Analysis of Abalone Business Development in Maluku through Human Resource Development and Optimization Marketing Strategy

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ABSTRACT--_This research aimed to develop abalone businesses in Maluku through human resource development and opimizing marketing strategies and from business actors. The abalone business development is based on fishbone analysis to find out policies that provide more optimal results to identify optimization both with marketing and human resource development. Meanwhile, the Analysis Hierarchy Process (AHP) was used aiming to get the right strategy for fishermen or collectors/buyers. The study results show that the government has a more important role than other parties._

Keywords_--Business Development, Human Resources Development, Marketing Strategy_

I. INTRODUCTION

Abalone is a fishery product that has high economic value. Abalone availability in Maluku naturally is quite a lot, but in its management, it cannot be done optimally. The limited market/buyer information caused a lack of public knowledge of the economic value of abalone so that people only know that abalone is limited for consumption by them, even though abalone itself can be marketed dry, fresh, or alive. In Maluku, Abalone sales are mostly carried out on a dry form because of the location of the abalone production business that is far from the city center with limited transportation and high costs. Therefore, it becomes the root of the problem of management optimization, which includes distribution, storage, and packaging.

In connection with the above problem, abalone marketing in Maluku requires an understanding of the supply chain, which implies a material flow from the beginning to the consumer as the final customer. According to (Assauri Sofjan, 2014a), the purpose of supply chain management is to build a supply chain that focuses on maximizing value for end customers. Furthermore, (Assauri Sofjan, 2014b) said that the supply chain used by the company has a goal to be able to provide optimal services to end customers.

In addition, it is necessary to optimize human resources, which includes motivation, education, and competencies consisting of knowledge, skills and abilities which are important issues to be optimized. In this case, the level of education for special abalone fishermen in rural areas is mostly only graduated from elementary school. Meanwhile, the problem of motivation is inseparable from the problems of culture, character, and attitudes of abalone fishermen who tend to live relaxed, happy, dissipative, and consumptive nature, which

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eventually becomes characters that are difficult to change, whereas according to (Fisher et al, 1993) the function of human resources must be superior so that they can make an optimal contribution.

The study of abalone cultivation has been carried out in Maluku, which is located in the village of Hulaliu, Haruku sub-district, Central Maluku district. In improving performance, what needs to be done so that output can be achieved is to prioritize productivity and profitability through innovation both management, planning, and the packaging process, as well as cultivation. In addition, an increase in the performance of fishermen themselves can occur if they receive support from the government in empowering the community so that it is expected that by increasing the performance of fishermen, the community's welfare will also increase.

Based on the above background optimization is carried out by formulating strategies for developing abalone businesses. The improvement is done through management/process innovation, cultivation, and packaging by understanding the supply chain that concerns management (market) both catch and storage, as well as motivating the human resources available at the production location through education and competence to improve the performance of local fishermen and entrepreneurs.

II. THEORETICAL FRAMEWORK

1.1. Business Development

(Brown, 1976) defines business development as an institution that produces goods and services needed by the community. If the needs of the community increase, then the business institution will also increase its development to meet those needs while earning profits.

2.2. Human Resource Development

(Rao, 1985), defines Human Resource Development as a process that must continue to be used by organizations to assess the skills, abilities, and knowledge of human resources to enable employees to proactively possess the skills needed to meet current and future job requirements in the organization.

Whereas, (McLagan, P., & Suhadolnik, 1989) defines Human Resource Development as the integration of training and development, career development, organizational development to improve individual, group, and organizational outcomes.

(Swanson, 2001) defines Human Resource Development as the process of developing and/or releasing human expertise through organizational development and personnel training and development for the purpose of improving performance.

(Wang, GG, Werner, JM, Sun, JY, Gilley, A., & Gilley, 2017) defines Human Resource Development as any process or activity that is good initially or in the long term, has the potential to develop knowledge, expertise, productivity, and job satisfaction based on adults, whether for personal or group/team benefit, or for the benefit of an organization, community, nation, or, ultimately, all of humanity.

The main objectives of human resource development are as follows: (Allameh Sayyed M., Naftchali Javad S., Pool Javad K., and Davoodi S. M. R., 2012)

1. Access to organizational skills.

2. Improve quality and efficiency.

3. Promotion in individual growth and development.

4. Integrate people into the business.

(Tomé, 2011) states that Human Resource Development has four elements such as training and development, organizational development, and career development and performance development.

