

## Analysis of the Potential and Implementation of Digital Sharia Financing for the Empowerment of Fisherwomen: A Blue Economy Study in South Sulawesi

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**Abstract.** *Women fishers play a strategic role in contributing to the coastal economy, engaging in activities ranging from production and processing to distribution and marketing of marine products. However, they continue to face significant barriers in accessing formal sources of financing due to limited collateral assets, low levels of financial literacy, and inadequate access to financial technology in coastal areas. The development of Islamic financial technology, or sharia fintech, presents an opportunity to provide a fair, inclusive, and Sharia-compliant financing system. This study aims to analyze the potential and implementation of a digital-based Sharia financing model for women fishers in South Sulawesi within the framework of a sustainable blue economy. The research adopts a qualitative approach with a case study conducted in two coastal districts of South Sulawesi, Pangkep and Pinrang. Data were collected through semi-structured interviews with groups of women fishers and administrators of Islamic financial institutions, particularly Islamic cooperatives operating within coastal communities. Data analysis was conducted using thematic analysis, assisted by NVivo 12 Pro software. The results indicate that most women fishers are still in the early stages of the innovation diffusion process – specifically, the knowledge and persuasion stages – thus the utilization of Sharia fintech remains limited. Nevertheless, the potential for adopting Sharia fintech is promising if supported by continuous education, institutional mentoring, and the integration of empowerment programs based on the blue economy. This study recommends the development of an integrated digital Sharia financing model aligned with coastal women's economic empowerment programs to strengthen financial inclusion in support of a sustainable blue economy.*

**Keywords:** *Women fishers; digital financing; sharia fintech; financial literacy; blue economy*

**Abstrak.** *Perempuan nelayan memiliki peran strategis dalam berkontribusi terhadap perekonomian masyarakat pesisir, baik dalam aktivitas produksi, pengolahan, hingga distribusi dan pemasaran hasil laut. Namun, perempuan nelayan masih terkendala akses sumber pembiayaan formal karena keterbatasan aset untuk jaminan, minimnya literasi keuangan serta kurangnya dukungan akses teknologi finansial di daerah pesisir. Adanya perkembangan teknologi keuangan syariah atau yang biasa dikenal dengan fintech syariah membuka peluang untuk menghadirkan sistem pembiayaan yang adil, inklusif serta sesuai dengan prinsip syariah. Penelitian ini bertujuan untuk menganalisis potensi dan implementasi model pembiayaan syariah berbasis digital bagi perempuan nelayan di Sulawesi Selatan dalam kerangka ekonomi biru yang berkelanjutan. Penelitian dilakukan dengan pendekatan kualitatif dan studi kasus di dua kabupaten di Sulawesi Selatan yang merupakan wilayah pesisir, yakni Kabupaten Pangkep dan Pinrang dengan melakukan wawancara semi terstruktur pada kelompok perempuan nelayan di Sulawesi Selatan serta pengurus lembaga keuangan syariah yakni koperasi syariah yang berada di sekitar lingkungan masyarakat pesisir. Analisis*

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*dilakukan dengan menggunakan metode analisis tematik dengan bantuan software NVivo 12 Pro. Hasil penelitian menunjukkan bahwa sebagian besar perempuan nelayan masih berada pada tahap awal proses difusi inovasi, yakni tahap pengetahuan dan persuasi sehingga pemanfaatan fintech syariah masih terbatas. Meski demikian, potensi adopsi fintech syariah cukup besar jika disertai dengan edukasi berkelanjutan, pendampingan kelembagaan, serta integrasi program pemberdayaan berbasis ekonomi biru. Penelitian ini merekomendasikan pengembangan model pembiayaan syariah digital yang terintegrasi dengan program pemberdayaan ekonomi perempuan pesisir dalam rangka memperkuat inklusi keuangan yang mendukung ekonomi biru berkelanjutan.*

**Kata kunci:** perempuan nelayan; pembiayaan digital; fintech syariah; literasi keuangan; ekonomi biru

## Introduction

National economic development cannot be separated from the contribution of the marine and fisheries sector, which supports the economy of millions of coastal communities in Indonesia. In the economy of coastal communities, women fishers play an important role, namely as household actors and as active economic actors in the processing of marine products, marketing, and family financial management (Winarti and Permadi, 2020). The dual role of women fishers makes them the driving force of the local economy as well as the backbone of the coastal community's economic sustainability. Therefore, it is important to make various efforts to empower women fishers so that their productivity can be optimized for the welfare of coastal communities and to support the blue economy in Indonesia.

