

## Electronic Banking: Opportunities and Future Challenges of Islamic Economy in Indonesia

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### Abstract

The emergence of technological innovation and economic digitalization through social media or shopping applications affects the economic and social activities of the community. The economic system has changed from a conventional manual to the modern one. A simple conception of a digital economy, though not yet standard, is part of economic output that incorporates internet-based multipurpose technology applied in a varied digital business model of goods or services. Islamic economy support for the growth of financing through the electronic banking and empowerment of the national economy by the Islamic economy needs to be encouraged and maximized its role in electronic banking. Principle-based regulation could be one of the roles that could be taken in developing halal product innovations that are trending through the internet banking platform. With this technology, it is expected to be able to improve the sector of Islamic economic growth in Indonesia. The Islamic economy is expected to be a bridge in the direction of financial inclusion in the electronic banking, such as; (a) platform affordability in the unbanked segment, (b) strong collaboration between Islamic financial service providers through the electronic banking, (c) widespread digitalized sharia banking practices, and (d) media for regulators of Islamic economy development, and (e) ladder to no longer be at the level of SMEs but through startup. To know and analyze this phenomenon, it is deemed necessary to do research related to electronic banking; especially Islamic economy policy based on standard classification and also the opportunities or challenges itself.

The method of this research is quantitative with 108 respondents, with several statistical tests. The result is the electronic banking expected to be a vehicle in improving public services, funds or and new technologies that are expected to have an opportunity to provide prime, fast and affordable Islamic economy services to all levels of society. Electronic banking is one example of the ease of finance activities in the digital economy. This activity makes the efficiency and effectiveness of time on the sidelines of work activities that consume attention and extra energy, however, in reality, not all the people convenience and helped by using electronic banking applications. Technology facilitates Islamic Banking by using the Syariah E-Banking application. This Syariah Banking Application is a banking service that combines information systems and technology to support banking activities without having to visit a bank office. Electronic banking applications include phone banking, mobile banking and internet banking. Customers could access electronic banking applications via computer / PC, PDA, ATM, or Telephone. Seeing the existence of very rapid technological developments at this time, technological developments in banking are also increasingly sophisticated starting from E-banking in the form of ATMs then Phone Banking then Internet Banking and SMS / M-Banking. However, with the development of this technology, customers must also be smart and wise to choose what electronic media they need. The view of Islamic Law on electronic Banking is that electronic Banking transactions

are muamalah transactions that are allowed because there is a great benefit for the community, especially Muslim customers who use electronic banking services.

**Keywords:** Electronic Banking, Islamic Economy, Indonesia

## **1. Introduction**

The wheel of life continues with changes in any lines. The situation increasingly requires everyone to move quickly, including in the banking sector. With the increasingly rapid changes and lifestyles, this phenomenon should be captured by banks to their customers. It is undeniable that different types of banking customers from customers a few years ago where the use of the internet has not been booming as it is today. According to the Ministry of Communication and Information (Kominfo) Indonesia, up to 2020, the number of internet users in this country has reached 245 million; of course, this number will continue to increase, as the internet becomes more affordable. This could be seen from the number of telecommunications customers of all operators in the country which has now reached about 300 million. They also target half of Indonesia's population to already have the internet by 2020. This is certainly influential in the development of electronic banking.

In Indonesia, electronic banking was first introduced by Bank International Indonesia (BII) in September 1998. This step then followed by other banks such as Bank Niaga, Bukopin, Mandiri, BCA, and others. Electronic banking services or better known as e-banking are alternative media for conducting banking transactions, other than at the bank's own office and an automated teller machine (ATM). How to enjoy e-banking facilities is easy. Customers who have a savings or checking account can usually apply for e-banking services; consist of internet banking, mobile banking, phone banking or SMS banking. The advantage of e-banking transactions compared to conventional methods is most prominent, customers no longer need to waste time going outside the house then queue at bank offices or ATMs, if they want to do banking transactions, they just need to open the internet or use a cellphone and any transactions are done. Various services could be done with e-banking such as fund transfers between accounts and between banks, bill payments, purchase of refill pulses, or checking mutations and account balances. The easiness in conducting transactions via the internet indeed seems to be received positively by banking customers. This could be seen from the increasing number of e-banking service users that continue to increase, where the competition between banks begins. Customers will certainly choose a bank that provides excellent service and protection. The bank must capture the customer's needs more accurately. With the diverse needs of customers, of course, it is expected that banks have complete services in e-banking offered. Not just transfers, check balances, bill payments, banks should continue to innovate other services, such as traveler's checks, bank drafts, western union, cable TV payments, or similar information such as exchange rates, transfer lists, email boxes, and others. The bank should be proactively responsive to complaints and suggestions for their services. One thing that important is providing security to e-banking users. Given the enormous value of transactions that occur in e-banking, e-banking is very attractive to irresponsible people, especially hackers in cyberspace. For this reason, protecting customers who use e-banking is necessary. This protection is also part of bank risk management in carrying out e-banking activities. Risks are likely to be experienced by e-banking users include, theft of financial data from bank databases that are likely isolated, customers get unclear or even inaccurate information via the internet. Fortunately, to anticipate these possibilities, since 2007, Indonesian bank has enacted regulations on implementing risk management in information technology for commercial banks, while its application should be adjusted to the business policy objectives, size, and complexity of the bank's business. Bank of Indonesia also stressed the importance of understanding the information purpose of technology security; confidentiality, integrity, and

