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## Empowering Papalele Women Through the “SIPIKANSERI” Website: Digital Transformation to Increase Market Share of Fishing Business

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### ABSTRACT

**Background:** This community service addresses the economic challenges faced by fishermen, who are highly dependent on unpredictable sea conditions, making it difficult in control operational costs and predict sales. The program specifically focuses on empowering the women fish sellers (Papalele) in the community by introducing digital tools to enhance market access and sales efficiency.

**Purpose of the Study:** The aim is to train Papalele women to use the SIPIKANSERI website to sell fish. The objectives are to improve their digital literacy, increase sales efficiency, expand their market reach, and ultimately contribute to the economic empowerment of the fishing community.

**Methods:** The program employed a Participatory Action Research (PAR) approach, structured into four sequential stages: socialisation, training, mentoring/assistance, and evaluation.

**Results:** The activity yielded positive outcomes: 1) Post-training assessments showed an improved understanding of the website among participants. 2) Post-mentoring evaluations indicated an increased practical ability to operate key website features, though initial adoption was modest (3 out of 25 trained members actively utilised the platform). 3) The program led to increased efficiency and empowerment, with users saving on selling time, consumption costs, and product unloading costs. 4) It successfully expanded the market reach, attracting customers from various areas such as Passo, Lateri, and Gunung Nona.

### Keywords

Sales, Fishermen, Digitalisation, Women Empowerment, Community Engagement, Papalele

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## Introduction

The traditional fishing industry, undertaken by fishermen, is currently experiencing slow growth due to operational costs often exceeding sales proceeds. This is due to some significant constraints encountered in the fish-selling system. These constraints have been faced for many years, despite being a fisherman, without any noticeable change in pattern.

The first obstacle is that Al'Seri Port fishermen incur high costs to transport fish to Mardika Market, approximately 21.3 km away, which takes about 51 minutes. Furthermore, the fishermen's wives and Mrs Papalele had to wait until the fish were sold out at the market, then return home by public transportation over the same distance. This cycle has been ongoing continuously to date. Second, fishermen tend to be satisfied with their daily catch, so they do not consider how to increase their long-term sales turnover. This is evident in the lack of initiative to develop marketing strategies; as a result, daily or weekly turnover cannot significantly drive business growth. Third, the bargaining power of fishermen tends to be lost to intermediaries because, as business actors, they are not the ones who determine the selling price. Fishermen must follow the prevailing market price, typically set by intermediaries.

These constraints are due to a lack of knowledge or understanding among fishermen (Fitria et al., 2024; Metekohy, 2020), a lack of entrepreneurial spirit, and a reluctance among fishermen to adapt to the digital era. To support business growth, the above obstacles must be minimised. This service activity is one of the efforts to minimise these obstacles.

The purpose of this community service activity is to provide intensive assistance in the daily sales process of operating the website. This activity is a continuation of the socialisation and training on website utilisation previously carried out. (Gainau et al. 2024). The final stage involves intensive mentoring to ensure that fishermen's wives have successfully registered a seller account, posted products in their respective stores, included product prices and descriptions, received customer orders, processed orders, and completed transactions.

Business growth cannot happen without digital transformation. The process of digital transformation empowers companies to achieve higher levels of flexibility and efficiency, to create innovative value propositions for the ecosystem, and to meet market demands quickly. (Feliciano-cestero et al. 2023). Digital transformation in fishermen's businesses can increase turnover, which, in the long run, can boost the exchange rate for fishermen. This can support the fishermen's exchange rate. The lower fishermen's exchange rate indicates that the sales they receive are increasingly unable to cover their consumption and production needs. This is based on the sales results of fishermen.

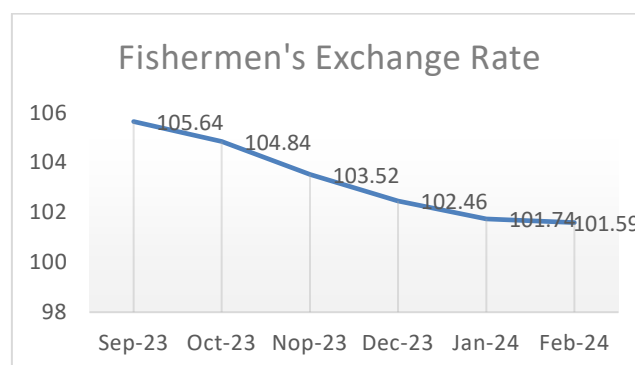


Figure 1. Fisherman's Exchange Rate (BPS Indonesia, 2025).