According to Indriasih et al. (2024), one way to empower women fishers is through improving financial literacy, which is expected to strengthen family economic resilience and minimize welfare inequality in coastal areas. However, recognition of women fishers is still very lacking, both in terms of policy and access to various economic resources (Purwanti et al., 2020). In reality, women fishers often find it difficult to access government assistance, training facilities, and formal financing sources because these facilities are generally only intended for fishers, who are predominantly male. These obstacles are compounded by the low level of financial and digital literacy among women fishers. However, these two aspects are key factors in developing the ability of

women fishers to manage and develop productive businesses (Daniela et al., 2024). Limited access to formal financing is one of the biggest challenges for women fishers. Generally, conventional financial institutions such as banks and cooperatives require collateral and administrative requirements that are difficult for women fishers to meet. As a result, the majority of women fishers rely on informal sources of financing with high interest rates, which further weakens the economic condition of their households (Purnamasari et al., 2022). Therefore, there is a need for an inclusive, adaptive financing system that is in accordance with Islamic law, which emphasizes justice and social welfare.

The development of digital technology has created new opportunities through technology-based financial innovations, commonly classified as *financial technology* (fintech). Sharia fintech can be an alternative source of financing for women fishers, integrating digital technology and sharia principles to facilitate access to financing for women fishers. The financing model utilizing sharia fintech allows for flexible financing schemes, minimal collateral requirements, and is based on profit-sharing principles. In addition, sharia fintech also has the potential to strengthen financial inclusion for women fisherfolk in coastal areas. However, the adoption rate of sharia fintech among coastal communities, especially women fisherfolk, is still very low (Shalihah et al., 2025). This phenomenon can be explained through the theory of diffusion of innovation proposed by Rogers (2003). The theory states that the adoption of an innovation is influenced by five main stages, namely *knowledge*, *persuasion*, *decision*, *implementation*, and *confirmation*. In the context of this study, the low utilization of sharia fintech among coastal communities shows that most fisherwomen are still in the early stages, namely the knowledge and persuasion stages, where they are aware of the existence of digital financial services but do not yet have the understanding to utilize them. This could be influenced by various factors such as minimal digital literacy, minimal socialization, and socio-cultural factors that limit them in trying new things (Tripathi and Rajeev, 2023).

From a sustainable development perspective, the ideal financing model does not only focus on economic aspects, but also takes into account social and ecological dimensions. The blue economy concept offers a development paradigm that emphasizes the sustainable use of marine resources for economic growth, improved community welfare, and marine ecosystem conservation (Elegbede et al., 2025). The integration of sharia fintech with the principles of the blue economy enables the creation of a fair, sustainable, and ethical financial ecosystem in which women fishermen become the main actors in the management of coastal resources based on Islamic law.

There are several previous studies that examine the relationship between and utilization of fintech for community empowerment. Winarti (2020) argues that Islamic fintech plays an important role in increasing MSME financial inclusion. In addition, Alom et al. (2025) also found that digital financial services can expand access to financing for women in developing countries. Similar findings were also presented by Heath and Riley (2024), who highlighted that technology and social interventions can strengthen women's financial independence.

Although several previous studies have examined the potential of fintech in expanding financial inclusion, studies that specifically examine female fishing communities, which have unique socioeconomic characteristics and low digital literacy, are still very limited. In addition, previous studies have not included an overview of the process of adopting sharia fintech in coastal communities through the stages of innovation diffusion, even though social, cultural, and institutional factors are very influential in decision-making among women fisherfolk. Previous studies related to sharia fintech are also rarely linked to the blue economy framework, which focuses on the sustainability of marine resources and the role of women in the fisheries value chain. Comparative studies between coastal regions to assess digital readiness and institutional support, especially in the coastal region of South Sulawesi, are also rare.

Thus, there are several research gaps that still need to be explored, namely the lack of studies related to the ability and readiness of women fishermen to adopt sharia-based digital financing, the role of sharia cooperatives as agents of innovation diffusion in coastal ecosystems that have not been explored, and the lack of comparative analysis between coastal areas. Therefore, this study aims to fill these research gaps by examining the potential and implementation of digital-based sharia financing for women fishermen through the innovation diffusion theory approach in the context of blue economy empowerment. Ultimately, this study is expected to contribute both theoretically, by expanding the application of innovation diffusion theory in the context of sharia finance, and practically, by serving as a reference for stakeholders in designing inclusive, adaptive, and sustainable financing digitalization strategies.