2.3. Marketing Strategy

The concept of marketing strategy according to (Tohir, 2011) is an approach taken to achieve something. The marketing strategy is the result of decision making by company executives, marketing managers, and other decision-makers.

According to (Varadarajan, 2010) Marketing strategy is an integrated pattern of organizational decision making that determines its crucial choices regarding products, markets, marketing activities and marketing resources in the creation, communication and/or delivery of products that offer value to customers in exchange with the organization and thus enable organizations to achieve certain goals.

(Tohir, 2011) states that marketing strategies can also be developed in all functional areas of marketing, namely product, price, place/distribution, and promotion strategy. Each functional level of marketing can have an additional level of marketing strategy decisions where strategy improvement might occur.

2.4. Supply Chain Management

Definition of Supply Chain Management by (Lambert, Douglas M., James R. Stock, 1998) is an alignment of companies that bring products or services to the market.

(David Simchi-Levi, 2002) defines Supply Chain Management as an approach used to achieve efficient integration of suppliers, manufacturers, distributors, retailers, and customers. The same thing was conveyed by (Pires, 2001) which defines Supply Chain Management as a network of suppliers, manufactures, assembly, distribution, and logistical facilities that shape the purchasing function of materials, the transformation of materials into semi-finished and finished products, and the distribution process of these products to consumers.

(Mentzer, DeWitt, Keebler, Min, Nix, Smith, 2001) defines Supply Chain Management as a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flow of products, services, finance, and/or information from source to customer.

(Yang, Ching-Chow, 2006) defines Supply Chain Management as a holistic and strategic approach in terms of demand, operations, purchasing, and logistics process management.

(Ravetti, 2018) defines Supply Chain Management as a series of organizations, activities, people, resources, and products that interact to provide services or goods to customers, starting from the raw material stage for end-users and relevant when the logistics process is reversed.

2.5. Analytic Hierarchy Process

(Dweiri, F. & Al-Oqla, 2006) states that the Analytic Hierarchy Process (AHP) is a multi-criteria decision-making tool that combines the behavior of decision-makers in the decision model.

(Subramanian, N. & Ramanathan, 2012) defines the Analytic Hierarchy Process (AHP) as one of the most common multi-criteria decision methods used in decision making.

(Yavuz, 2015) defines Analytic Hierarchy Process (AHP) as a multi-criteria decision method (MCDA) tool that has been proven to simplify complex decision analysis because it allows the quantification of subjective criteria to be synthesized together with qualitative criteria in a simple, powerful and structured way.

III. RESEARCH METHODOLOGY

2.6. Object of research

This research was conducted in Maluku, especially in Central Maluku, Southeast Maluku, West Southeast Maluku, and Aru Islands districts.

2.7. Type of Data

The data needed to be was primary data. Primary data were obtained through direct observation and interviews in four (4) districts that were considered to have a sufficiently large supply and currently there are fishermen who manage them as in a dry form, as well as having a market or buyer in the area.

2.8. Samples and Sampling Techniques

Sampling is defined as an action, process, or technique for selecting samples (Moser, C., & Kalton, 2001). In other words, a sample is a group or subset of the population, especially in research, sampling is called the selection of elements or elements of the population (individual participants, or objects) that represent the entire population. Sampling allows researchers to gather smaller amounts of data that represent the entire population.

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According to (Cooper, D., & Schindler, 2006), there are many reasons for researchers to conduct the sampling process in their population. There are several main reasons namely minimizing research costs, getting greater data collection speeds, and getting greater accuracy of results, in conclusion; availability of population elements from a practical point of view. In line, (Saunders, M., Lewis, P., & Thornhill, 2012) state that this process provides more time to collect data, get more detailed data by high-quality staff and devotes more time and effort to collect data from more difficult situations.

The sampling method was carried out in this study using a purposive sampling method. (W. Lawrence Neuman, 2014) states that purposive sampling is a nonrandom sample in which researchers use various methods to find all possible cases from populations that are very specific and difficult to reach.

Analysis is based on supply chain analysis, which includes management, storage, and human resources regarding motivation, education, and competence of fishermen at this time.

