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EVALUATION OF BUSINESS PROCESS AND UNDERSTANDING OF FINANCIAL LITERACY IN FISH CULTIVATOR GROUP

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Abstract: The specific purpose of this research is to know the business process of fish farming and to find out the problems and opportunities to produce Appropriate Technology (TTG) in fish farming with IoT. Data collection techniques used were observation, literature study and interviews. The data validity test was carried out before data analysis with credibility test through Triangulation, Member Check, and negative case analysis techniques. Data analysis used thematic analysis. The coding technique used was divided into three, namely: open coding, axial coding, and selective coding. The problems in business processes and understanding of financial literacy are the inability of human resources.

Keywords: *business process, financial literacy, fisheries, SMEs*

1. Introduction

South Sumatra is dominated by a swamp so that it is suitable for fish breeding. This area has a variety of typical foods with the main ingredient of snakehead fish. Fish becomes source of high economic value animal protein. Aquaculture production in South Sumatra is 439,059 tons (BPS, 2021). The challenges of cultivating snakehead fish are increased exploitation, competition between commodities and limited human resources. Fish farming in ponds generates waste is used as liquid fertilizer (Maharani, 2018). Utilization of fish waste/dung is for dealing with water turbidity, making fish healthier and reducing operational costs.

The price of snakehead fish is quite high in Palembang city, even being one of the causes of inflation. In 2008 snakehead fish contributed 0.22% to inflation in South Sumatra with an increase in prices reaching 34.87%. Palembang City in December 2015 experienced a cumulative inflation rate of 3.05% (BPS, 2021). This condition illustrates that the fishery sector took part in worsening inflation. It is because the cultivation process is less effective. Other problems faced by cultivators are the process of feeding, water treatment and utilization of by-products from cultivation. Small and Medium Enterprises (SMEs) become a large part of a country's economy, including SMEs with the type of fishery business. Several countries in the world continue to strive to develop SMEs in the fisheries sector in order to be able to compete globally. The scale of the number of workers, assets and turnover, in small SMEs with a large number of units, then fisheries SMEs become significant in supporting the economy of a country. There are three main reasons underlying developing countries view the importance of the existence of SMEs, namely (1) the performance of SMEs tends to be better in terms of producing a productive workforce; (2) as part of its dynamics, SMEs often achieve increased productivity through investment and technological change; (3) SMEs have higher flexibility than large businesses so they are more adaptive.

Financial literacy is interpreted as financial knowledge with the main purpose to achieve wealth (Hafifah, 2019). Financial literacy is related to a person's ability to manage and do financial planning. According to the Financial Services Authority (OJK) financial planning is about how to live a simple life today according to financial capabilities and meanwhile prepare for a prosperous future. Ignorance of the importance of financial literacy can result in a lack of access to financial institutions so that they are easily influenced by sellers of financial products, this of course can hinder the country economic development. In fact, in everyday life, not everyone has sufficient financial knowledge or is said to be well literate. Several studies have found that the level of public financial literacy generally is still low (Sari, 2019).

One of the groups of fish cultivators in Palembang City is Macan Kumbang Fish Cultivator Group that cultivates various kinds of fish, one of which is snakehead fish. This group had a Cooperative. Iit is currently closed due to poor management. Based on initial observations, other problems experienced are that the farmer group has not been able to analyze the projected profit, irregular feeding, has not been able to detect fish appetite, water quality is not measurable and has not utilized aquaculture waste/by-products. This group has a strong desire to do better farming with the Internet of Things (IoT). Based on the initial observation data, a more in-depth study is needed with data collection and analysis. The formulation of the problems raised are: (1) How is the business process of fish farming in the Macan Kumbang Fish Cultivator Group (2) What are the supporting and inhibiting factors for the fish farming process in the Macan Kumbang Fish Cultivator Group?. The specific objectives were : (1) to know the business process of fish farming; (2) to know the problems and opportunities to produce Appropriate Technology (TTG) in fish farming with IoT.

Research conducted by (Weku et al., 2015) showed that the use of Arduino Uno-based microcontroller components and software for fish feeders worked automatically to a pre-arranged schedule, and can send notifications. In addition, the cultivation process is more effective with a Decision Support System (DSS) that is built based on the suitability of water criteria with financial analysis calculations of Payback Period (PP) and Net Present Value (NPV) which fulfills the goal of helping to choose the type of freshwater fish farming that is suitable and profitable and knowing the return on capital such as research (Fitrony et al., 2019) Monitoring of pond water quality is based on the principle of telemetry with system readings in the form of data sent to Ubidots and displayed in graphs in real time so it is appropriate handling can be carried out in the event of changes in water quality (Hidayatullah et al., 2018). Problems regarding the utilization of fish manure can be solved by using it as a liquid fertilizer containing N(Nitrogen), P(Phospor), K(Potassium) which are components of organic fertilizers (Nur & Tjatoer, 2011). The NPV method is a method to evaluate the investments to l be carried out by focusing on the present value of expenditures compared to the present value of revenues (Arshad, 2012). While PP is a method used to measure the feasibility of an investment. This knowledge of finance can be transformed into an easy-to-operate android application. This method can help with calculations before the start of business activities. It is expected that this method can be used to avoid losses and determine more suitable type of cultivation.