There have been many community service activities focusing on the use of information technology by fishermen. However, the results of PKM are limited to providing materials, namely lectures and counselling related to the role of information technology (Ismail et al. 2021, Sibarani

et al. 2022). Conducted a similar PKM but had more advanced results than (Ismail et al. 2021), where all fishermen who were PKM participants were educated and trained to open digital platform accounts used in the fish sales process. The opening of this account is intended to stimulate the willingness of fishermen to utilise technological tools in their business.

The current community service features a slightly different colour from the previous two PKMs and Sibarani et al. (2022). In this PKM, the team designs a website based on the characteristics and needs of the Al'Seri Port fishing community in Seri Hamlet, Negeri Urimesing, Nusaniwe District. The website, designed by members of the fishing community, serves as an online store, making it easier for them to sell their catches. The ease in question is that the fishermen's wives can save time, energy, and costs because they do not need to spend a long time in the traditional market to sell fish. This is the ease offered by the SIPIKANSERI website. Meanwhile, the benefit is that sales can increase because unnecessary costs are avoided, such as market fees, consumption costs, and auction fees.

The Technology Acceptance Model (TAM) explains how users accept and use technology. It posits that users' acceptance of technology is influenced by their behavioural intention, which is determined by their perceived ease of use and perceived usefulness (Davis, 1989). Perceived usefulness refers to the belief that using technology will enhance business performance. Perceived ease of use refers to the belief that using technology is easy. Regarding the adoption of SIPIKANSERI, fishermen choose to use the website because of its ease and the direct benefits it provides. Fishermen and their wives have chosen to adopt the website as part of the fish sales process for its convenience and benefits.

## Method

This community service program (PKM) uses the Participatory Action Research (PAR) methodology. This method is a teaching strategy designed to address community problems related to unmet practical needs. One small community group that can benefit from this method is the fishing community. This is because unsolved social problems are common in these areas. Through PAR, individuals can be brought to a collective critical consciousness, thereby enabling them to improve their quality of life (Afandi, 2020).

This community service activity is divided into several stages and is expected to overcome the problems faced by the Al'Seri Port fishing community. These stages include identifying the needs of fishermen, designing a sales website, training them on its use, providing assistance in the sales process through the website, arranging for couriers, and evaluating the results.

### *Identification of Fishermen's Needs*

This stage is intended to ensure that the team's PKM activities are tailored to the specific needs of the fishermen. This identification process is conducted through surveys, observations, and interviews with community leaders and hamlet heads. Community involvement in the design process was facilitated by communicating with the community leader, who then represented all members in their interactions with the team. This was because fishermen tend to spend most of their time at sea, making it difficult for them to meet. The community leader acted as the representative of the fishermen in forums with the team. The interviews were conducted in an unstructured manner, with no predetermined structure. The team did not use systematically arranged interview guidelines. The team was not bound to a particular order or format of questions, but followed the flow of the conversation and the partners' answers. This enables the team to assess the needs of fishermen accurately. The team noted and recorded the interview process using a mobile phone recording.

### ***Designing a Sales Website***

The second step was to design a digital platform for fish sales. Here, the team collaborated with a website developer to build a website tailored to the partners' needs. This process lasted for one (1) month, accompanied by a Zoom meeting with the development team for brainstorming.

### ***Training on Website Usage***

After the website was designed, the team gathered the partners and provided an introduction and training on how to utilise it. The objectives of this training were: 1) to increase the understanding of fishermen so that they practice (simulation) how to utilise the website, so that participants experience a complete increase in understanding of the material; in addition, providing explanations to participants when they do not understand and directing them to the concept of a complete understanding of the website being taught. 2) Improving fishermen's skills in utilising the sipikanseri website. The training was packaged with direct practice from fishermen in selling fish. After learning and training, the team selected students from Seri Hamlet who are also PKM team members to serve as admins and website managers.

### ***Sales Assistance Through Website***

The mentoring process is a continuation of the training process, where at this stage the team went directly to each fisherman's house and assisted them in carrying out the following activities: a) Registering a seller account; b) Posting products on their respective stores; c) Listing prices and product descriptions; d) Receiving orders from customers; e) Processing orders; f) Complete the transaction.