## **Literature Review**

### **Sharia Fintech and Financial Inclusion**

Sharia fintech is a financial service innovation that utilizes digital technology to provide financing products in accordance with Islamic values. Sharia fintech can be a bridge for communities that are not yet reached by formal financial institutions, such as fisherwomen who face limited access to capital (Maharani et al., 2024). According to Alshater et al. (2022), Sharia fintech can function as a financial inclusion instrument with three outstanding characteristics, namely easy accessibility, low transaction costs, and partnership-based financing mechanisms. A study conducted by Kurniawan et al. (2023) also shows that the use of fintech can improve the welfare of small and medium-sized businesses in the coastal area of Madura through increased financial literacy and digital services. The results of this study are also supported by Demirgüç-Kunt (2023) in The Global Findex Database, which reveals that financial digitization contributes significantly to improving women's access to finance, especially in developing countries. In the context of

Islamic finance, Islamic fintech can be used as a tool to achieve social welfare through a fair and ethical economic system.

### **Theory of Innovation Diffusion**

The theory of innovation diffusion is a theory that explains how an innovation can be accepted and adopted by society through five stages, namely knowledge, persuasion, *decision*, implementation, and *confirmation*. Each stage in the process describes the level of understanding and acceptance of users towards an innovation. In the knowledge stage, target users begin to learn about the innovation and acquire basic knowledge. The persuasion stage involves the formation of attitudes toward the innovation, whether it is considered beneficial or risky. The decision stage occurs when individuals have taken a stance to accept or reject an innovation, while the implementation stage is the phase of implementing an innovation in practice. Finally, in the confirmation stage, individuals begin to seek justification for their decisions through experience and social influence (Rogers, 2003). In addition, there are five main characteristics of innovation that determine the speed of its adoption process, namely *relative advantage*, *compatibility*, *complexity*, *trialability*, and *observability*. These characteristics then become a reference for assessing how an innovation can be accepted by communities with different social, cultural, and economic characteristics (Greenhalgh et al., 2004).

This theory provides a conceptual basis for understanding how digital-based Islamic finance technology can be introduced, accepted, and adopted by fisherwomen. Rogers (2003) revealed that the process of innovation diffusion is not only determined by technology, but also by social, cultural, and institutional factors that shape people's perceptions and attitudes towards an innovation. Therefore, this theory is relevant for to be used in exploring the dynamics of Islamic fintech acceptance in fishing women communities that have different social characteristics from the general public. In the context of this study, the theory of innovation diffusion can also serve as an analytical

framework for researchers to describe the process of adopting sharia fintech and the factors that influence the speed of innovation adoption. Based on the theory of innovation diffusion, this study is expected to provide a comprehensive picture of the social mechanisms that influence sharia-based digital financial transformation in coastal areas, especially for fisherwomen.

### **Previous Research**

There are several previous studies that have also examined the relationship between digital financial innovation, women's economic empowerment, and sustainable development in coastal areas. Marlina and Fatwa (2021) explain that sharia fintech plays an important role in expanding financial inclusion through microfinance mechanisms based on sharia principles that emphasize fairness and partnership. The study shows that the application of sharia fintech can increase access to capital for micro-entrepreneurs because the process is more flexible and transparent than conventional financial institutions.

The results of this study are supported by Prawana (2024), who argues that financial and digital literacy significantly influence the successful adoption of sharia fintech services. Meanwhile, Kurniawan and Gitayuda (2023) also revealed that the use of fintech in the coastal area of Madura encourages improved performance and financial inclusion of MSME actors, especially when accompanied by continuous digital literacy assistance. The results of these various studies show that the adoption of sharia fintech is greatly influenced by knowledge, access to technology, and trust in the digital financial system.

Regarding fishing communities, Pentury (2023) conducted research on the use of fintech services in small island regions and found that knowledge of digital financial services and local institutional support are key factors in the successful utilization of fintech by fishermen and marine farmers. A study conducted by Ashoer et al. (2022) in Jeneponto, South Sulawesi, also emphasized the important role of education and financial institutions as agents

of change in accelerating the diffusion of financial technology innovations in coastal communities.

Several other studies highlight the aspects of the blue economy and women's empowerment. Rahmiyati and Rachmawati (2023) developed a model for the economic empowerment of fisherwomen based on local potential and the principles of the blue economy and found that coastal women have a high ability to adapt to marine-based business opportunities if they are given capital support and entrepreneurship training. An international study by Rughoobur-Seetah et al. (2022) on island countries also shows that digital financial services contribute directly to increasing the independence of women fishermen and the economic resilience of families.