2. Research Method

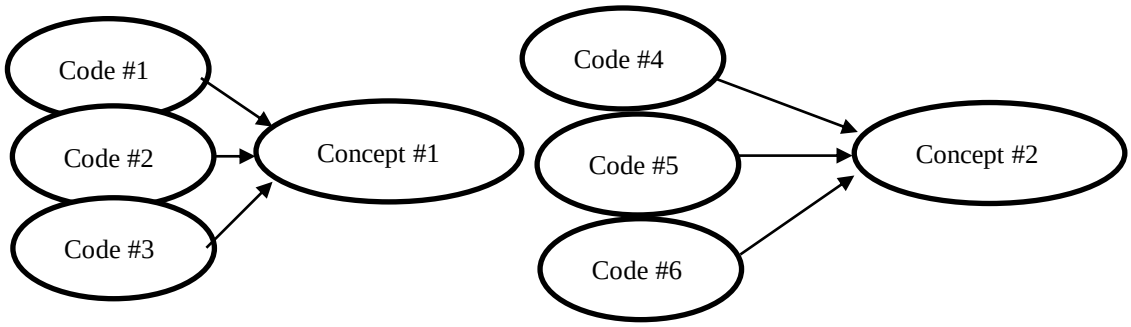
The research subjects were credible informants and directly related to the object under study. The objects of the research were a group of fish cultivators in Demang Lebar Daun. Data collection techniques used to collect data observation, library studies and interviews (Sugiyono, 2017)(Sunardi et al., 2020). Observation is observing people who perform activities that are observed. Literature Studies, data collection techniques by examining theories relevant to the research problem. Interview, semi-structured with purposive sampling of informants selected through a face/expert analysis approach, namely the Head of the Panther Fish Cultivation Group, Group Members, and competent parties in understanding the business processes of fish cultivator groups(Riana Mayasari et al., 2021).

The data validity test was carried out before data analysis by using the credibility test through the Triangulation Technique that is a multi-method approach in data collection and analysis (Birt et al., 2016). The triangulation used is time, technique, and source triangulation. Member Check is a technique to confirm the suitability of data interpretation from data interviews with informants. Negative case analysis is a search different or contradict data found.

Data analysis in this study used thematic analysis with qualitative research analysis technique to identify, analyze, report patterns in the data and present them detailly and complete (Braun and Clarke, 2016). Thematic analysis also helps researchers to connect and compare various concepts and opinions with data found in the field. (Braun & Clarke, 2016) said that in analyzing research data, it is necessary to follow these stages: (a) data collection; (b) data coding; (c) making patterns from data and (d) analyzing data and displaying analysis results. The coding process is a transition process between data collection and broader data analysis (Miles et al., 2014). The coding technique used is divided by three such as open coding, axial coding, and selective coding.

A. Open Coding

Open coding is the process of identifying the code in the data then given the name or certain attribute, followed by entering the codes into an interrelated concept (Holton, 2010). The Open coding stage according to (MacQueen et al., 1998) consists of identifying the codes found and interpreted into a Concept as Figured out as presented in Figure 1.

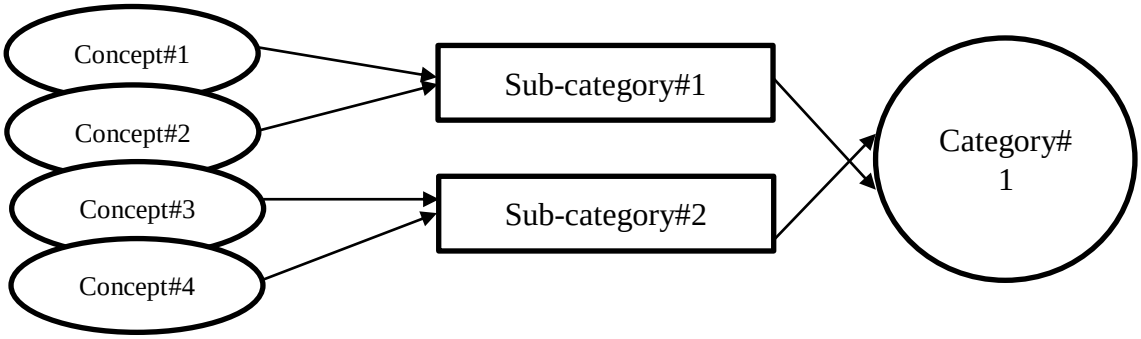


Source: (MacQueen et al., 1998)