availability. The Government, in this case, Bank of Indonesia, has also provided benchmarks related to the security control principles of e-banking activities including internet banking, including authentication, non-repudiation, and dual control, control of authorization, access rights, data information integrity, and confidentiality. To control authorization and access rights, banks are required to apply additional safety technology. For example, banks can implement a firewall system to restrict access. This layered, of course, coupled with the security possessed by each customer in the form of a user ID and PIN. These safeguards by banks must be adjusted to international standards. The internet banking system should also be equipped with a session time out that automatically logs off. Banks could also use a dynamic PIN as an additional tool for financial transactions. This technology system generates a combination of numbers that changes each time a customer makes a transaction. With a good security and protection system, it is expected that customers will feel safe and calm in dealing with e-banking. This is the importance of the bank's role to provide education to its customers both directly and indirectly. To avoid misunderstandings, the bank should also explain in detail the results of its verification. Even if the bank is wrong, the bank must act as a knight to admit mistakes and compensate for the loss suffered by the customer. But on the contrary, if it turns out that the customer is wrong or careless; the problem should be resolved quickly while respecting customers as consumers who should be served well. To avoid having customers express their problems in the media that could affect the image and level of public trust in the bank itself. This combination of service and security, if done well, synergized and accountable, could certainly be a powerful force to win interbank competition in the future. The one who provides the best service and security is definitely what the customer will visit. Compared to other e-banking services, the development of mobile banking (m-banking) is the fastest. This development is because the presence of m-banking services can answer the needs of modern society which prioritizes mobility. With one touch, m-banking creates banking service convenience in one hand. The results of a survey of international financial research institutions revealed, 35% of all online activities carried out in every home throughout the world will turn to m-banking services. It is predicted, the value of m-banking transactions will double every year. If Islamic banking could provide excellent service in e-banking, in the future the Islamic banking will certainly be able to compete. It should be Islamic banking turn as an actor to answer the challenges and taking part of the opportunity.

## **2. Theory**

E-banking defined as bank services and products directly to customers through electronic, interactive communication channels. E-Banking includes a system that enables bank customers, both individuals and businesses, to access accounts, conduct business transactions, or obtain information on bank products and services through private or public networks, including the internet. Customers can access e-banking through electronic smart devices such as computers / PCs, laptops, PDAs, ATMs, or telephones, (Vyctoria, 2013: 5), it consists of:

1. ATM (Automated Teller Machine) in the Transaction, both transfers, and retrieval.
2. Phone Banking is a transaction in banking via telephone / mobile. Initially, phone banking services were only informational in nature, to obtain information on bank services/products and account balance information and to be served by CSO (customer service operators). Then it grows for book transfer transactions between accounts, payments, and transfers to other banks that are served by IVR (Interactive Voice Response).
3. Internet Banking has the same facilities as phone banking but uses transactions via the internet. The advantage of internet banking is the convenience of transacting with complete menu and information display displayed on a computer screen or PDA

4. SMS / M-Banking is the handphone technology of Phone banking that was developed into SMS Banking and M-Banking. Customers use mobile phones in general transactions such as knowing account balance information, transferring books between accounts, payments, and purchases.

After knowing the types of E-banking above can be associated with what Electronic Media Literacy the customer will use. Media Literacy Capability is useful for the Customer in determining the need to use E-banking what is following his ability to manage, use, analyze and evaluate information using electronic media offered by the Bank.

