

# The Strategy of Increased Competitiveness and Development Potential in the Region for the Well Being of Community: An Empirical of Oyster Mushroom Industry in Karanganyar, Central Java, Indonesia



Dora Kusumastuti, Dewi Saptantinah PA, Merkuria Karyantina

**Abstract:** Based on the potential of region in Indonesia, each region has a potential flagship industries. Oyster mushroom as one of them of potential in Karanganyar. There is potential that could be developed into an industry so that it is able to improve the welfare of society. In an effort to become Oyster Mushrooms cultivation industry flagship Karanganyar required factor conditions, demand conditions, related and supporting industries, and firm strategy, structure and rivalry so that the oyster mushroom industry be the industry is able to compete. This research is a case study of cultivation of mushrooms, which are descriptive. The object of this research is on the oyster mushroom cultivation in the village of Ngijo, Karanganyar Regency as well as the development of innovative product petrol. The reason for this is because object uses this business originated from trying later evolved and been running 3 (three) years but wanted to create a product variant, so that businessmen need to consider the feasibility of its business worth developed or not. Based on the analysis of the industrial development efforts of oyster mushroom oyster mushroom chips into products quite feasible and innovative as well as provide significant advantages.

**Practical Implications:** Product innovation to make oyster mushrooms that are expected to be received by consumers is the addition of cassava flour white (20%) as to the characteristics of coatings, moisture (1.625%), grey levels (1.622%), levels of protein (16,598%), fat (5,172%), and a score sensory analysis (1,87), yellowish color (3,07 fungi), crisp (4,13) and enjoyment the whole 3,80 (like). The research strategy is the done to increase competitiveness and in the development of potential for peoples welfare (study oyster mushroom industry, Karanganyar, Central Java, Indonesia), as applied research and was conducted in object was first.

**Keywords:** oyster mushrooms, chips business feasibility, innovative.

## I. INTRODUCTION

Oyster mushroom (*Pleurotus ostreatus*) is a fungus which has the consumption of high business value, the beneficial compounds and wide usage. Oyster mushrooms have a commercial value and cultivation of mushrooms has emerged as an independent company land-based agro. Mushrooms are more and more utilised as food products essential to their important role in the control of health, nutrition, and human disease. Several species of fungi are very important because important as a remedy; For example, active against hypercholesterolemia conditions, cancer and imunomodulasi are also shown by fungi. Mushrooms contain antioxidants due to compounds such as ergothioneine (Tolera and Abera, 2017). Processing of agricultural commodities in particular oyster mushroom into one of the alternatives to anticipate the results of production that cannot be marketed because of low quality. A processing technology used is simple and can be applied with respect to farmers' production center of mushrooms. Processing of commodities into a wide variety of products makes the power save longer and broader marketing outreach. Application of technology of processing carried out with the right expected farmers can adopt these technologies so obtained products (Widowati et al, 2015). Small and medium industries like industry oyster mushroom is one of a shield on the crisis to absorb workers in non-formal and create prosperity community. An industry that constitute a whole the form of economic activities which process raw materials source resources industry so as to produce merchandise that has added value or benefit higher. including services industry. In effort to create the vision, construction of industrial central java and missions as the industry: increasing the role of central java economic drive as the pillars; strengthen and structure central java on industry; establishing and developing industry resources; ensure certainty try as well as competition. One of goals to achieve is the strengthening of structure of an industry with the growing industry upstream and industry between based natural resources with an increasing innovation and technology mastery; as well as improving the absorption of workers who are competent in the industrial sector.

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\* Correspondence Author

**Dora Kusumastuti\***, Faculty of Law, Slamet Riyadi University of Surakarta, Central Java, Indonesia, E-mail: dora.kusumastuti@yahoo.co.id

**Dewi Saptantinah PA**, Faculty of Economic, Slamet Riyadi University, Surakarta, Central Java, Indonesia

**Merkuria Karyantina**, Faculty of Food Technology and Industry, Slamet Riyadi University, Surakarta, Central Java, Indonesia.

