The Strategy for Growing Economic Potential by Improving Financial Literacy Using 4.0 Technology

Juhadi[1], Nur Hamid[2], Nuris Saadah[3], Elvara Norma Aroyandini[4]

[1,3]Geography department, Universitas Negeri Semarang, Indonesia, [2]Department of Islamic Community Development,
Universitas Islam Negeri Walisongo Semarang, Indonesia, [4]Science Education Department, Semarang State University, Semarang, Indonesia
juhadigeo@mail.unnes.ac.id

Keyword	Abstract
growing economy, financial literation, technology	*The Kragan coastal area has high economic potential. However, the economic potential in Kragan needs to be optimally managed. Most of the fisheries sector is still run traditionally. So there is dependence between small fishermen, who are still traditional, on prominent/modern investors. Many small fishermen are shackled by poverty in this case. Thus, it is essential to increase public knowledge regarding financial management in the fisheries sector so that the economy of traditional fishermen is no longer dependent on large/modern fishermen. The solution offered by researchers is to increase public financial literacy by utilizing technology 4.0. This technology is focused on community empowerment through product marketing. This study uses a qualitative method. Data collection techniques using interviews and observation. The research population is the people on the coast of Kragan. The research analysis uses a qualitative descriptive analysis. The results show that the financial literacy rate is still relatively low, around 58.2%. Most informants chose to use the old method, so there was an imbalance between small fishermen who used the traditional method and big/modern fishermen. While the results of the FGD show that technology 4.0 can help grow the Kragan people's economy by managing fishery products and increasing financial literacy*

INTRODUCTION

Indonesia is an archipelagic country where most of its territory is on the coast and has considerable marine potential. The existing marine potential should prosper people's lives, especially in terms of utilization and management of fisheries potential. However, the reality is that the lives of coastal communities are still of concern as marginalized poor people. The difficulty in escaping from the shackles of poverty is because they are plagued by several limitations in terms of the quality of human resources, access to and mastery of technology, markets, and capital [1].

Until now, it can be said that the policies and implementation of development programs for coastal communities have not been optimal in breaking the cycle of poverty and improving their welfare. Coastal communities are categorized as people living in a coastal area whose source of economic life depends on the utilization of marine and coastal resources. Coastal communities are not only fishermen but also empower fish, fish processors, and even fish traders [2]. Poverty in coastal communities is categorized as structural, super-structural, and cultural poverty [3]. The results study of [4] state that all poverty, backwardness, and slums in coastal communities, especially fishermen, occur because of the inability of their resources and the management of fishermen's families to manage money from fishing.

The Kragan coastal community is located on the Java Sea's north coast, where their livelihoods depend on the agricultural and fishing sectors. The Kragan coastal area has high economic potential. However, the economic potential in Kragan needs to be optimally managed and developed. Everything is still carried out in a traditional way in all the existing sectors. In general, problems that are often in the field of fisheries are also found in Kragan coastal community groups. For example, there is dependence between small fishermen, who are still traditional, on large/modern investors, as researched by [5] in Buleleng Regency, Bali Province, Indonesia.

In general, coastal communities have a strong dependence on nature. They have in-depth knowledge of coastal conditions based on experience and adaptation to the conditions they encounter daily. According to research conducted by [6], people in coastal areas have low education, productivity which is very dependent on the season, limited business capital, lack of supporting facilities, poor market mechanisms, and difficulties in transferring knowledge, technology, and communication which results in low income for coastal communities.

METHOD

This study uses a qualitative method. In qualitative research, the researcher becomes the primary instrument by going directly to the field to collect data through observation, interviews, and documentation analysis [7]. According to [8], qualitative research basically depends on a researcher's observation of the surrounding environment. The research was carried out in the coastal area of Kragan, Rembang. The term Coastal refers to the geographical location of the research location in the transition area between land and sea areas as done by [5] and [6]. The choice of location was based on the consideration that most people have livelihoods as fishermen, and their economic conditions still need to improve. The research suggestions are a number of community members and community leaders such as village administration, heads of RT/RW. Data collection techniques through interviews, direct observation, and documentation studies. The research used a descriptive-qualitative analysis method; data analysis was carried out from the beginning of the research and during the research process.

The process of qualitative descriptive analysis has several stages. The first step is a step to sort out the data related to the research focus. Second, check all data so that data or information that has been obtained while in the field can be identified. Third, recall the informant's response during the interview because it could affect the data provided. Likewise, the influence of other people's presence will impact the smoothness of the interview with the informant. The next step is to pay attention to the data obtained, both direct statements and indirect conclusions related to the research focus. Then the last step is to find the validity of the data through triangulation. What was done in this process was to match data from one informant with data from another informant [11].