2.9. Data Analysis Method

Analytic Hierarchy Process (AHP) is used to formulate business strategies made for decision making, namely by the government (the Maritime Service), local entrepreneurs, academics, and extension agents. The model (AHP) used was as follows:

$$GM = \sqrt[2]{(X_1)(X_2)\ldots\ldots(X_n)}$$

Where:

GM = Geometric Mean

X1 = 1st Expert

X2 = 2nd Expert

Criteria/ alternative	1	2	3	N
1	1	GM_{12}	GM_{13}	GM_{1n}
2	GM_{21}	1	GM_{23}	GM_{2n}
3	GM_{31}	GM_{32}	1	GM_{3n}
N	GM_{n1}	GM_{n2}	GM_{n3}	1

Matrix Order	1	2	3	4	5	6	7	8	9	10
RI	0,00	0,00	0,58	0,90	1,12	1,24	1,32	1,41	1,45	1,49

$$CI = \frac{\lambda\,maximum + n}{n - 1}$$

Criteria/ alternative	1	2	3	N	Eigen Main Factor
1	$1/GM_{11\text{-}n1}$	$GM_{12}/GM_{12\text{-}n2}$	$GM_{13}/GM_{13\text{-}n3}$	$GM_{1n}/GM_{13\text{ -}n3}$	Average row1/4 ($\dot{X}1$)
2	$GM_{21}/GM_{11\text{-}n1}$	$1/GM_{12\text{-}n2}$	$GM_{23}/GM_{13\text{-}n3}$	$GM_{2n}/GM_{13\text{ -}n3}$	Average row2/4 ($\dot{X}2$)
3	$GM_{31}/GM_{11\text{-}n1}$	$GM_{32}/GM_{12\text{-}n2}$	$1/GM_{13\text{-}n3}$	$GM_{3n}/GM_{13\text{ -}n3}$	Average row2/4 ($\dot{X}3$)
N	$GM_{n1}/GM_{11\text{-}n1}$	$GM_{n2}/GM_{12\text{-}n2}$	$GM_{n3}/GM_{13\text{-}n3}$	$1/GM_{13\text{ -}n3}$	Average rowN/4 ($\dot{X}N$)

$$\lambda\,maximum = (\textstyle\sum GM_{11-n1} \times \bar{X}1) + \ldots.+ (\sum GM_{1n-ni} \times \bar{X}n)$$

$$CR = \frac{CI}{RI}$$

Meanwhile, to increasing abalone business development through human resource development and optimization marketing strategy, it was identified through the elements that can be seen in the diagram as follows:
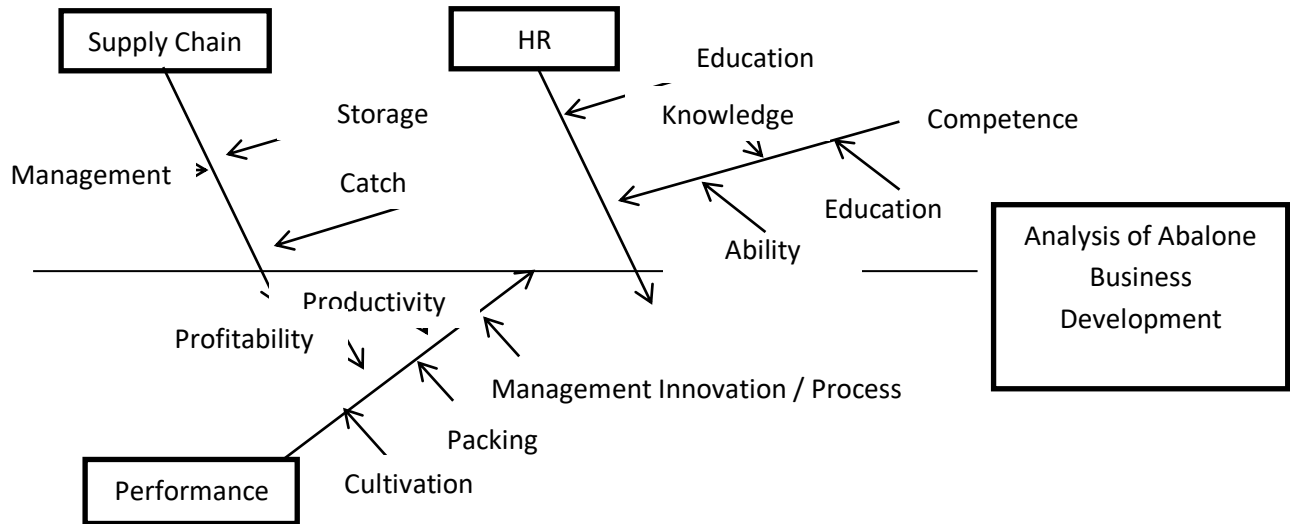
IV.   RESEARCH RESULTS AND DISCUSSION

4.1. Research Result

Supply Chain Distribution Structure

Strategies that can be used for both dry and live abalone marketing can use the flow of the abalone marketing channel in the supply chain model in Figure 1 which is divided into 2 (two) channels, as follows:

1. Track Structure 1

Fisherman ⟶ Local entrepreneurs/collector

Fishermen sell their catch to local entrepreneurs as collectors in the area.