From various previous studies related to Islamic fintech, women's empowerment, and coastal economies, there are several research gaps that still need to be explored further. First, most of these previous studies focused on MSMEs or coastal communities in general, so there is no in-depth description of women fishermen as a group with unique socioeconomic characteristics. Second, there has been no research that systematically uses the Theory of Innovation Diffusion to explain the process of adopting Islamic fintech in coastal communities, even though social factors, community networks, and the role of local institutions play a very important role in determining the acceptance of technology in coastal communities. Third, the integration between sharia fintech and the concept of the blue economy has not been widely explored, particularly in examining how financial technology can support sustainable coastal economic activities. Fourth, there has been no comparative study discussing the conditions of digital readiness and institutional support in two coastal areas with different characteristics.

Therefore, this study aims to fill this gap by analyzing the potential and implementation of digital-based sharia financing for women fishermen in South Sulawesi, involving the perspectives of innovation diffusion and the blue economy, and exploring this phenomenon in two different coastal areas.



## **Method**

### **Research Design**

This study uses a descriptive qualitative approach with case studies to analyze the potential and implementation of fintech use among women fisherfolk. The qualitative approach was chosen because it supports the research objective of comprehensively exploring the social phenomena of women fisherfolk, including their practices, perceptions of fintech use as an alternative source of financing, and the challenges they face in carrying out their activities. Meanwhile, the descriptive method was chosen because it allows researchers to describe the actual conditions, social interactions, and various dynamics that occur in groups of fisherwomen related to the use of fintech.

Case studies were chosen because the researchers wanted to conduct contextual research on two communities of fisherwomen in two different districts in South Sulawesi, namely Pinrang and Pangkep districts. These two districts were chosen as case study objects because both areas are centers of traditional fishing activities in South Sulawesi and there are sharia cooperatives that provide financing for members, enabling the application of fintech as a fair and modern means of financing. With a case study design, researchers can explore phenomena in depth, identify factors that influence the empowerment of women fishermen, and design fintech usage schemes for relevant and contextual empowerment.

### **Data Collection Techniques and Research Instruments**

The type of data used in this study is primary data obtained through semi-structured interviews, where the interview questions were prepared in advance, but still allowed room for respondents to develop answers based on their experiences (Moleong, 2017). This method was chosen because it is flexible and can be combined with individual and group interviews. Interviews were conducted with one representative of each group of fisherwomen, namely the head of the fisherwomen's group in each region, to obtain perspectives on

financing needs, digital literacy, and readiness to adopt technology, as well as one representative of the sharia cooperative management in the region to obtain insights related to institutional readiness, sharia financing mechanisms, and the potential for service digitalization.

The researchers also conducted *focus group discussions* with several members of the women's fishing groups to enrich the information and broaden the perspective in understanding the social and economic phenomena faced by women fishermen. The main instrument used in this study was a semi-structured interview guide developed based on the objectives of this study. This guide allowed the researchers to explore issues that arose during the interview process.

### **Data Analysis**

Data was analyzed using content and thematic analysis with the help of NVivo 12 software, through the following steps:

1. Data Transcription

After the interview process with all informants was completed, the researchers then began compiling verbatim transcripts and translating them into English to facilitate data analysis by NVivo.

2. Initial Coding (Open Coding)

The researcher reread and understood the contents of the interview and FGD transcripts to identify initial themes and categories related to access to capital, the potential for implementing sharia fintech, and obstacles to its implementation.

3. Selective Coding

Themes related to the research objectives were selected and categorized into sub-themes, such as economic empowerment, independence, participation, and program sustainability.

4. Case Studies and Conceptual Model Development

The coding results are analyzed per case to examine the similarities and differences between the community- s. From these findings, the

researchers compile recommendations for the application of fintech in fishing women's communities.

#### 5. Data Triangulation and Validation (Member Checking)

Findings from interviews, FGDs, observations, and documents were cross-verified and validated with informants to ensure the accuracy and relevance of the final model.

## Results and Discussion

### Research Findings

This chapter describes the research findings related to the analysis of the potential and implementation of fintech as an alternative financing for women fishermen in South Sulawesi. Data analysis was performed using NVivo 12 Pro software with content analysis and thematic analysis methods to identify the topics most frequently raised by informants as well as the main themes that emerged from the data collection process.

#### 1. Content analysis

In this study, content analysis was conducted by coding the interview transcript data, which was then explored using the *word frequency* menu to identify the frequency of themes that emerged so that the words most frequently spoken or the themes most frequently raised by the informants could be identified. Based on the results of data processing using this feature, ten words with the highest frequency of utterance by the informants were obtained, as shown in the following word cloud visualization:



**Figure 1.** Content Analysis-Word Frequencies

From the image above, it can be seen that the ten words most frequently mentioned by the sources are cooperative, sharia, financing, digital, capital, training, application, finance, interest, and government. These ten words describe the main focus of the sources' discussion regarding the topic of digital-based sharia financing access for women fishermen in South Sulawesi.