RESULTS AND DISCUSSION

Fishing community problems encourage action to change and improve these conditions. The process toward a better condition often involves various parties, uses various approaches and strategies, and utilizes various resources. In this case, increasing financial literacy involves a number of communities and community leaders, such as village administration and heads of RT/RW. Most of the informants in the coastal areas have fishermen as their livelihood. The profession of this fisherman is quite diverse. Usually distinguished by the type of ship used. The bigger the ship, the longer the duration at sea. Fishermen with small boats generally go to sea in the morning and return in the afternoon. Meanwhile, fishermen with large boats can go out to sea for up to one week.

The process of collecting this data had a few obstacles; some people needed clarification when researchers tried to ask questions. This can indeed happen, in line with research conducted that people in coastal areas have low education due to the difficulty of transferring knowledge and communication. However, this obstacle can be overcome through a cultural approach, such as

preliminary interviews by making small talk about their livelihoods. Furthermore, interviews were conducted regarding the financial literacy of the informants and discussions (FGD) related to technology-based financial management 4.0. Following is some documentation of interviews with informants at the research locations.

FIGURE 1. Interview Documentation (Source: Primary data, 2022)

Financial literacy is a basic need for everyone to avoid financial problems (Yushita, 2017). Based on interviews with informants, the results show that the literacy rate is still relatively low, which is around 58.2%. Most informants chose to use the old method, so there was an imbalance between small fishermen who used the traditional method and big/modern fishermen. In more detail, the level of financial literacy based on each indicator can be seen in Table 1.

TABLE 1. Level of Financial Literacy

Indicator	Literacy Level

Level of knowledge of financial terminology	54,8%
Level of awareness in saving/investing	58,3%
Level of knowledge and skills in valuing goods and services	61,3%
Level of knowledge and skills in financial planning efficiently and wisely	48,8%
Interest or interest in planning for the future finances	53,0%
Spending behavior	70,8%
Saving behavior	60,7%

The level of knowledge regarding the informant's financial terminology has a literacy rate of 54.8%. Most of the respondents have the same characteristics. They focus on spending on basic needs such as kitchen needs or the need to go to sea. The money earned, on average, is only for immediate needs. However, informants were able to distinguish between needs and wants. As the opinion of one respondent, *"Yes, I know. For example, you can earn 50 million and 15 million to buy diesel, ice, and provisions. The remaining 35 million is divided in half for those who own the ship and the crew (abk)."*

The informant's level of awareness in saving/investing in the research location has a literacy rate of 58.3%. Some respondents need help understanding the importance of saving. Besides that, the informant's economic condition is quite difficult to fulfill basic needs, let alone save. As one respondent said, "*Yes, but where do you save the money, sir? We earn seasonally. If there is a lot of it because "Westerners" can save, but if it is "Easterners" it drops, we are miserable."* However, there are also some respondents who save, such as saving at many banks like BRI, BNT, arisan savings, or gold.

Indicators of the level of knowledge and skills in assessing the goods and services of informants at the research location have a literacy rate of 61.3%. Most respondents spend on goods according to their needs, not wants. If money is still spent on basic needs, most of them tend to spend it for other purposes, not saving. Some choose to save, but only a few. A lack of trust and knowledge about savings causes this. Like one of the respondents whose brother deceived, he was of the opinion, "*No. Ever saved money but instead was cheated by a relative, borrowed but not returned. The plan was to save at the bank, but the money was gone, so I could not save*".

An indicator of the level of knowledge and skills in financial planning efficiently and wisely, the informants at the research location have a literacy rate of 48.8%. This financial planning skill is essential, considering the power of priority also affects a person's discipline level when managing his money (Benson, 2004). Most of the respondents did not plan to purchase goods. They tend to behave spontaneously when the goods run out and then make a purchase. However, they can still distinguish between needs and wants. This is due to their limited income, so they only focus on basic needs without thinking about planning or setting aside money for savings.

An indicator of the level of interest or interest in planning the future finances of the informants at the research location has a literacy rate of 53%. Most of the informants needed to plan their future finances. They are only focused on finances at the moment. As the opinion expressed by one of the respondents, " *Sober, sir. Planning for now, do not think too far. For example, get money from auctions, then buy equipment".* In addition, there are also respondents whose main expenses are to cover debts at the bank. The respondent said, "*Yes, the problem is this: the average person here has a bank account. If you get a loan from the bank of 5 million, you will buy gold later. For example, even if the income from the sea is 1 million, people deposit it in the bank. So that the income to pay the bank. Finally, it becomes like the saying, "Dig a hole, close the hole," or income to pay off debts. Debt-paid-debt again and so on".* The respondent borrowed 5 million from the bank to buy gold. When the respondent gets income, for example, 1 million, the money is used to pay debts at the bank.