Figure 1. Open Coding

B. Axial Coding

Axial coding is the collection of several concepts that have been successfully revealed based on codes in the open coding stage (Benaquisto, 2008). The concepts revealed are connected to each other through compaction in the Sub-category(R Mayasari & Febriantoko, 2018). The sub-category provides a summary of the previous stage. The collection of sub-categories obtained is compressed back into categories that have correlation. There are categories that can be positioned as: a condition considered a cause is any event that causes a symptom to occur itself. The chart of the axial coding stages is as shown in Figure 2.

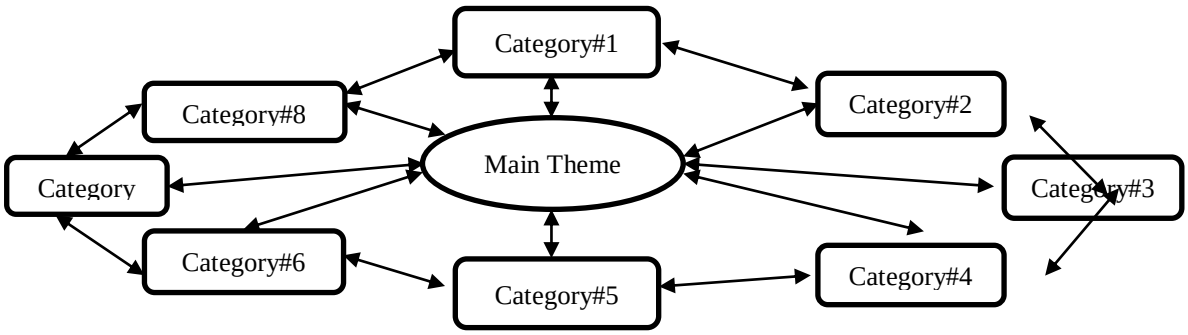


Source: (MacQueen et al., 1998)

Figure 2. Selective Coding

C. Selective Coding

Selective coding is the process of selecting category to find the core or central category (Benaquisto, 2008). Category selection process is done by integrating category found and poured in a network. The story in Figure 4 shows the correlation between the parts of the coding technique. The correlation between techniques in coding can bring up the main theme in a qualitative research.



Source: (MacQueen et al., 1998)

Figure 3. Axial Coding Stage

3. Results and Discussion

3.1. Results

The coding technique stages in this study started from determining the initials participants in the interview. As explained in the previous section, the participants in this study are presented in Table 1. The process of data analysis using coding techniques started with a verbatim

transcription of the interview results. The verbatim transcription process is a transcription based on the interviews obtained without changing the word either partially or completely (Hagens, Dobrow and Chafe, 2009).

Table 1.
Informant Data

Participant	Position	Gender	Education Level
P1	Group Leader	Male	Diploma-3
P2	Group Member	Male	Junior High School
P3	Group Member	Female	Senior High School
P4	Financial Expert	Male	Strata-2

Source: processed data, 2021

Open Coding

The interview data in the study were analyzed using coding techniques. Based on the results found 8 codes from the transcription of verbatim interviews from 4 informants directed to business processes and understanding of financial literacy of the Macan Kumbang Fish Cultivator Group. Condensation was done from 60 codes in the interview transcription and obtained 25 Concepts. The process of compacting 16 codes into 4 Concepts was carried out with the process as presented in table 2.

Table 2.
Open Coding Analysis

Participant	Transcript	Fact	Interpretation	Code	Concept
P1	"Feed the fish and other activities, selling the fish brotherly"	There is no Operating Standard of Cultivation until Sale	no clear working structure	2	Concept#2 Conventional Business Process
P2	"if there is fish harvest just sell it to collector and the collector comes here. "	The sale process is by waiting the buyer	Traditional selling system	1	
P3	"Never selling the product online"	Never use digital marketing process	Traditional selling system	1	
P4	"The interview results show there is no business process with technology-based."	Business process does not rely on technology	Traditional selling system	3	
P1	*"There are inflow and outflow record when buying and selling harvests…but there is no financial report…"*	There is a record of inflow and outflow cash. However, there has not been any financial standard yet.	Only a record of inflow and outflow cash	5	Concept#4 Low Financial Literacy Understanding
P2	*"I just know if there is profit I will share it… there is no record..because I am confuse to read that"*		Low understanding of financial record	4	

P3	"I have recorded inflow and outflow of the money"	There is a record of inflow and outflow cash. However, there has not been any financial standard yet.	Only a record of inflow and outflow cash	5	

Source: processed data, 2021

Based on the results of coding and concepts obtained from open coding, it was found the figures and patterns of constraints that can be further analyzed through the next stage namely axial coding. The patterns obtained are based on the coding process of the transcription the interviews obtained.