2. Track Structure 2

Fisherman ⟶ Local entrepreneurs/collector ⟶ Supplier, wholesaler, exporter company ⟶ Industry, culinary business, modern markets, foreign markets.

Fishermen sell catches both dry, fresh and wet to local entrepreneurs/collectors, then local entrepreneurs/collectors sell through suppliers, wholesalers, and exporters as intermediaries to be marketed to industries, culinary businesses, modern markets, and foreign markets.

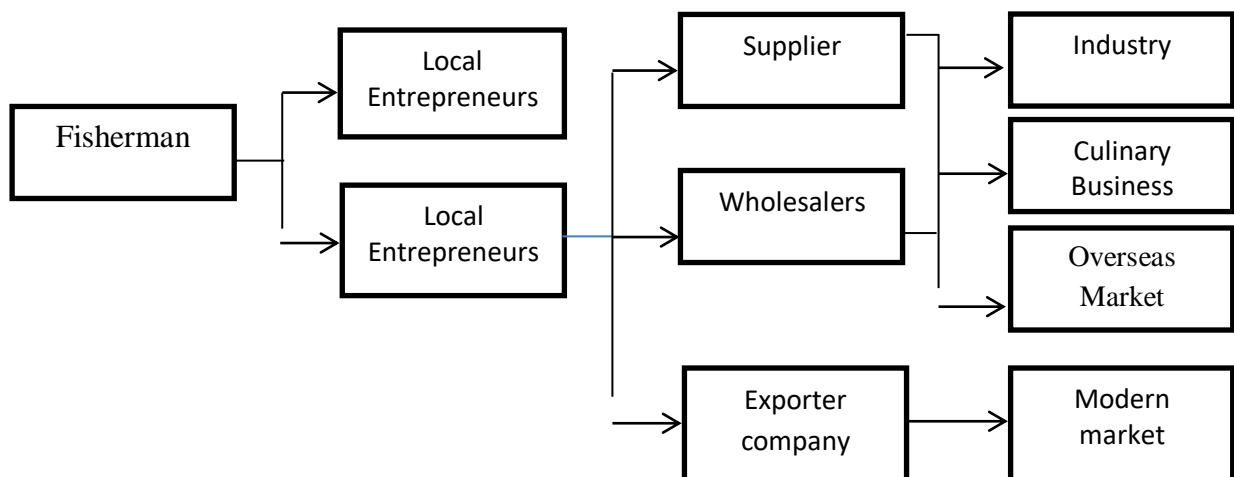The path structure above can be seen in Figure 1 below.

Figure 1: Abalone Marketing Distribution Model in Maluku

Identification of Abalone Business Development and Optimization

Increasing abalone business development through human resource development and optimization marketing strategy in decision-making are through fishbone diagrams and AHP. The government/ related agencies, local entrepreneurs, academics, and extension agents are the parties who have a big role in improving the performance of fishermen.

In determining the right strategy, it is better to consider aspects of the supply chain regarding market management, storage, and packaging. Furthermore, in terms of human aspects, it is concerned about the motivation, education, and competence of abalone fishermen, such as knowledge, skills, and abilities. Meanwhile, regarding the performance that increases people's income, it is seen in productivity, profitability, management/process innovation, packaging, and cultivation.

AHP as a decision-making process is very effective and appropriate for use in abalone business. By using AHP, a hierarchical structure is composed :

Purpose : Increasing abalone business development through human resource development and optimization marketing strategy

Phase 1: Consists of those who play a role that is the government / related agencies, local entrepreneurs, academics, and extension agents.

Phase 2: Concerning the fishbone diagram, namely supply chain, HR, and performance.