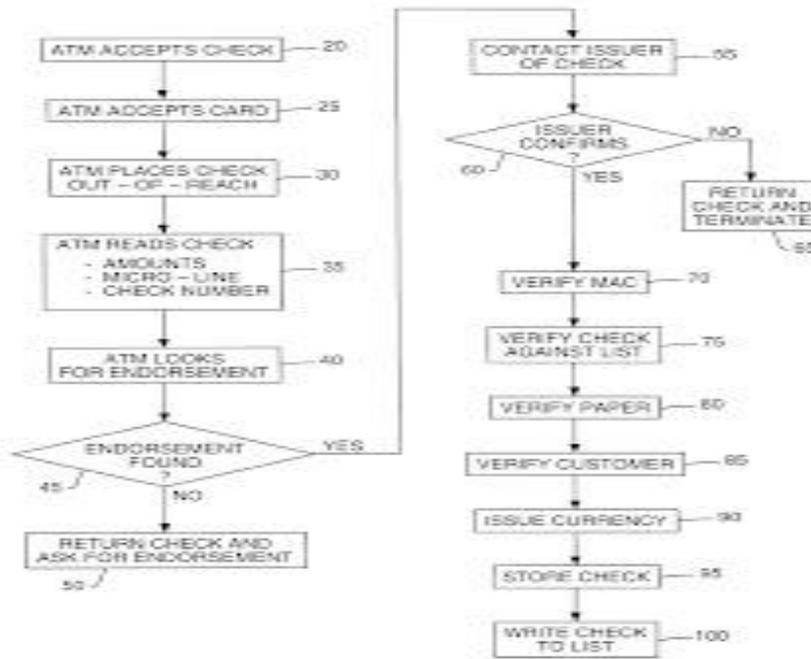


Figure 1: Flow Chart Automated Teller Machine (ATM)