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Industry and cultivating mushrooms this is very applicable in Indonesia, no exception also in Karanganyar Regency of Central Java Province, with an excellent location suitable for agriculture because of its place in a mountainous area so there are still plenty of land area very suitable for the cultivation of mushrooms.

The potential of the oyster mushrooms in Karanganyar Regency are still cultivated and selling so that this potential requires the development potential of the industry there has been a change from agriculture into an assortment of Oyster Mushrooms cultivated Oyster mushrooms.

In an effort to develop the cultivation of mushroom it is necessary to use the theory of competitive advantage, namely the ability because of the characteristics or resources to have higher performance than other companies in the same industry or market in order to able to produce more goods and services with cheaper cost than other countries.

In realizing competitive advantage, as businessmen need to make proper planning to develop such efforts need to be made, so that a proper feasibility study so that the business does not incur losses in the future (Kusumastuti and Sutoyo, 2019; Choerudin, 2016). The feasibility study can be reviewed from several aspects, including the financial aspects, profitable or not in terms of business development were developed as well as of non financial aspects, namely in terms of refined taste of the make, and if sold in the market to consider legal aspects pertaining to licensing and so forth. The purpose of this research is the development of industry, oyster mushroom and the study, business to have a competitive advantage.

## II. METHOD

### 2.1 Scope of Research

This research is a case study of the cultivation of mushrooms, which are descriptive. The object of this research is on the oyster mushroom cultivation in the village of Ngijo, Karanganyar Regency as well as the development of innovative product petrol. The reason for this is because object uses this business originated from trying later evolved and been running 3 (three) years but wanted to create a product variant, so that businessmen need to consider the feasibility of its business worth developed or not.

### 2.2 Type of Data

Types of data is a qualitative description of the mushroom cultivation by interviews and observation, orientation superior products innovation studies have done to do the processed products oyster mushroom, that is making chips with variations a kind of flour oyster mushroom coating (flour yellow squash, flour fermented cassava yellow and white flour fermented cassava as well as composition flour) coating to wheat flour.

### 2.3 Data Analysis Method

#### 2.3.1 Product development aspect of oyster mushroom chips Innovation

Research done in the laboratory scale, to determine the feasibility of the product. The research results will be tested chemically (moisture content, fat content, protein) and knowledge, so that it can be known to the appropriate chips product formulation with the panelists (testing knowledge) and chemistry (applicable standards). Variations of the treatment is a factor 1: types of coating flour substitutions (flour pumpkin, cassava flour, cassava starch white and

yellow) and factor 2: composition of the type of flour wheat flour (20%, 30% and 40%).

#### 2.3.2 Financial aspects

Among other steps have data company financial reports, when the owners of not preparing financial reports and helped into simple preparing financial reports, financial reports and analyzes the ratio analysis firm by means of liquidity, leverage its profitability .

## III. RESULT AND DISCUSSION

### 3.1 Mushroom cultivation feasibility of various aspects of supporting

Business nurseries and oyster mushroom already developed ear long enough, starting from the family business and developing hereditary quite rapidly. The development of the cultivation of mushroom then owner have a desire to expand his business by processing the fungus becomes fungi and make as a first step, the need for projection into the future development of manufacture of yeast to make.

#### 3.2 Financial aspects with endeavour results analysis

Results of the interview with business owner then can be made of the financial statements in the form of a balance sheet and income statement, as the initial consideration to develop his business. Income statement and balance sheet shows that the benefits significant and deserves to be developed, from the income statement which has been successfully compiled it can be shown that this mushroom cultivation venture generates profits which can be said to be quite great, because profits earned almost 50%. Thus this effort can be maintained its operational activities.

From a position, views and financial home business industry is quite strong because the capital to keep the business derived from their own capital, seen finally shows a figure, 0 debt and the owner of a debt to is not rely on business. After knowing the financial position and the profit gained by the company then need further analysis using financial ratios. The ratio is the ratio of profitability needs to be used, in this case is Return On Asstes (ROA). This ratio is used to analyze the maximum of how assets owned by the company can be used to generate profit. Seen from this is  $ROA = 0,052$  is indicated that profit produced was very small than assets by the company, thus the company still need to optimize sales activities so that it can produce the most out of assets.