The word "cooperative" is the most frequently used word, indicating that sharia cooperatives can be actors or parties that play an important role in providing access to financing for coastal communities. In this context, cooperatives can function not only as financial institutions but also as agents of innovation diffusion that introduce digital financing systems based on sharia values to fisherwomen. This is in line with the findings of Kurniawati et al. (2025), who argue that cooperatives and sharia microfinance institutions can play an important role in expanding financial inclusion through a community-based approach.

The words "sharia" and "interest," which appeared together as the most frequently used words by the informants, also reflect an explicit comparison between conventional and sharia financial systems. During the interview process, both informants revealed the following:

"As far as I know, sharia does not use interest. If that is the case, then it is good so that when we borrow, we don't have to pay a lot of interest" (Informant 1)

"So far, when we borrow from the sharia cooperative, thank God there is no interest, but it is replaced with profit sharing. We are more at ease because if we suffer losses, we don't have to bear them alone" (Informant 2)

Based on the statements of the two sources above, it appears that the sources generally show a preference for sharia financing because it is considered fairer, free of usury, and does not further burden their uncertain economic conditions. This finding can be an important factor in building trust in digital financial innovation.

Furthermore, the words "digital," "training," and "application" indicate the dynamics of technology adoption among female fishermen. Most respondents agree on the importance of digital and financial training to facilitate the independent use of financing applications. However, limited digital literacy, especially in the use of fintech, remains a major obstacle for some fisherwomen. These findings illustrate the "knowledge" and "persuasion" stages in the theory of diffusion of innovation, where knowledge and initial perceptions of technology determine the level of acceptance of innovation.

The words "capital" and "finance" indicate the basic needs of fisherwomen for affordable and equitable sources of financing. This is closely related to the theme of women's economic empowerment, where access to business capital is a determining factor in increasing the productivity and welfare of fisherwomen. Support from the "government," which also appears in the word cloud visualization, indicates the importance of sustainable policies and assistance programs

from the government to strengthen the community-based digital sharia finance ecosystem.

Overall, the word cloud provides an overview of respondents' perceptions of digital-based Islamic financing innovations. The above findings indicate that there are at least three main factors that determine the successful adoption of digital financial systems in coastal communities, namely financial and digital literacy, public trust, and institutional and government policy support. These three factors are interrelated in promoting the sustainable economic empowerment of women fishers.

## 2. Thematic Analysis

The results of the thematic analysis using NVivo 12 Pro produced five main themes which then became the basis for the formation of a conceptual model of digital-based Islamic financing for fisherwomen in South Sulawesi. The five themes identified are as follows:

1. Financial and digital literacy
2. Trust in the digital system
3. Role of Sharia institutions
4. Integration of sharia values and the blue economy
5. Women's empowerment

These findings indicate that digital and financial literacy are the first steps in the process of adopting sharia financing innovations for women fishermen. During the interview process, one of the sources stated

"I have never used a money app on my cell phone. I only use my cell phone for WhatsApp and shopping on Shopee" (Informant 1)

If fisherwomen have sufficient basic knowledge of technology and Islamic finance concepts, it will accelerate the process of understanding the benefits of digital financing applications. Digital literacy can be the

foundation for achieving *the knowledge state* in the theory of innovation diffusion.

Furthermore, this increase in literacy will lead to trust in the digital system. Trust is a determining factor because, based on the interview results, most fisherwomen have concerns about data security and transaction security from various crimes, as stated by Informant 2 as follows:

"I don't dare to use money apps like that because I'm afraid of being scammed. I'm also afraid of sending money to the wrong person" (Source 2)

Through socialization and assistance provided by Islamic cooperatives, it is hoped that public trust in digital-based Islamic financing services will begin to increase. This was also expressed by Ramadhani (2024) in his study, which stated that trust in Islamic financial institutions and digital applications has a significant influence on rural communities' decisions to adopt technology.

The next stage is the role of Islamic cooperative institutions, which in this case act as agents of innovation diffusion. For female fishing communities, cooperatives are considered the most affordable and accessible financial institutions. This was stated by Informant 1 and Informant 2 during the interview process as follows:

"When we need money, we usually borrow from the cooperative. We don't dare to borrow from banks because we don't have collateral" (Informant 2)

"The closest place to us is the cooperative. So, if we need money, we borrow from the cooperative, and if we need anything else, we get it from the cooperative" (Informant 1)

Based on the statements from the sources, in the context of innovation diffusion theory, cooperatives can act as *change agents* that bridge the gap between digital platform providers and the fishing community as the target users. From this scheme, there is an integration between sharia values and the principles of the blue economy as a sustainable implementation of innovation ( ). Sharia-based digital financial innovations will support the implementation of riba-free business practices that are oriented towards coastal environmental sustainability. This supports the realization of implementation in diffusion of innovation theory, where innovations begin to be adopted massively by the community.