### ***Provision of Couriers***

At this stage, the team provides couriers to assist fishermen in delivering fish to customers. A courier service is an integral part of the online sales system. The availability of courier services not only encourages sellers' interest in the online sales process but also encourages customers to buy without hesitation. The couriers here are students on the community service team. The courier is paid according to the distance of the fish delivery.

### ***Evaluation***

The evaluation process is conducted after the online sales process is complete. The evaluation process aims to gather input from fishermen on website weaknesses that the team and website developers should address to facilitate future fish sales further.

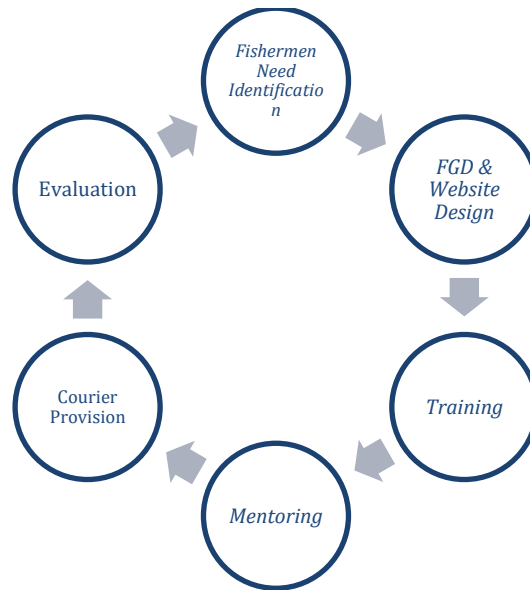


Figure 2. Stages of Service

**Result**

This service program was given to fishermen and their wives who work as fish sellers in Seri Hamlet, Negeri Urimesing, Nusaniwe District, Ambon City. The stages of this service activity are as follows:

**Identification of Fishermen's Needs**

The process of identifying the needs of fishermen was conducted during the team's field observations in Seri Hamlet. The team conducted discussions and brainstorming with the Head of Seri Hamlet and the Head of the Al'Seri Port Fishermen Community.



Figure 3. Discussion with the Head of Seri Hamlet (Mr Glen Wattimena) and Chairman of Al'Seri Port Community (Bapak Peter Abraham)

In the discussion process, the team conveyed the general objectives of community service and explored the needs of fishermen related to online sales. At this stage, the community leader stated that they needed assistance until the sales process was actually completed. Out of 25 communities, one pair of fishermen sells online via WhatsApp.

Table 1. Partner Profile

Description	Number of People	Percentage
Selling Fish in Traditional Markets	24	96%
Selling Fish in Traditional Markets and Online (WhatsApp)	1	4%

Table 1 shows that of all community members, there is only one (1) pair of fishermen who have implemented the online sales process. The fisherman's wife posts the products on their WhatsApp account, and the customers will pick up the fish independently at the fisherman's house. Some wait at home, and the fisherman's wife delivers the product when travelling to the traditional market. This is because the fisherman's wife has experience in online sales. In addition to selling fish, she also sells other products online, including clothing and household appliances.

All community members still sell conventionally at the traditional market in Mardika, Ambon. The distance to the market is approximately 21 kilometres. The fishermen's wives are not yet familiar with online sales.

### ***Focus Group Discussion and Designing a Website***

After the needs identification process, the team concluded that an online sales platform meets fishermen's needs because it can save time, energy, and the cost of selling fish. The cost of selling fish encompasses all the costs incurred, including transportation, retribution, consumption, and waiting. Before the design process, the team held a focus group discussion session to collect fishermen's ideas and needs. Thirty-three fishermen attended the session and conveyed their needs regarding the website.



*Figure 4.* Focus Group Discussion

After that, the team contacted the website developer and conveyed the fishermen's needs. The process of communication, discussion, and conveying user needs is carried out through the Google Meet platform. The web development team conducted the website design process over one month. The website's name is Sipikanserri. This website is the result of collaboration between the PKM team and PT Hexa Mandiri Integra in the development process.



*Figure 5.* Communicating Fishermen's Needs to Hexa Mandiri Developer (Designing Website) and Front View of the Website

This website is the final output of the PKM, which is expected to be utilised by fishermen to sell the fish and marine products they obtain. This website can be accessed at

[www.sipikanseri.com](http://www.sipikanseri.com).