Informants' spending behavior indicators at research locations have a literacy rate of 70.8%. Most of the informants already have good spending behavior. They spend goods according to their portions. Do not buy similar items with different color variations. They do not buy things they like even though they are not helpful. The indicator of informant-saving behavior at the research location has a literacy rate of 60.7%. Most informants understand how much money is spent on needs and how much money is left over. However, some informants pay less attenneed to tionmorethis saving behavior, such as not counting change when shopping.

Other information obtained related to finance/finances at the research location is known that the agent determines the price of the sale of fish caught by fishermen. So that the rise and fall of prices also cannot be controlled by fishermen. In addition, several fraudulent practices occurred during the sales process, such as reducing the scale or selling price. Literacy is an essential part of community economic empowerment. The level of economic welfare is directly affected by the level of financial literacy, like how they manage income and expenses. This further reinforces the importance of increasing financial literacy in order to empower the community's economy.

Based on the research results, it is known that people's financial literacy needs to be continuously improved. In general, several aspects are in the "sufficient" category with a reasonably high percentage, but they are still in the "low" category in several other aspects. Along with the times, increasing people's financial literacy can be done using technology 4.0. Technology 4.0 in question is by utilizing the development of gadgets such as laptops and smartphones as well as the development of internet networks that have penetrated almost all people. The development of gadgets and the internet has made it possible to create various platforms, both in the form of websites and applications that can be accessed easily so that they can become platforms for providing financial literacy to the public.

The use of the 4.0 technology platform is considered important because efforts that do not use this technology have minimal success. Among the various efforts to increase financial literacy that does not use technology, 4.0 is to socialize directly with the public. For example is [12] that provides socialization of banking products to one of the villages in Tasikmalaya, West Java Province, [13] who implemented three strategies, namely by educating the public, penetrating financial institutions, and expanding access to products and services, and [14] who carried out community empowerment training to eradicate poverty. These efforts are known to be effective in increasing financial literacy, but only for local people invited to participate in these outreach activities. As for the people who have yet to be reached by these activities, they cannot increase their financial literacy.

The results of the Focus Group Discussion with the community and various experts, such as IT experts and economists from Semarang State University, also show this. The use of technology 4.0 will make it easier for people to gain financial literacy. The people who are reached by this technology are those who get socialization and those who are in various other regions, especially in Indonesia or even abroad. The community also stated that with technology 4.0 filled with positive and trustworthy content, it would be easier to convey education to the public. These results, as mentioned by [15], show that the internet has become the most advanced socialization media compared to traditional socialization agents, which are carried out face-to-face.

DISCUSSION
a) Forms of learning loss on grade X students.

The learning loss experienced by the 10th-grade students of SMA Al-Islam 1 Surakarta can be observed through several indicators that encompass their motivation, intelligence, and social attitudes. Firstly, there is a noticeable lack of motivation to learn, evident from the students' diminished enthusiasm and interest during the learning process. This aligns with research conducted by Widodo & Umar (2022) which states that the loss of motivation to learn is one of the forms of learning loss.

Furthermore, learning loss is also reflected in the decline of students' intelligence. Ayu & Nurafni (2022) also argue that students experiencing learning loss will have an impact on their academic performance. This can be seen from their decreased academic achievements in the previous academic year. The decline in academic performance indicates difficulties in understanding and applying subject matter, as well as a decrease in cognitive abilities and problem-solving skills.

In addition, learning loss can also be observed through a lack of respect for fellow students. The indifferent attitude displayed by students towards their classmates or peers indicates a lack of empathy, understanding, and cooperation within the learning environment. They may disregard or fail to appreciate the opinions, feelings, or contributions of others, which can have a negative impact on the classroom atmosphere and their social interactions.

b) Implementation of the Merdeka curiculum on grade X students

The implementation of differentiated learning as one of the implementations of the Merdeka curriculum, the school principal, has conducted activities such as the In House Training (IHT) forum to develop a learning approach that emphasizes the students' learning needs. One of the strategies in implementing differentiated learning is providing training to teachers to enhance their abilities in flexible assessment (Roberts, J. L., & Inman, 2021). The teachers' skills in flexible assessment can influence their creativity in implementing differentiated learning. The school's strategy can make teachers who are capable of differentiation as role models for other teachers, providing support for teachers in implementing differentiated learning.

In the context of differentiated learning, one aspect that is often overlooked is the implementation of diagnostic assessment. Diagnostic assessment plays a crucial role in helping teachers understand students' learning needs, achievement levels, and the effectiveness of their teaching efforts (Khasanah & Alfiandra, 2023). SMA Al-Islam 1 Surakarta implements a differentiated learning approach by conducting individual student learning style mapping in collaboration with a psychology institution. In addition to students, teachers also undergo diagnostic assessment and receive training together with the psychology institution to gain a deeper understanding of students' psychological aspects.