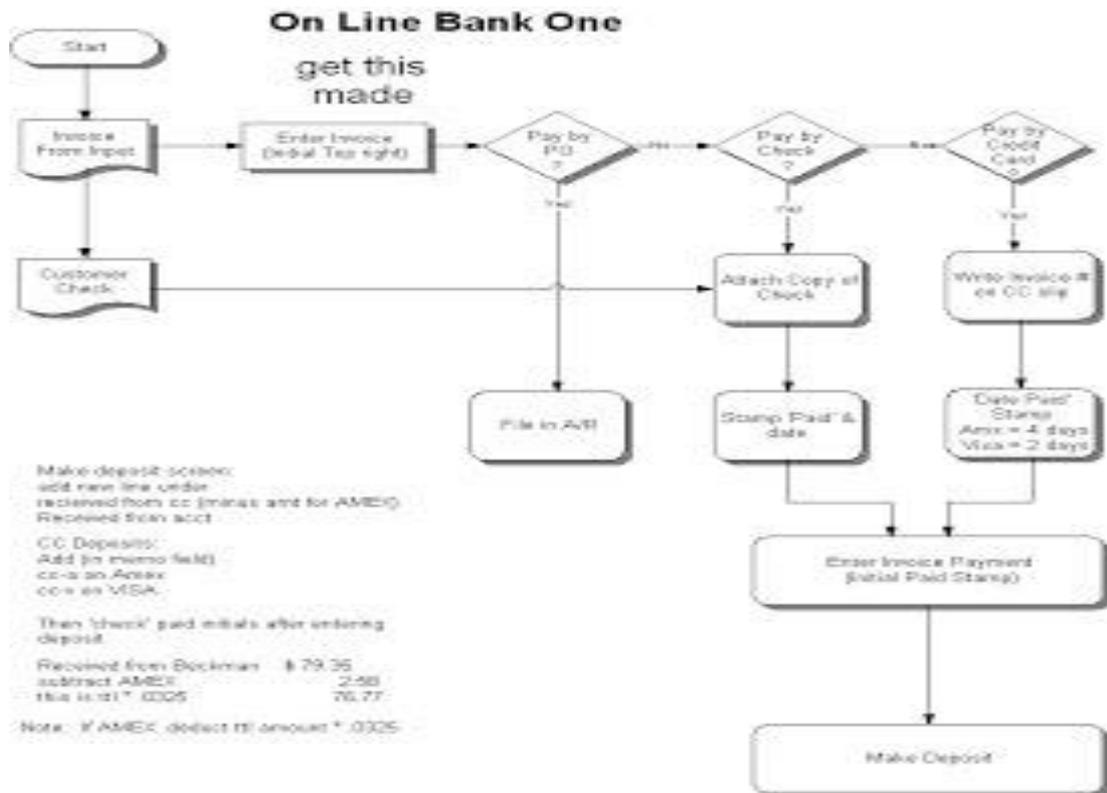


Figure 2: Online Banking

### 3. Mobile Banking

Mobile banking is one of the applications from Twister, X • SMS Banking, which permits financial applications that will be called by GSM phones using Short Message Service (SMS). With X • SMS Banking, customers can carry out operations such as checking their accounts or conducting transfer orders by cellphone. Also, cell phones can be used in such cross-channel applications as devices to provide digital signatures for PC-based Internet transactions. BROKER shows this new solution at CEBIT '98 Germany fair with great success. This diagram shows how X • SMS Banking works:

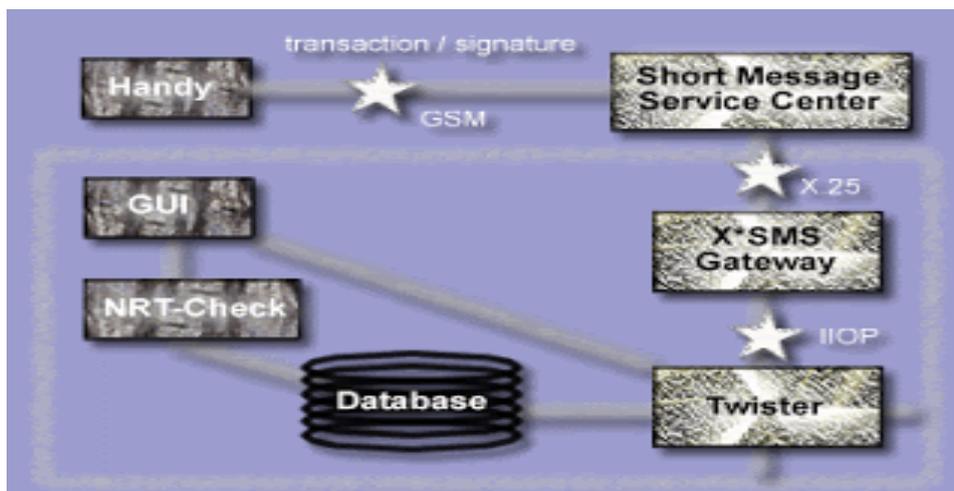


Figure 3: Mobile Banking

Islamic banking is an embodiment of public demand that requires a system that is following Islamic law. Islamic banking should also be able to answer the challenges of its technology, one of which is E-banking. In Surah Al-A'la verse 8: "And we give you ease so that you get convenience". God states, that indeed God deliberately provides various facilities to humans so that humans live easily. So, in this case, Islamic banking uses technology facilities that combine an information system to implement the E-banking application as a means to facilitate human transactions and muamalah following sharia that has been determined in the word of Allah SWT namely Al-Qur'an (Marliza, 2017: 45).

**4. Research Method:**

This study uses a quantitative approach; samples are taken non-randomly using a questionnaire as a research instrument. The sample is then tested by statistical methods. (Wulandari: 2017; 10-11). The respondents are using internet banking application, the researcher found 148 respondents, and using slovin technique because of efficiency and affectivities:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{148}{1 + 148(0.05)^2}$$

$$n = 108 \text{ respondents}$$

Then, the regression equation for the two predictors is:

$$Y = \alpha + \beta X_1 + \beta X_2$$

Where:

Y: Dependent variable

A: Constanta

B: regression coefficient on variable X

Table 1: Test of *Kolmogorov-Smirnov*

		Unstandardized Residual
N		108
Normal Parameters <sup>b</sup>	Mean	.0000000
	Std. Deviation	1.78190263
Most Extreme Differences	Absolute	.070
	Positive	.070
	Negative	-.040
Kolmogorov-Smirnov Z		.731
Asp. Sig. (2-tailed)		.659

a. Test distribution is Normal.

b. Calculated from data.

Source: Data SPSS processed, 2019.

From test of Kolmogorov-Smirnov the significance  $0,659 > 0, 05$ . It means *error/residual* normal of test distribution.