#### 3.3 Feasibility Analysis

Efforts with the projection of the profit and loss statement broken Oyster Mushrooms and compiled financial statements and analysed, the results are used to analysis the feasibility of business activities that will be developed, i.e. make make Oyster mushrooms. From the data obtained for the total production cost was IDR. 100,000.00 and the income statements for the gross profit was IDR. 3,750,000.00 with a net profit of IDR. 2,050,000.00.

#### 3.4 Financial Ratio

Analysis is used to analyze the worth or not such business is run, there are several stages in analyzing the feasibility of the venture with the assumption of production 5 kg: R/C ratio (Cost Revenue Ratio) this ratio calculates the total income with a total cost:

R/C ratio = total income Total cost Criteria whether or not viable as follows: 1, = 1 BEP, & 1 is not feasible.

From the results of the calculation of R/C ratio is obtained a value of 1, so the effort when run assuming the sale of 5 kg per day then venture no profit and no loss.

**3.5 The B/C Ratio**

This is the ratio of benefit and cost, i.e. the comparison of benefits and costs, in this case the cost of the production: the B/C ratio = production Cost advantage Message, the calculation result = 2,050,000 = 0.14 (0.14) 15 million thus the effort deserves to run, though not yet a maximum result. ROI Return on Investment (ROI), indicate the level of expected returns from investment made: ROI = profit = Total cost = 12.28 2,050,000 16.7 million thereby the level of profits from investments are excluded, in this case his investment is production costs, that is costs which are used to make it. The profit level still needs to be improved, because of assumptions made this projection sales in minimal, so in fact the sale can still be maximized again. With increasing its marketing activities.

**3.6 Feasibility analysis of effort based on aspects of the legality**

Aspect of legality in an effort is absolutely necessary to enhance the security and safety as well as convenience also both from businessmen, labor as well as consumers. The aspect of legality alone completely ignored by personal of

effort that many businessmen who generally do not have normative terms as a legal company. With the existence of a policy based on the legislation of the Republic of Indonesia number 3 Year 1982 regarding the Mandatory list of companies (WDP) every company that exists in Indonesia are required to register his company to government agencies, in this case through the Registration Office Companies that are in Regency/City and the entire Office Department/Agency duties and the Tribe of her responsibilities in the field of trade or Officials in charge and responsible for the implementation of the Integrated Service of one door in area.

**3.7 Aspects business feasibility of the aspect of "citarasa"**

Aspects business development oyster mushroom is processing oyster mushroom being flaky oyster mushroom, as value he added products, done substitution flour upholstery a fungus with flour sweet. Variation the treatment is factors 1: type substitution flour upholstery ( flour yellow squash, flour fermented cassava white and flour fermented cassava yellow and a factor of 2: composition a kind of flour to wheat flour (20%, 30% and 40%).Parameter research is the water level (method of termogravimetri) , the ashes (method of termogravimetri), the fat (method of soxhlet and levels of a protein, method of lowry folin).Sensory analysis covering color, fungi, crispy and preferences a whole.

**Table 01. Result of Analysis Pumpkin, Cassava, Cassava White Yellow Source: Primary Data, 2019**

Type	Substitution (%)	Analysis of Chemist						Analysis of sensory									
		Water (%)		Ash (%)		Protein (%)		Colesterol (%)		Colour		Taste		Crispy		Like	
Pumpkin	20	2,530	bcd	3,242	e	15,979	ab	4,520	a	4,67	de	2,47	a	4,00	a	2,27	a
	30	2,864	de	2,803	d	18,145	b	4,356	a	4,00	de	2,87	a	4,07	a	2,73	ab
	40	3,266	e	3,281	e	17,371	ab	5,159	a	4,87	e	2,40	a	3,87	a	1,80	a
Cassava	20	1,625	a	1,622	a	16,598	ab	5,172	a	1,87	a	3,07	a	4,13	a	3,80	c
	30	2,089	abc	1,97	b	15,155	ab	5,132	a	2,60	ab	2,93	a	3,73	a	3,47	bc
	40	2,586	cde	2,795	d	14,537	ab	4,642	a	2,67	abc	3,27	a	3,80	a	3,60	c
Cassava White Yellow	20	1,822	abc	2,689	d	13,196	a	5,333	a	3,67	bcd	2,60	a	3,73	a	3,40	bc
	30	2,813	de	2,293	c	13,454	a	4,922	a	3,80	cde	2,80	a	3,87	a	3,47	bc
	40	2,739	cde	1,851	ab	16,289	ab	4,652	a	4,13	de	2,80	a	3,67	a	2,80	abc