In this process, teachers at SMA Al-Islam 1 Surakarta identify students' learning styles individually in order to develop teaching strategies that align with each student's interests and learning preferences. By understanding students' learning styles, teachers can organize instructional materials and teaching methods that provide a more effective and engaging learning experience for students (Malacapay, 2019) . By involving a psychology institution in conducting diagnostic assessments, SMA Al-Islam 1 Surakarta ensures that the implemented learning approach is based on a deep understanding of students' needs and individual characteristics. This personalized approach aims to optimize the learning process and enhance students' academic growth and engagement.

In addition to differentiated learning, SMA Al-Islam 1 Surakarta also implements the Projek Penguatan Profil Pelajar Pancasila (Strengthening of Pancasila Student Profile Project) as a result of implementing the Merdeka Curriculum. Gelar karya (project showcase) is one of the innovative learning approaches that emerged from the Pancasila student profile project in the classroom, providing a new approach to intra-curricular and co-curricular learning processes. Through this activity, students not only learn about subject matter content but also actively participate in creating innovative products, which are then presented to the school as evidence of their learning outcomes.

Through the structured gelar karya (project showcase) activities, the school believes that students not only develop skills and knowledge but also instill Pancasila values within themselves. This is also in line with research conducted by (Budiono, 2023), which states that gelar karya activities are able to shape and develop students' character by referring to the Pancasila student profile, which is tailored to the needs and characteristics of each school.

c) The correlation between learning loss and the implementation of the Merdeka Curriculum in grade X students

The correlation between the Merdeka curriculum and learning loss is closely related, where one of the goals of implementing the Merdeka curriculum is to address the occurrence of learning loss experienced by students (Romli Triputra et al., 2022). In order to achieve this goal, SMA Al-Islam 1 Surakarta implements the Merdeka curriculum as one of the approaches to tackle learning loss among its students.

The emergence of students' discomfort in the classroom, decline in academic performance, and loss of learning motivation are forms of learning loss experienced by students at SMA Al-Islam 1 Surakarta. To address these issues, the school has implemented the Merdeka curiculum with an approach that focuses on the individual and group needs of students. According to Ardi et al. (2019), using such an approach can optimize students' potential and improve their overall performance.

In the student-centered approach, the school strives to implement differentiated instruction for students. In this context, the focus is on tailoring the learning approach to meet students' needs and interests. The school also facilitates teachers through the In House Training (IHT) forum and diagnostic assessments to enhance the quality of teaching in line with student needs. These activities prioritize the use of engaging and relevant teaching methods. Teachers make efforts to adopt methods that can capture students' interest and motivate them to learn. This aligns with research conducted by Mardhiyati et al. (2023) indicating that implementing such teaching methods can create an engaging learning environment that is relevant to students' lives.

The research conducted by Herwina (2021) further strengthens the notion that through the use of appropriate teaching methods, materials, and assessments, teachers are able to adapt students' learning experiences to maximize their potential. In diverse learning environments, students are encouraged to activate their abilities and actively participate in the learning process. This approach recognizes the importance of catering to individual students' needs and creating an engaging and inclusive learning environment. By doing so, students can fully utilize their capabilities and enhance their overall learning outcomes.

The Strengthening Project for Pancasila Student Profiles (P5) is implemented through a series of project-based activities, including the "gelar karya" (project exhibition). These activities take place outside the classroom and even beyond the school premises. Additionally, these activities aim to develop students' character based on the components outlined in P5, such as faith and devotion to God Almighty, critical thinking, cooperation, creativity, independence, and global diversity. This can be observed through the various stages of the gelar karya activity.

During the collaborative process of formulating innovative ideas, students can develop a sense of cooperation and teamwork. Through the field action stage, students are encouraged to understand and respect cultural diversity and exhibit mutual respect. Furthermore, the project creation and presentation stages provide opportunities for students to demonstrate integrity, responsibility, and good work quality, reflecting the values of Pancasila.

With the implementation of the Strengthening Project for Pancasila Student Profiles (P5), the school believes that learning loss in students can be minimized. Research by Safitri et al. (2022) also supports that the Strengthening Project for Pancasila Student Profiles (P5) is a new orientation in the education world to further improve students' character.

CONCLUSION

Kragan coastal communities have a low literacy rate of around 58.2%. Most of the fishermen still use the old method, so there is an imbalance between small fishermen who use traditional methods and big/modern fishermen. Literacy is an essential part of community economic empowerment. The level of economic welfare is directly affected by financial literacy, such as how they manage their income and expenses. Observations in the FGDs show that technology 4.0 can

help grow the Kragan people's economy through managing fishery products and increasing technology-based financial literacy

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