### ***Training***

The training stage was marked by the introduction of the Sipikanseri.com website to community members on November 3, 2024.



*Figure 6. Website Introduction and Training Process*

Of the 25 participants who attended the training, 6 participants (3 couples of fishermen) directly utilised the website during the actual sales process. The sales system is still semi-digital, with some fish sold online and the rest sold conventionally in traditional markets. With this semi-digital system, fishermen spend less time waiting than with conventional sales. This shows that the transition to a digital system cannot happen instantly for fishermen. They need time to adapt first.

### ***Mentoring***

The mentoring process took place in the fishermen's homes from November 11, 2024, to December 31, 2024. At this stage, fishermen utilise their own gadgets to market their fish products. On November 11, 2024, fishermen first used the website to sell fish. The team conducted door-to-door mentoring.



*Figure 7. Door-to-Door Assistance Process*

The team assisted the three fishermen's wives (fish sellers) in carrying out the following activities:

1. Registration of seller account

Initially, the fishermen opened an account by selecting the Fishermen Menu and completing the registration form. The data to be filled in on the registration form are username, email, shop name, phone number, and password. After clicking the registration button, the website operator will receive a notification to approve the registered seller account.



Figure 8. Fisherman Account Register View

In its implementation, three (3) accounts were opened, namely Toko Muger\_Seri, owned by Mrs Ece Wattimena and Mr Agus Wattimena, Toko Win Seri, owned by Mrs Itje Abrahams and Mr Peter Abrahams, and Toko Juliana, owned by Mrs Juliana Telussa and Mr Izak Telussa.

2. Posting products on their respective stores

Once the operator has approved the fisherman's account, the fisherman can log in to the website. Fishermen can add profile photos, product descriptions, and mobile phone numbers. Furthermore, fishermen can upload photos of the fish they catch. If the fish has been sold, the fisherman can delete the product photo.

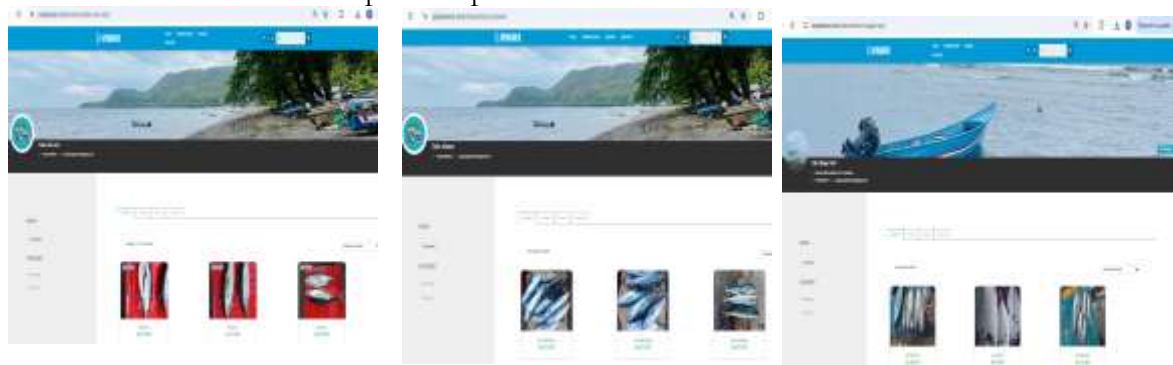


Figure 9. Shop Win, Shop Juliana, Shop Muger Seri

3. Listing prices and product descriptions

During this mentoring process, the team also assisted fishermen in adding prices to the store. The price of the fish listed varies by size and quantity. This price is determined by the fish season.

4. Receiving orders from customers

The team also taught how to accept customer orders. When a customer orders fish on the website, the fisherman receives an immediate notification. If the fisherman can fulfil the request, the fisherman can contact the customer and agree on the fish delivery process.

5. Processing the order

If the fisherman has prepared the fish, the fisherman can select the option to process the order. This option will send a notification to the customer that the fish will be delivered soon.

6. Complete the transaction

The team also taught fishermen to select (click) the option to complete the transaction when the fish has been delivered to the customer and the customer has received the fish. This is important so that the fishermen's turnover is recorded on the website dashboard.

### *Provision of Couriers*

The available couriers are students involved in the community service process. The location of the fish collection centre (physical store) is set at Mardika Market. This is designed to make it easier for couriers to collect the fish. Customer locations are scattered at the following points, along with delivery fees. The delivery fee is paid by the team (during the trial period) and will be paid by the customer when the trial period is over. The team thought that in order to test the technology with users, an investment (burning money) was needed to make users interested in using it.

