flow of activation of Muamalat DIN](image)

**Figure 3 Flow of activation of Muamalat DIN**

In detail, the activation stages of the mobile banking application with the Mualamat DIN feature are:

a) Download Muamalat-DIN application on Google Play Store for Android users and App Store for iOS users.
b) Once installed, open the application then click the list icon, after which the question "Do you open an account through Muamalat-DIN?" will appear. Then click "Yes" or "No" then click continue.

c) After that, you will be directed to the Account icon to fill in the account number, TIN number, cellphone number (registered with the bank), and captcha code. Then click the sign to agree with the terms & conditions. Then click continue.

d) Then it will continue to the Verification icon, then it will get an OTP code which this code will be sent via SMS. Then click continue.

e) After that it will continue to the User ID icon which in this icon creates a User ID, password, password confirmation, fills in the e-mail address and referral code (if any). Then click continue. Meanwhile, the creation of User ID and password consists of 8-15 characters in the form of a combination of uppercase letters, lowercase letters, and numbers.

f) Then you will be directed to the TIN icon. TIN stands for Transaction Identification Number, a number that functions for authentication when making transactions with mobile banking. This TIN is a 6-digit number. Then click continue.

g) Finally, customers will get information that Muamalat-DIN registration has been successful. Then click Login to enter Muamalat-DIN and start the transaction.

Muamalat-DIN has a security system in the form of biometric Login and OTP (One Time Password). The following is an explanation from Mrs. Faurisma: "For security in Muamalat-DIN, customers can login in two ways, namely by entering the password that was previously created during Muamalat-DIN activation. In addition, customers can also login by means of biometric login, namely by fingerprint. Another security in Muamalat-DIN is the OTP."

Security in Muamalat-DIN can be said to be guaranteed, because when activating there is an OTP (One Time Password) code that is used as verification. Then to login in Muamalat-DIN there are two ways, namely by entering a password that has been made before or login using a fingerprint. In addition, Muamalat-DIN can only be linked to one cellphone, and there is also a TIN (Transaction Identification Number) which is confidential and used for transaction verification.

Akad in Muamalat-DIN adjusts what account is created in Muamalat-DIN activation. In Muamalat-DIN there are two types of products that can be used for activation, namely savings and deposit products. Where for savings products using a wadi’ah contract, while for deposits using a mudhorobah contract.

At Bank Muamalat, the wadi’ah contract applied in mobile banking is a wadi’ah yadh dhamanah contract. The definition of wadi’ah yadh dhamanah is a fund deposit contract in which the bank can utilize or manage these funds with or without the permission of the fund owner and the bank must be responsible for these funds. It is known that Bank Muamalat does not charge a monthly administration fee on Muamalat-DIN mobile banking, because the funds in mobile banking are just a deposit and the bank has received permission from the customer to use or process the funds, and the funds can be withdrawn by the customer at any time. But if the customer wants to invest funds in mobile banking, the customer can use a deposit, which uses a mudhorobah contract.

Muamalat DIN is a mobile banking application owned by Bank Muamalat whose services can be accessed anytime and anywhere, both by customers and non-customers. Muamalat-DIN is equipped with:
a) Financial features are features that can facilitate customers to conduct financial transactions without having to come to the bank. The financial features consist of:

1) Transaction features, which consist of:
   (a) Transfer; (b) QRIS; (c) Scheduled transactions; (d) Cash withdrawal; and (e) Favorite transactions, this favorite transaction consists of transfers, top ups and payments.

2) Pay feature, this feature consists of:
   (a) Postpaid; (b) Telkom; (c) Cable TV; (d) PLN Electricity; (e) PDAM; (f) Airplane Tickets; (g) Virtual Account; (h) Multi Payment; (i) Hijrah Pension (Pension Fund for Financial Institutions (DPLK)); (j) ZISWAF (Zakat, Infaq, Shodaqoh, Waqaf); (k) Bogor Agricultural University (IPB) Education Payment; (l) Family Takaful; (m) BPJS Employment; (n) BPJS Health; (o) SAMSAT/SIGNAL; and (p) BPJPH (Halal Product Guarantee Agency).

3) Top up feature, which consists of:
   (a) LinkAja; (b) GoPay; (c) OVO; (d) DANA; (e) ShopeePay; (f) Credit; (g) Data Package; (h) Spotify Premium; and (i) Google Play Voucher Code.

b) Non-financial features, this feature consists of information about products and services from Bank Muamalat to make it easier for users to know the various products owned by Bank Muamalat, namely savings products, deposits, mutual funds, BMM (Baitul Maal Muamalat), and old age investment. In addition, there is also information on the location of ATMs and branch offices as well as information about Kurs, Islamic content consisting of daily hadith, zakat calculator, Qibla direction and prayer schedule, and “contact us” service that is useful to make it easier for users to contact. Interesting features such as a fresher look, security in the form of biometric Login, namely Login using fingerprints so that it is easier and safer, single portfolio view, a feature that can make it easier for customers to see a summary of the entire portfolio at Bank Muamalat, smart transfer, a feature that can automatically save account numbers that are often the destination of transfers so that it is more practical.