The entire process described above leads to the desired goal, which is the empowerment of fisherwomen both socially and economically. Easy access to capital through the sharia system and ongoing digital training support are expected to encourage fisherwomen to better optimize their potential in supporting their families' economies. Overall, the relationship between the themes illustrates that digital and financial literacy can foster trust in digital systems, which is then reinforced by the institutional role of Islamic financial institutions, in this case Islamic cooperatives. The integration of blue economy principles and Islamic values is expected to create an inclusive and sustainable financing model that ultimately leads to the optimization of the economic empowerment of women fishers. This financing model also represents the adaptation of coastal communities to digital financial innovations by involving social, religious, and coastal environmental aspects.

### **Integration of Research Findings and Innovation Diffusion Theory**

This subchapter discusses more comprehensively how the research findings described earlier are integrated with the Innovation Diffusion Theory



framework. The analysis focuses on the perception, readiness, and potential adoption of Islamic fintech among fisherwomen based on social conditions, digital literacy, trust structures, and institutional support.

#### 1. Knowledge Stage: Initial Understanding of the Concept of Sharia Fintech

The knowledge stage is the initial stage where fisherwomen begin to learn about the existence of innovations in the form of digital-based sharia financing services. Based on the research findings, most of the informants first heard about and learned about the concept of digital financing not through formal media, but through training activities provided by cooperatives, discussions among members of fishing groups, and through the use of simple digital applications used by the community in their daily activities, such as WhatsApp and various marketplace applications that are commonly accessed by fisherwomen. However, most of the informants did not have the technical knowledge to operate fintech, were not familiar with the application, and did not understand features such as financing simulations and digital contracts. Findings on word frequency, which included the words "training," "digital," and "application," indicated that there was a need for the community to have a basic understanding of digital-based Islamic financing.

At the knowledge stage, Rogers (2003) emphasizes that individuals must first be aware of the innovation, how it works, and its benefits. In this case, the knowledge of fisherwomen is still limited to a conceptual understanding of the potential benefits of Islamic fintech, but is not accompanied by direct experience in operating it. Therefore, these findings confirm that the readiness to adopt Islamic fintech among fisherwomen is still in its early stages, making literacy and education interventions important for moving on to the next stage.

## 2. Persuasion Stage: Attitude Formation towards the Potential Use of Fintech

At the persuasion stage, the informants began to develop perceptions regarding whether sharia fintech was worth considering for use if it were to be implemented in the future. Based on the research findings, the informants' perceptions were influenced by three main factors.

First, sharia compliance. Fisherwomen show a positive tendency towards sharia financing because it is considered fairer as it does not apply high interest rates. The words "sharia" and "interest" that often appeared in the interview process indicate that religious aspects are a major factor in shaping initial attitudes towards the potential use of fintech. Second, perceptions of digital security. Based on the research findings, it is known that most of the informants still have doubts about digital security. The doubts that arise even before they have ever used fintech show the importance of digital security education before moving on to the implementation of fintech. Third, trust in sharia cooperatives. Based on the research findings, cooperatives are considered the most trustworthy institutions to initiate and manage digital financing. The positive perception of coastal communities towards Islamic cooperatives becomes social capital to strengthen persuasion towards greater acceptance of innovation.

At the persuasion stage, value alignment is key to public acceptance. The research findings show that the acceptance of Islamic fintech is not only related to social norms and alignment, but is also influenced by religious norms.

## 3. Decision Stage: Potential Decisions

Since fintech has not yet been implemented in this case, the decisions made are hypothetical, namely related to the decisions of fisherwomen in adopting fintech services if they become available. The research findings show the following categories of informants:

- a. Younger fisherwomen who are accustomed to using smartphones in their daily activities show a high willingness and interest to try, so they can be categorized as prospective early adopters.
- b. Female fishermen who are older (above 50 years old) show a more cautious attitude towards the risks of using digital financing, so they can be categorized as potential early majority.
- c. Some informants base their decisions on the experiences of others in using sharia fintech, so their decisions are still vicarious.

In addition, informants also stated that their decision to adopt sharia fintech is greatly influenced by the clarity of sharia contracts, assistance from cooperatives, security guarantees, and ease of use of the application.