Table 2. Distribution of SipikanSeri Customer Locations

No.	Locations (Villages)	Rates
1.	Kudamati, Batu Gajah, Kayu Putih-Kayu 3, Tanah Tinggi, Galala, Tantai, Kaan – Ahuru, Mangga Dua, Urimesing, Batu Meja, Bere-Bere, Skip	10.000
2.	Soya, Benteng	15.000
3.	Gunung Nona, Stain, Kebun Cengkeh	17.000
4.	Poka	18.000
5.	Amahusu	24.000
6.	Wayame	20.000
7.	Passo, Nania, Waiheru	30.000
8.	Hative Besar	30.000
9.	Laha, Tawiri	35.000

### **Evaluation**

In the evaluation stage, the team visited the three fishermen and their wives who had utilised the website from November 11 to December 27, 2024. The purpose of the evaluation was to identify and address existing obstacles to support optimal utilisation of the website in the future. The team requested responses and experiences related to online sales. Several items became evaluation points, including: *user interface* website, website notification, sales value chain, courier, payment process, turnover, operational cost, and continuous mentoring.

### **Challenges and Obstacles in Adopting the Digital Marketplace**

Based on the above evaluation results, the team analysed the challenges and threats faced by fishermen in adopting this digital market. These challenges and threats tend to originate from the website design created by the team. This includes external factors. There are also internal factors that hinder fishermen in the adoption process. This analysis begins with internal factors.

#### **1. Internal Factor**

Several internal factors pose significant challenges for fishermen in adopting the digital market. These factors include:

- Low commitment  
Change always begins with a strong intention, known as commitment. The low level of commitment to adoption can be seen from the fact that only 3 out of 25 (12%) fishermen couples are willing to use the website for the sales process.
- Resistance to Change  
Fishermen's wives are accustomed to traditional sales patterns (selling at the market), so they are reluctant to try digital methods. Fishermen are reluctant to step out of their comfort zone, even though there is great profit potential.
- Limitations of mobile phones  
There are also fishermen's wives who do not have mobile phones. Even if they do, the phones are limited in their features. The features available on mobile phones are still simple and cannot be connected to the internet.
- Low Digital Literacy

Fishermen and their wives experience difficulties due to low digital literacy. This is also related to the lack of supporting gadgets.

## 2. External Factor

The external factors encountered are related to the SIPIKANSERI website, which was designed by a team of web developers. These points are summarised in Table 3 below.

Table 3. Website Utilisation Evaluation Results

No	Poin	Description
1.	User Interface Website	All three fishermen stated that the website's features and layout have helped them in the process of uploading products and completing transactions. However, because the website is still new to them, they still need help from younger (tech-savvy) family members for the upload process to complete the transaction.
2.	Website Notification	The website is not yet equipped with special notifications for incoming customer orders. This ensures that the seller does not immediately know when buyers enter the shop and purchase fish. The seller will wait for a direct call from the buyer before processing the order.
3.	Sales Value Chain	Sellers acknowledge that, with the website, they feel more concise and closer to customers because the catch from the sea can be uploaded directly to the online shop (website) for potential buyers to see. The seller can bring the order to the market, and the courier will deliver it directly to the customer's location. This differs from the conditions prior to the website's creation. Sellers who bring fish to the market are unsure whether they will be sold. The website is viewed as an intermediary that facilitates easier connections between sellers and buyers.
4.	Courier	The Sipikan website does not yet have a courier menu, so couriers and sellers are connected manually. The team allocates couriers manually. The obstacle felt is with the couriers. During this service period, the couriers were students. The constraints experienced were that the market was busy and the sellers' location had changed, making it difficult for couriers to locate them. Conversely, sellers do not have internet packages or credit to call, so both parties take a long time to find each other.
5.	Payment Process	There is no cashless payment service on the website. Additionally, sellers often prefer to accept cash in person. The courier prepares cash in advance to pick up the order and will get reimbursed when the customer pays.
6.	Turnover	All three customers stated that the down website helped them achieve higher sales results than conventional ones. The sales turnover of Toko Muger Seri was IDR 1,710,000, Toko Win Seri was IDR 845,000, and Toko Juliana was IDR 700,000. It should be noted that fishermen are still adapting the website and conducting conventional sales. The proportion of fish sales through the website and conventional sales is 40:60.
7.	Operational Cost	With the website, some operational costs can be reduced, including consumption and waiting time, since online customers have already purchased their fish. If all the fish are sold on the website, the seller no longer needs a market location to sell their fish, thus freeing them from market retribution fees.
8.	Continuous Mentoring	Vendors acknowledge that ongoing support is needed to help them overcome problems when using the website independently, thereby encouraging increased turnover. There is also a need to integrate the

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website with transportation services and banking services.