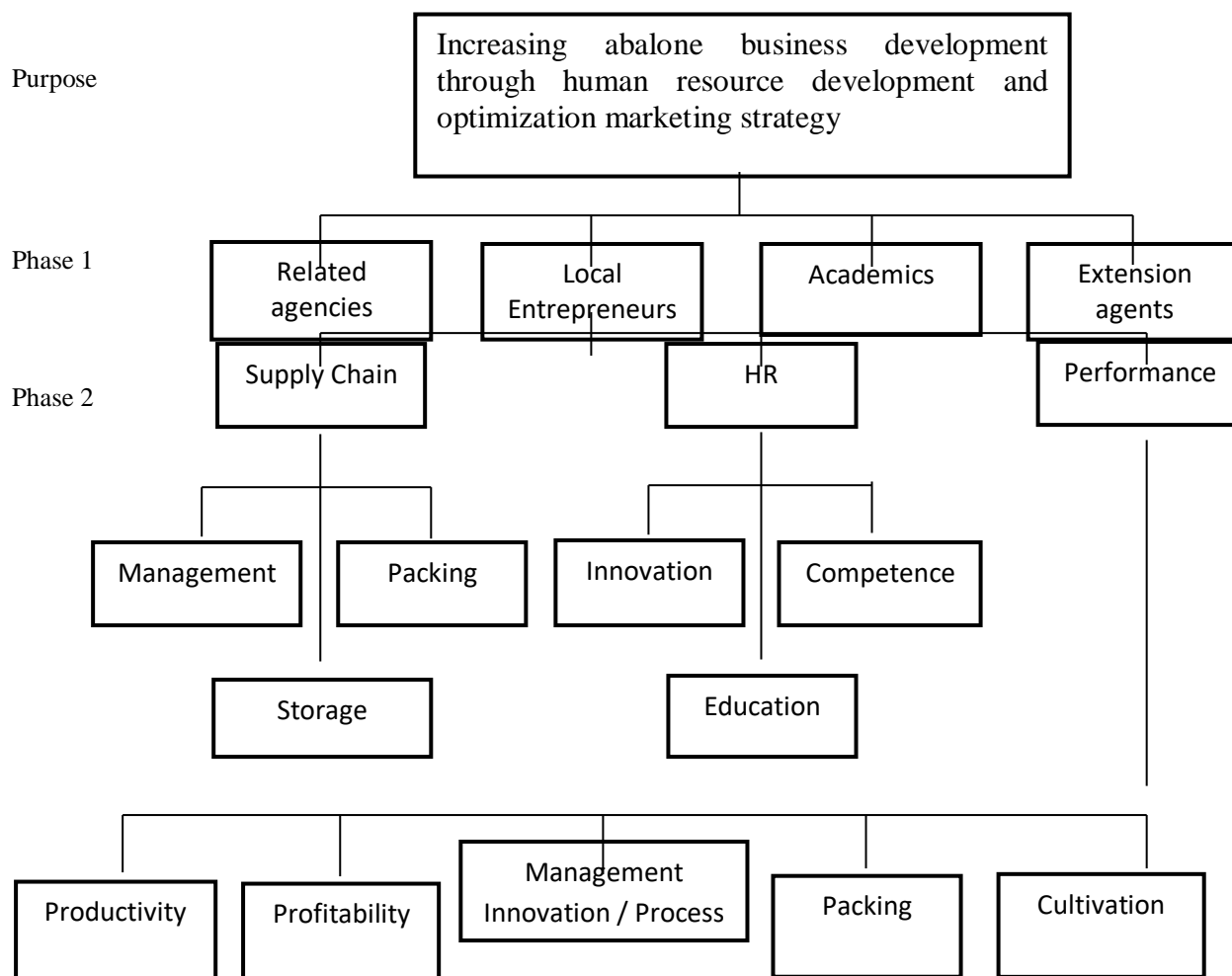The hierarchical structure consisting of objectives, phase 1 and phase 2 is fully described as follows:

Figure 2: Hierarchical Structure

Furthermore, based on the above hierarchical structure, a matrix is formed for the two phases. In phase 1, which concerns the parties involved in the abalone business then forms the following matrix:

Phase Matrix 1

	Related agencies	Local Entrepreneurs	Academics	Extension agents
Related agencies	1/1	½	3/1	4/1
Local Entrepreneurs	2/1	1	1/3	3/1
Academics	1/3	3/1	1	2/3
Extension agents	¼	1/3	3/2	1

The above matrix is then converted to a decimal value as follows:

	Related agencies	Local Entrepreneurs	Academics	Extension agents
Related agencies	1	0,5	3	4
Local	2	1	0,33	3