#### 4. Potential Implementation Stage: Prerequisites for Future Implementation

Since the actual implementation of sharia fintech has not yet been carried out, this sub-chapter explains the conditions necessary for implementation to proceed if sharia fintech begins to be applied. Based on the research findings, it is known that there are several points emphasized by the sources regarding the factors that support the acceptance of sharia fintech by female fishermen, namely as follows:

- a. The application should be easy to use and understand for all age groups
- b. Sharia cooperatives should act as *change agents* and provide direct and continuous assistance
- c. Continuous training is very important to overcome limitations in digital literacy
- d. The implementation of sharia fintech should be accompanied by the availability of adequate internet infrastructure

#### 5. Potential Confirmation Stage: Strengthening Future Decisions

In the context of this study, where fintech has not yet been implemented, the confirmation stage is discussed as a factor that will determine the sustainability of use if fintech is implemented. The findings show that based on the responses of the informants during the interview process ( ), sustainability (confirmation) will be established if the following factors are met:

- a. Users feel that financial services are safe and easily accessible
- b. Cooperative assistance is provided on an ongoing basis
- c. Users obtain social proof that fintech is indeed beneficial
- d. There is an increase in the digital capacity of fisherwomen
- e. The application is perceived as relevant to coastal economic needs

From these findings, a theoretical contribution is obtained that in the context of communities with low levels of education, the sustainability of adoption is highly dependent on institutional support and social-communal experiences, not solely on individual experiences.

### **Implications of the Analysis Results for the Development of a Digital-Based Sharia Financing Model for Fisherwomen**

Based on the results of thematic analysis conducted with NVivo 12 Pro, it appears that the development of a digital-based sharia financing model for women fishermen has implications for three main aspects, namely women's economic empowerment, strengthening of sharia institutions, and digital transformation in the coastal sector. These three aspects are interrelated and form the basis for the design of a financing model that is relevant to the social needs of women fishermen, Islamic values, and the challenges of the digital era.

1. Implications for the Economic Empowerment of Women Fisherfolk  
The results of the study show that the implementation of digital-based Islamic financing can not only increase access to capital, but also serve as a means of social and economic empowerment, especially for women fishermen. Based on the themes of digital and

financial literacy and women's empowerment raised by the informants in the NVivo analysis results, it shows that through sharia-based digital financing innovations, women can optimize their potential in carrying out various economic activities that support the family economy. Thus, the impact is not only felt in economic aspects but also in increasing the strategic role of women in the family economy. The implementation of digital-based sharia financing will indirectly strengthen the position of women in the coastal economic chain, but also reduce gender inequality in access to financing and formal financial services.

## 2. Implications for Strengthening Sharia Financial Institutions

Research findings related to the role of Islamic cooperative institutions indicate the role of Islamic institutions as a link between digital innovation and beneficiaries. In this context, Islamic cooperatives can be key agents in building trust, providing training, and ensuring that Islamic principles are consistently applied in transaction processes. Therefore, the successful implementation of digital financing depends not only on the technology used, but also on the ability of institutions to foster digital literacy, manage risk, and create a sustainable financing ecosystem. Thus, a Sharia cooperative institutional model that integrates Sharia-based governance with a transparent and accountable digital information system is needed.

## 3. Implications for Digital Transformation for Women Fisherfolk

The diffusion of digital innovation in the coastal sector is part of the social and cultural context of coastal communities, especially women fishermen. Data analysis shows that the level of digital literacy and public trust in digital systems are major factors in determining the success of digital-based Islamic financing innovation for women

fishermen. Therefore, financing model development strategies need to prioritize an inclusive and participatory approach.

Training programs conducted by cooperatives should not only focus on the use of applications, but also on instilling Islamic values in the use of technology, such as trustworthiness, honesty, and responsibility. Thus, the digital transformation that occurs is not merely a technical change, but also a transformation of values and behavior.

In addition, the implementation of a digital-based sharia financing system in coastal areas must also take into account the limitations of infrastructure among coastal communities. Therefore, the digital sharia financing model developed must be adaptive and contextual, accompanied by community-based digital assistance services.

### **Direction of Development of Digital-Based Sharia Financing Models for Women Fisherfolk**

Based on the findings and further analysis of the research findings, it can be concluded that there are several points that need to be underlined so that the direction of developing a model for implementing digital sharia-based financing innovations for women fishermen becomes more optimal and sustainable. These points are as follows:

1. Applying value-based innovation

Innovations in the form of digital-based sharia financing need to be developed while adhering to Islamic values and the principles of blue economy sustainability so that these innovations remain on track and on target.

2. Community-based communication channels

In this context, sharia cooperatives can be effective agents of social change for the diffusion of digital sharia-based financing innovations for women fishermen. This is because sharia

cooperatives are sharia financial institutions that are located in the midst of the community and are easily accessible to the public. In addition, the organizational system of Islamic cooperatives, which emphasizes kinship based on Islamic values, also strongly supports the role of Islamic cooperatives as agents of social change through a socio-religious approach for women fishermen.