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Source: Processed by Primary Data, 2025

The above are the main obstacles fishermen face in the online sales process. Future website development is needed to overcome these obstacles.

## Discussion

### *Understanding Improvement*

This community service activity provided new insights for fishermen and their wives. Before the introduction of the website, training, and mentoring, fishermen were only aware that fish could be sold at traditional markets. After participating in this series of activities, fishermen and their wives became open to applying new technology in the fish-selling process. In relation to the Theory of Acceptance Model (TAM), the intention to adopt new technology can arise when fishermen gain a better understanding of the benefits and conveniences of using the website directly. Evidence of this increased understanding can be seen from the decision of three (3) pairs of fishermen to sell through the website. This decision could not have been made without the fishermen having this new understanding.

### *Ability Improvement*

The evaluation results show that the mentoring process has helped improve fishermen's skills in operating website features. At this stage, fishermen are assisted by the team and family members who are more tech-savvy. The results of the month-long mentoring program show that the fishermen have implemented an online sales system through the Sipikanseri website. The digital business model requires a strong commitment from fishermen and their families, enabling them to remain resilient in every circumstance. Adopting business digital needs time and investment. The fishermen should spend time learning how to use a website to sell their fish. They should be patient to learn and open-minded. Fishermen also need support from their family members, academia, and the government. These aspects can enhance the sustainability of fishermen's business. In the long term, the digital business model is expected to enhance the income and prosperity of fishermen in coastal areas.

The increase in the level of empowerment is reflected in: a) fishermen's skills in operating the website, b) the amount of turnover generated by fishermen after utilising the website. Before the training and mentoring, fishermen only generated turnover from conventional sales, namely selling to the market or intermediaries. Conventional sales require consumption costs and waiting costs. In contrast, online sales minimise these costs because fishermen do not need to wait long. Online buyers are assisted by couriers delivering fish products to their homes.

### *Efficiency and Empowerment Improvement*

The results show that fishermen who sell through websites experience operational efficiencies, including reduced waiting time, cost efficiency, and energy efficiency, compared to waiting in traditional markets for extended periods. Selling through websites encourages fishermen to be more economical and less tired.

In this program, the team provided intensive support to these three couples through the sales and delivery (courier) stages to the buyers. Sales are made when the fishermen get the results. This means that not every day results in sales, because some days fishermen catch no fish. Therefore, in a month, fishermen only make sales on average 12-14 days or two (2) weeks. The sales results obtained from three (3) shops using the website are depicted in Table 4.

Table 4. Monthly Turnover Through Website (in Rupiah)

Date	Turnover	Date	Turnover	Date	Turnover
Win Seri Shop		Muger Seri Shop		Juliana Shop	
12 November	100.000	9 November	200.000	11 November	50.000
12 November	50.000	11 November	300.000	19 November	40.000
5 Desember	100.000	12 November	100.000	19 Desember	40.000
6 Desember	75.000	13 November	40.000	22 Desember	120.000
13 Desember	155.000	14 November	430.000	23 Desember	50.000
16 Desember	150.000	3 Desember	300.000	23 Desember	200.000
19 Desember	215.000	5 Desember	50.000	24 Desember	200.000
<b>Total</b>	<b>845.000</b>	10 Desember	100.000	<b>Total</b>	<b>700.000</b>
		13 Desember	20.000		
		20 Desember	250.000		
		<b>Total</b>	<b>1.790.000</b>		

Source: Primary Data, 2025

The data above show that 18% of fishermen (six fishermen and their wives, or 33 members of the fishing community) experienced increased empowerment in utilising the website for fish sales. When sales turnover increases due to digital marketing, business actors can also experience long-term benefits. This is in line with the Theory of Acceptance Model (TAM), which explains that technology can be easily accepted due to two factors, namely usefulness and perceived ease. (Tamsil and Herman, 2015).