Axial Coding

Based on the axial coding analysis, the results are obtained as Table 3. Based on the coding results and the concept obtained from open coding, it is found the figures and patterns of constraints that can be analyzed through the next stage such as axial coding(J Febriantoko et al., 2020). The patterns obtained were based on the coding process of the transcription of the interviews obtained. The analysis in Table 3 shows that in the business process and financial literacy understanding in the Macan Kumbang Fish Cultivator Group that experiences the obstacle.

Table 3.
Axial Coding Analysis

Concept	Sub-category
Concept#1	Sub-category#1 partners have experience in the cultivation process
Concept#2	Sub-category#2 conventional business processes and not rely on technology
Concept#3	Sub-category#3 Human Resources have not been able to prepare financial reports properly
Concept#4	

Source: processed data, 2021

Based on the axial coding analysis, the results are obtained as Table 3. Based on the coding results and the concept obtained from open coding, it is found the figures and patterns of constraints that can be analyzed through the next stage such as axial coding. The patterns obtained were based on the coding process of the transcription of the interviews obtained. The analysis in Table 3 shows the business process and understanding of financial literacy in the Macan Kumbang Fish Cultivator Group, there are obstacles.

Selective Coding

The selective coding analysis in the table above showed that almost process of compiling planning documents and accountability reports was still experiencing the problems. The number of Categories obtained in the selective coding stage was 5 Categories.

Table 4.
Selective Coding Analysis

Sub-category	Category
Sub-category#1	Category#1 Business Process Fish farming experience is a strength, but a process that is not regulated and

Sub-category#2	updated is a weakness in business processes
Sub-category#3	Category#2 Understanding of Financial Literacy Conventional business, not familiar with digital marketing and the obstacle of non-standardized financial management

Source: processed data, 2021

Based on five categories obtained from the results analysis, it was found that as many as 75% of the categories obtained were obstacles in the compilation process. The results of the selective coding analysis can be described as follows: (a) Category #1 Business Process. Analysis in this category is a supporting factor and at the same time an inhibiting factor. Long experience becomes experience in technically related to trial and error that becomes a strength in management. However, the long experience but it is not balanced with the latest methods and technology tgat will be the main cause of business lagging. It can be proven by the absence of the Operating Procedure System used by Macam Kumbang cultivator group. This group of fish cultivator is not familiar with the calculation of the Net Present Value (NPV) as a calculation the rate of return on capital on the initial investment made. (b) Category #2 Understanding Financial Literacy. In the analysis of literacy understanding there are findings of various obstacles. Constraints in process analysis were conventional businesses, not digital marketing and non-standardized financial management. The main focus of activities only refered to the process of cultivating and waiting for buyers. Activities like the constraint for fish cultivator groups may minimize competitiveness. Based on the previous statement, it can be concluded that this process only focuses on the quantity of operational activities. In addition, another cause that becomes an obstacle is the availability of human resources in the fish cultivator group. There are no group members who have the ability to prepare financial reports from operational activities used as a form of accountability to all group members.

3.2 Discussion

Based on data analysis, the main obstacle is the inability Macan Kumbang Fish Cultivator Group. Problems that have been going on for a long time cannot be identified properly by group members because they are used to the current conditions. Another inhibiting factor occured in business processes is the inability to use technology. It is similar to research conducted by (Dewi, 2013) that states the associations between traders can overcome business problems. Furthermore, the characteristics of SME entrepreneurs must be maintained with various trainings that support business operations.

Based on coding technique used to analyze the interview data, the main theme of the problems in business processes and understanding of financial literacy is the inability of human resources owned by the Macam Kumbang fish cultivator group. The lack of Human Resources affects the pattern of marketing and financial management. This condition is almost the same as the research conducted by (Sumule et al., 2020) that states the innovation network in a business in Fisheries SMEs generally must include the expanding customer scalability; stakeholders within SMEs and outside SMEs may share the risk burden of an innovation; and acceleration of the ability to master technology in business operations.

4. Conclusion

Based on results and discussion it can be concluded that : (1) The business processes run by the Macan Kumbang Group is focused on business activities that must be used to perform conventionally, have not changed more advanced technology such as business digitization, digital marketing and preparation of Financial Statements that are not in accordance with applicable Financial Accounting Standards due to the low financial literacy of human resources; (2) The supporting factor for development is the existence of a long business experience to form an existing easy-modify business pattern. Furthermoe, the existing business processes has established their own market share. While the inhibiting factor is the good partners of human resources have a good level of education and a sense of comfort with the existing market share makes them reluctant to add the digital market because they have to learn.

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