3. A gradual adoption process

Based on the research findings, it is known that the process of adopting technological innovations in the form of digital-based Islamic financing is complex due to many aspects that become obstacles, such as the lack of community literacy and the low level of public trust in digital financing. Therefore, an innovation adoption process is needed that follows the stages of *knowledge-persuasion-decision-implementationconfirmation*, accompanied by continuous digital literacy support.

4. Adaptive social system

In this context, an adaptive social system refers to the ability of fishing communities and Islamic cooperative institutions to adapt digital financing practices to the social conditions, Islamic values, and local literacy levels of fishing communities. This adaptation is carried out to ensure that the digital transformation implemented is also social and cultural in nature so that the digital sharia financing model can be applied sustainably, strengthening community solidarity and increasing women's participation in the coastal community's economy.

With the implementation of the four points above, it is hoped that the digital sharia financing model for women fishermen will not only serve as a financial and financing instrument, but also as a mechanism for sustainable social, economic, and spiritual transformation in coastal areas.

## Conclusion and Recommendations

### Conclusion

Based on the results of data collection and analysis using NVivo 12 Pro, it is known that there are several important findings that can describe the process of adoption, innovation, social dynamics, and their implications for coastal economic empowerment.

First, the results indicate that digital-based sharia financing has great potential to expand financial inclusion among fisherwomen. This finding also shows that technological innovation not only plays a role in the efficiency of transaction processes, but also plays a role in opening up economic participation opportunities for groups that are marginalized from the formal financial system, such as women fishermen.

Second, the success rate of innovation adoption is greatly influenced by social trust and local institutional support. Financial institutions such as Islamic cooperatives can act as agents of innovation diffusion that bridge the application of digital technology while still applying Islamic values. Through training, mentoring, and community-based mechanisms, cooperatives can help fisherwomen accept innovation and apply digital-based Islamic financing in their daily lives.

Third, the implementation of a digital-based Islamic financing model reflects the innovation diffusion process proposed by Rogers (2003), which involves four main elements, namely innovation, communication channels, time, and social systems. Innovation in the form of the digitization of Islamic-based financing is perceived to have relative advantages and value compatibility with the needs of fisherwomen.

Communication channels are supported through sharia cooperative institutions, while the time dimension shows that there are different stages of adoption between individuals. In addition, a religious and community-based social system also plays an important role in strengthening the acceptance of innovation. Fourth, the results of the thematic analysis show that digital sharia



financing has implications not only for the economic aspects but also for the social and spiritual aspects of fisherwomen.

With the innovation of digital-based sharia financing, fisherwomen not only gain access to capital, but also increased capacity and independence in managing their household businesses. The integration of sharia values and blue economy principles makes this model not only consider economic aspects, but also sustainability and the social welfare of coastal communities.

Thus, this study reveals that an effective digital sharia financing model for fisherwomen is one that is both innovative and socially adaptive, where the model must be able to adapt to the cultural and religious aspects of coastal communities, strengthen the role of cooperatives as mediators, and ensure economic sustainability through the principles of justice and participation.

### **Recommendations**

Based on the research findings and analysis results that have been integrated with the Innovation Diffusion theory, there are several operational recommendations that can be made to support the readiness of implementing digital-based sharia financing for women fishermen in coastal areas, as follows:

#### **1. Recommendations for local governments**

- a. Provide regular digital and financial literacy training programs and ongoing assistance for fisherwomen as a basic step prior to the implementation of sharia fintech services.
- b. Strengthen coastal digital infrastructure, especially internet access in coastal areas, by providing shared internet access points or collaborating with service providers.
- c. Encourage inter-agency cooperation to build an inclusive and women-friendly digital ecosystem.

#### **2. Recommendations for Islamic cooperatives**

- a. Prepare simple operational procedures for digital services that are easy to understand for members with low literacy, including user guides and easy transaction examples.
- b. Recruit female support agents from community members to assist with the education, onboarding, and gradual use of digital applications.
- c. Develop community-based digital mentoring programs, where cooperatives become the main facilitators of financial technology introduction for members.

### 3. Recommendations for fintech providers

- a. Build clear and easy-to-understand security features, such as transaction notifications and simple verification, to increase the sense of security for new users.
- b. Provide audio-based educational modules, short videos, and visuals in local languages to facilitate understanding among fisherwomen.
- c. Design digital applications that are simple, user-friendly, and support low bandwidth connections so that they are suitable for use in coastal areas.

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