### Market Expansion

The sales system is still semi-digital because the fishermen are still new and in the adaptation stage, so the monthly turnover is IDR 845,000 (Toko Win Seri), IDR 1,710,000 (Toko Muger Seri), and IDR 700,000 (Toko Juliana). The products sold by the three stores are different. Toko Win Seri specialises in medium- to large-sized tuna and skipjack. At the same time, Toko Muger Seri has products such as Lema Fish, Tuna Kid Fish, Bubara Fish, and Skipjack Kid Fish. Because the types of fish available vary, the sales results at the Muger Seri Store are higher than those at the others. In addition, the owner of Toko Muger Seri has a distinct initiative and business management style compared to the owners of the other two shops. Muger Seri Store is accustomed to utilising online platforms for sales, making it easier to communicate with customers and website administrators online.

It differs from Toko Win Seri and Toko Juliana, where the owners are still in the early stages of utilising online platforms for sales. As a result, their online sales process remains rigid. Overall, the three stores have taken good initiatives in adopting the Sipikanseri website. This result shows that fishermen, represented by their wives who call Papalele, can transform into a digital business model. Besides adopting a digital business model, Papalele women also use a business model called 'dudu pasar'. In this model, Papalele women sell their products in a traditional market. (Kissiya 2012).

The Sipikanseri website provides benefits that simplify the sales process for fishermen. Additionally, the features available in it are still straightforward, making them easily understood by fishermen. Although in this early stage of adoption, fishermen require intense mentoring and assistance from younger family members. Technology adoption in family businesses supported by younger family members can lead to improved business performance. The TAM theory explains how the acceptance of technology can provide users with benefits and convenience, ultimately enabling them to experience progress in their endeavours.

Bin-Obaidallah et al. (2025) Employees' readiness to adopt technology contributes to the

sustainability and success of MSEs. This is in line with the result of Del Vecchio and Secundo (2024) Relevant role that younger generations can play in exploring innovation opportunities associated with digitalisation, as well as in contributing to reinforcing innovation and resilience capability of their family businesses through collaboration with external stakeholders and ecosystems. Abdelwahed et al. (2024) stated that digitalisation can boost women's empowerment.

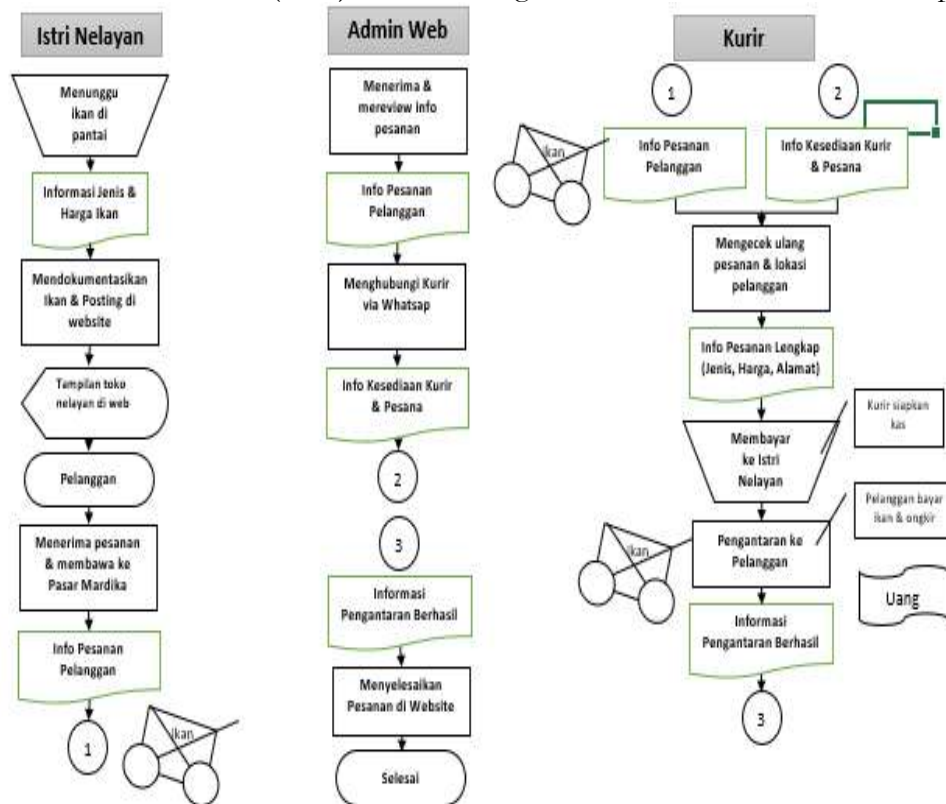


Figure 10. Sales Cycle Through Sipikanseri Website (Source: Service Community Team, 2025)