#### 4.1 Autocorrelation Test

Autocorrelation test is used to test the presence or absence of autocorrelation in the regression model. Autocorrelation test in this study can be seen by looking at the Durbin-Watson values as follows:

Table 2: Autocorrelation Test (Model Summary)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.740 <sup>a</sup>	.547	.539	1.799	1.998

a. Predictors: (Constant), Electronic Banking (X1)

b. Dependent Variable: Islamic Economy (Y)

Source: SPSS data processed in 2019.

Based on the Summary Model table, the Durbin-Watson value is 1.998. This value is between -2 and +2, which indicates that there is no autocorrelation. Thus, the data or regression model meets the assumption of autocorrelation.

#### 4.2 Multicollinearity Test

A multicollinearity test is used to determine the standard error of estimation models in research. Multicollinearity test in this study can be determined by looking at the Beta, Standard Error and VIF values. Multicollinearity test results can be seen in the following table:

Table 3: Multicollinearity Test (Coefficients)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.367	1.371		1.726	.087		
1 Electronic Banking (X)	.208	.055	.313	3.756	.000	.622	1.607

a. Dependent Variable: Islamic Economy (Y)

Source: Data SPSS processed, 2019.

Based on the Coefficients table the following results are obtained:

1. Beta Value, Beta value for using electronic banking = 0.313 < 1 (no multicollinearity occurs)
2. Default Error Value for using an electronic Banking = 0.055 < 1 (no multicollinearity occurs)

- VIF Value for the variable use of the Electronic Banking = 1.607 <10 (no multicollinearity occurs). Thus, the data or regression model meets the multicollinearity assumption.

### 4.3 Heteroscedasticity Test

The Heteroscedasticity Test is an assumption in a regression where the variance of the residuals is not the same for one observation to another. In this study the Glaser test and Scatterplot graph analysis are used with the following results:

Table 4: Glaser Test (Coefficients)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.472	.844		1.744	.084
1 Electronic Banking (X)	.005	.034	.018	.149	.882
	-.007	.033	-.027	-.218	.828

a. Dependent Variable: Islamic Banking

Source: Data SPSS processed, 2019.

Based on the Coefficients table, the significance value for the electronic banking usage variable is 0.882 and the promotion variable through social media is 0.828. The significance value of the two variables is greater than 0.05. That is, there is no case of heteroscedasticity.

### 4.4 Linearity Test

The linearity test is a linear regression test. The linearity test is done by finding the regression model of the independent variable on the dependent variable. Here are the results of the linearity test:

Table 5: Linearity Test X to Y (ANOVA Table)

		Sum of Squares	do	Mean Square	F	Sig.
Islamic Economy (Y) * Electronic Banking (X)	(Combined)	399.561	17	23.504	6.031	.000
	Between Groups	291.417	1	291.417	74.773	.000
	Deviation from Linearity	108.143	16	6.759	1.734	.062
	Within Groups	350.763	90	3.897		
	Total	750.324	107			

Source: Data SPSS processed, 2019.

Based on the Anova table above, a significance value of Deviation from Linearity of  $0.062 > 0.05$  is obtained. That is, there is a linear relationship between the variable use of an electronic banking and Islamic economy.

Table 6: Test of Koefisien Determines X to Y (Model Summary)

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.388 <sup>a</sup>	67.313	1	106	.000

a. Predictors: (Constant), Electronic Banking

Source: Data SPSS processed, 2019.

Based on the Summary Model table, it is obtained the value of R Square Change ( $R^2$ ) = 0.388 = 38.8%. That is, the use of the Electronic Banking affect opportunities and Challenges of Islamic economy 38.8% while 61.2% is influenced by other variables.

## 5. Conclusion

Based on the research, it could be concluded that electronic banking is proven effective to opportunities and Challenges of Islamic economy, with a layered protection system and has a lot of legal protection so that the customer's rights in the Islamic banking through electronic banking transaction could be protected and could not be treated arbitrarily - because without accountability. In the electronic banking, agreement is following the legal terms of the agreement with the fulfillment of the terms and conditions of the contract (agreement). Electronic Banking includes a waiver agreement (Intima) with or without compensation called the Sloth Akkad. Regarding the pronunciation of his consent granted through writing (short message service) is allowed according to Jumhur scholars. No element is detrimental or that causes degeneration but rather is something that brings many benefits. The view of Islamic Law on electronic Banking is that electronic Banking transactions are muamalah transactions that are allowed because there is a great benefit for the community, especially Muslim customers who use electronic banking services.

## 6. Acknowledgments

Thank you for the State of Islamic Studies Ponorogo for the chance

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