3.3 Principles of Islamic economics in the Use of Mobile Banking Applications (Muamalat-DIN)

The main principle of Islamic economics applied in financial technology in mobile banking is the application of contracts in Muamalat-DIN mobile banking in accordance with DSN-MUI Fatwa Number 116/DSN-MUI/IX/2017 regarding electronic money. In this case, mobile banking is equated with electronic money, and the contract used between the issuer (bank) and the electronic money user (customer) is a wadi‘ah or qardh contract (nurfadhilah Syifa et al., 2022).

In addition, Fatwa DSN-MUI Number 116/DSN-MUI/IX/2017 also states that the implementation and use of electronic money must avoid usury, gharar, maysir, tadlis, riswah and isyraf. The following is the explanation:

a. Riba is an addition to the principal debt in exchange for an absolute deferral of payment (Firdausi & Herianingrum, 2020). Electronic money or mobile banking does not contain elements of usury. Because what is used for transactions is personal funds owned by customers contained in their savings, not belonging to other people or the bank. The application of financial technology in mobile banking does not at all show the practice of usury because the owner of the funds as well as the user of the financial technology facility uses the funds they have according to their respective needs and there is no coercion from the bank. On the other hand,
the customer as the owner of the funds and the user of mobile banking can make
additional and reduced funds as desired voluntarily.

b. Gharar is the uncertainty of a contract, either uncertainty in the quality or quantity
of the contract object or its delivery (Attamimi et al., 2019). In Muamalat-DIN
mobile banking, the contract is clear, which uses wadi’ah and mudhorabah
contracts. In the mobile banking application, it is clearly given the features of both
financial and non-financial services that can be used by customers. This shows the
certainty and clarity of services that can be utilized as well as possible according to
customer needs.

c. Maysir is a contract that is carried out with unclear objectives and calculations are
not careful, only speculation or profit (Gani, 2022). Muamalat-DIN mobile banking
was created to make transactions easier, faster and more efficient. In addition, the
features are also clear in their use and not features that contain things that are only
speculation or profit, so there are no transactions that contain maysir. The mobile
banking application will provide reports directly to the owner and account holder
by checking before and after making transactions both withdrawals and adding
balances. This shows that the calculations displayed are very clear and real.

d. Tadlis is an action taken by the seller to hide defects in the object of the contract
with the aim of tricking the buyer as if there are no defects in the object of the
contract (Gani, 2022). Mumalat-DIN mobile banking is an innovation to simplify
and speed up the transaction process and its features are also unlikely to have a
gap to do tadlis. In addition, if the customer wants to make a payment, the
customer must first see the quality of the goods, both when shopping online and
offline, therefore it is unlikely that there is a tadlis practice in transactions using
Muamalat-DIN.

e. Risywah is a gift that has the purpose of taking something that is not its right,
justifying something that is false (Idri, 2023). Mumalat-DIN mobile banking is an
innovation in the financial field, which only functions as a means of payment, there
can be no risywah in it. With the customer accessing the mobile banking
application, the customer as the owner and balance holder can make withdrawals
directly either through cards or ATM machines in all parts of Indonesia provided.
And the bank has no right to use the customer’s balance except for the mandatory
provisions and administration that have been agreed upon at the beginning.

f. Isyraf is spending excessively (Ibrahim et al., 2021). In Muamalat-DIN there is a
transaction limit, this is intended so that customers do not excessively spend their
assets. The use of mobile banking can simplify and speed up transactions, can be
accessed easily, just through cellphones, and also do not need to carry cash. This
shows that the use of funds can be controlled directly so as to prevent waste in the
use of existing balances.

Basically, the principles of Islamic economics that can be applied to financial
institutions will be able to provide peace and benefits for all parties. Both from individual
Muslims, companies and governments as well as all parties involved in the transaction.
besides that, the principles that have been prohibited by Islamic sharia should never be
done because they can provide both material and non-material losses in terms of morals
that apply in society. Because from religious principles it is clear that whatever Muslims
do in the world will be held accountable later. Those who do good will get good rewards
and vice versa.
4. Conclusions

The implementation of financial technology in Islamic banking (Bank Muamalat Indonesia) at the Lamongan Regency Sub-Branch Office is by implementing a technology system in services both financial and non-financial features by using mobile banking applications contained in the Muamalat DIN feature. The implementation stage starts from downloading the Muamalat DIN application in the playstore on the Smart Phone, followed by filling in the data used for activation, until the application is successful for use.

Islamic banking in this case is Bank Muamalat Indonesia always provides services by paying attention to Islamic economic principles, no exception in the implementation of financial technology in mobile banking applications with the Muamalat DIN feature by applying principles that take into account transactions that are prohibited by Islamic sharia such as: usury, gharar, maysir, tadlis, riswah and isyraf because it can cause both material and moral losses.

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