The flowchart above shows the process of selling fresh fish through the digital platform "SipikanSeri". Three (3) parties play an essential role in this sales process: the fishermen's wives as sellers, the sipikanseri website admin, and couriers among the students involved in the PKM team. The sales process begins and ends with a terminator symbol. The website administrator and couriers are part of the PKM team themselves.

This ongoing process can provide benefits (perceived usefulness) and convenience (ease of use) for the fishermen's wives. The benefits are evident in the emergence of a new medium that offers greater flexibility for fishermen, allowing them to save time by selling directly at the market. The convenience is evident in the fact that fishermen can post their products on online stores and be seen by people in Ambon City, in particular.

Additionally, the implementation of this online sales system provides space for fishermen to decide on supply chains that are highly disadvantageous and tend to harm them while benefiting middlemen (tengkulak).

## Conclusion

This PKM provides results that fishing businesses are an informal sector that can adopt digitalisation in their sales processes. This sector has high profit potential when accompanied by a strong commitment to technology adoption, a willingness to step out of one's comfort zone,

support for gadgets, and good digital literacy. However, numerous challenges are faced during this adoption process. In this first stage, the level of technology acceptance among the fishing community is still 12% (3 pairs out of 25 pairs of fishermen). This indicates that not all fishermen can utilise technology, but some fishermen can effectively apply and operate it. Something new always seems more difficult, but if the fishermen try it several times, they will surely find a way. The implementation of digital markets for fishermen is urgent because it can increase their income, which tends to remain constant. It is considered urgent because fishermen continue to live in poverty. The digital era provides opportunities for those who want to grow their businesses, so it is necessary to invest time in learning how to do so.

## Recommendations

Therefore, several specific recommendations are provided to ensure that technology optimisation in micro-scale businesses (in the informal sector) continues to be pursued.

1. The team must continue to consistently build good communication with the fishing community so that there is always room to implement digital market adoption after the website improvements are made.
2. The team must continue to build communication and cooperation with website developers to improve website features so that they are more user-friendly. One of them is integrating couriers with websites to ensure a sustainable courier financing model. When the website is easy to use, fishermen will be encouraged to adopt it.
3. Once the website has been repaired and fishermen can use it easily, it will be necessary to promote the website through social media to introduce it to the public, making them aware of its existence and enabling them to purchase fish through the SIPIKANSERI website.
4. Build communication and cooperation with the Office of Industry and Trade of Ambon City to provide a special space at Arumbai Market for digital fish sellers, thereby making it easier for couriers to pick up orders.
5. Establish communication and cooperation with the Office of Marine and Fisheries Ambon City to support the digital fish sales process. Digital fish sellers will still fulfil their obligations (levies) to the city government in accordance with regulations. However, they must be given the space to implement a digital market, thereby increasing their income.
6. Universities and academics are expected to continue coordinating and communicating with fishing communities through consistent socialisation activities, training, and digital workshops to improve fishermen's digital literacy as a path towards implementing digital markets.
7. Longitudinal studies are needed to analyse the factors driving the adoption of digital markets among fishermen.

Based on the training and implementation of online sales conducted by three fishermen's wives, it can be concluded that there was an increase in knowledge from the fishermen in the Al'Seri Port Community of Seri Hamlet. Most fishermen understand the importance of the website in increasing their turnover. This knowledge is applied when opening their respective store accounts. Besides, there was an increase in skills in utilising the website to sell fish. Three wives directly utilised the website during the actual sales process. Their family members who are more knowledgeable about technology help them to use the website. The sales system is still semi-digital, with some fish sold online and the rest sold conventionally in traditional markets. With this semi-digital system, fishermen spend less time waiting than with conventional sales. It increases their efficiency and empowerment. Fishermen demonstrated operational efficiency by reducing selling time, consumption costs, and product unloading costs. This process earns an expansion of their market. Customers come to the website from various areas, including Passo, Lateri, Wayame, and Gunung Nona.

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