Entrepreneurs				
Academics	0,33	3	1	0,67
Extension agents	0,25	0,33	1,5	1

Matrix Interaction 1

Matrix interactions are used to determine the weight of phase 1 values through matrix column multiplication and matrix rows.

$$
\begin{bmatrix}
1 & 0.5 & 3 & 4 \\
2 & 1 & 0.33 & 3 \\
0.33 & 3 & 1 & 0.67 \\
0.25 & 3 & 1.5 & 1
\end{bmatrix}
\times
\begin{bmatrix}
1 & 0.5 & 3 & 4 \\
2 & 1 & 0.33 & 3 \\
0.33 & 3 & 1 & 0.67 \\
0.25 & 3 & 1.5 & 1
\end{bmatrix}
=
\begin{bmatrix}
3.99 \\
4.86 \\
6.83 \\
7
\end{bmatrix}
$$

$$
\begin{bmatrix}
+22 & +12.7 & +11.51 \\
+11.99 & +11.6 & +11.16 \\
+8.18 & +3.99 & +11.16 \\
+10.03 & +4.74 & +12.05
\end{bmatrix}
=
\begin{matrix}
49.67 & 0.32 \\
39.17 & 0.25 \\
30.65 & 0.21 \\
34.37 & 0.22 \\
\hline
153.85 & 1
\end{matrix}
$$

Based on the interaction of the hierarchical matrix above, it shows that the related department is a very important and more important party than the others, followed by the role of local entrepreneurs by 25%, extension staff by 22%, and academics by 21%.

Phase 2 Matrix Interaction

This matrix interaction is used to determine the weight of each factor in the same way used in phase 1 above, i.e.

	Supply Chain	HR	Performance
Supply Chain	1	½	3
HR	2/1	1	½
Performance	1/3	3	1

To simplify the matrix value, it is replaced with decimal, as follows:

	Supply Chain	HR	Performance
Supply Chain	1	0,5	3
HR	2	1	0,5
Performance	0,33	3	1

Then the interaction of phase 2 matrix is explained through the multiplication of matrix columns and row rows, as follows:

$$
\begin{bmatrix} 1 & 0.5 & 3 \\ 2 & 1 & 0.5 \\ 0.33 & 3 & 1 \end{bmatrix} \times \begin{bmatrix} 1 & 0.5 & 3 \\ 2 & 1 & 0.5 \\ 0.33 & 3 & 1 \end{bmatrix} = \begin{bmatrix} 2.99 & +2.99 & +2.99 \\ 4.50 & +2.665 & +4.65 \\ 4.83 & +3.49 & +4.158 \end{bmatrix} = \begin{matrix} 8.97 \\ 11.82 \\ \underline{12.478} \\ 33.268 \end{matrix}
$$

Supply Chain   = 0.27
HR   = 0.36
Performance   = 0.37

V. DISCUSSION

Abalone business development in Maluku has a complexity of problems, namely the high production and marketing costs, which result in a decrease in productivity and profitability, transportation infrastructure and goods transportation (expedition), and capital so that the participation of the government through related agencies, local entrepreneurs, extension agents, and academics, i.e.:

1. The government has the role of forming and sustainably assisting community business groups until the group is independent. In addition to providing counseling and socialization about the catch of abalone, and abalone cultivation activities to supply supplies continuously. The government through related institutions develops abalone hatchery businesses to be distributed to the community for the sake of business continuity. The government through related institutions needs to help abalone fishermen and local entrepreneurs in the area with related parties, financial institutions (Banking), expeditions, quarantine, and so on.

2. Local entrepreneurs are the most competent parties in the sale and purchase of abalone, so that market, price and quality information is needed to increase their motivation and productivity.

3. Academics and extension agents, either independently or in groups facilitated by the government, play a role in strengthening human resources and developing business related to competencies. To improve productivity and profitability regarding their performance, the government through relevant agencies, local entrepreneurs, extension agents, and academics have the role of innovating, cultivating, packing systems, as well as managerial supply chains.

VI. CONCLUSION

Community income will increase if productivity and profitability can be increased by the government. Local entrepreneurs must be able to innovate, cultivate, package systems, and supply chain managerial. Abalone

fishermen in rural areas that produce dried abalone should make optimal sales through local entrepreneurs because of the limited transportation with high costs. As for fresh or live abalone, there is no demand or realization yet.

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