The results of the analysis shows the water level chips more coating substitution flour, chips increase, the water level markedly dissimilar treatment and between the types and amount of substitution flour. This increase because flour having enough coating the water level to donate the water level chips. Around the water level chips 1,625-3,266% and still meet the requirements the water level chips quality the 3% maximum. The results of the analysis of grey levels show that levels of ash almost all treatments (1,622-3,281%) still meet the quality standard levels of ash chips, namely a maximum of 3%, as well as showing the real difference between the treatments. The higher the levels of ash in the flour substitution is likely to increase, caused due to minerals from flour, accounted for the high levels of ash.

The results of the analysis, levels of a protein shows that levels of a protein have not fulfilled standard maximum chips (20%), and it ranged 13,454-18,145%, this was caused due to differences in the use of coatings and the raw material used have not fulfilled the protein chips. The results of the analysis fat levels, show that the level of fat in chips is still high (4,356-5,333%) than standar of set maximum quality (1%) shows that real funds between different treatment. High

levels, goring after oil and fried, chips not centrifuge to reduce fat levels. The results of the analysis of knowledge according to the panelists pointed out that color chips tend to be young, chocolate chips tend to be crisp on all treat, still scented chips/slightly Oyster Mushrooms and panelists liked the chips will mushroom. Based on analysis of the chemical and sensory, the panel the chips like a fungus with the addition of flour fermented cassava white (20%) as a coating than other treatment. The characteristics on chips most favorite still meet the panel the standards set by national standardization board namely the moisture content of (1,625%) , levels of ash (1,622%) , levels of a protein (16,598%), levels of fat (5,172%), and score sensory analysis color 1,87 (yellowish), 3,07 (tasteless of fungi), crispy 4,13 and preferences whole 3,80 (like).

**3.8 The concept of Industrial development of Oyster Mushrooms To Have a competitive advantage**

As a follow-up to improve the potential of the oyster mushroom processing industry using Theory Porter Diamond Model (DM) to enhance the potential of an industry that consists of four determinants National Competitive Advantage (NCAS).

fat



Four attributes are: factor conditions, demand conditions, related and supporting industries, and firm strategy, structure and rivalry. Those factors spelled out as follows:

**Factor in input condition** used as a factor of production, as labor, natural resources, capital and infrastructure. On condition of factor conditions in the field of labor at the moment labor still limited both in quality and quantity. An effort to overcome this problem then required training to labor to power to alter the raw material of a mushroom into a material so or half so in form of processed. oyster mushrooms

**Factors of natural resources**, in its entirety on sentra pembudidayaan Oyster Mushrooms are very supportive, so that it is able to create jobs.

**With the capital** got is one of factor in support of terrorist acts in determining the success of the business. The capital needed to oyster mushroom cultivation relative a little, in however the percentage of develop into based the food industry pursuit of oyster mushroom at the provincial level requires the government would also revise massive capital. The capital needed and among the companies were to processed genetically engineering, provide for in the form of of the packaging in order, as well as marketing. In the field of fuel price hike worried investors capital as well industry was invented small medium enterprises in the midst of adversity the construction because it involves of a shortage of capital and the difficulties in accessing capital from providers of services of good as well as financial that banks faced problems with as well as financial institutions.

**Infrastructure of facilities and infrastructure**, infrastructure can be helped when small and medium industries malakukan mandatory company registration in accordance with applicable regulations.

**Demand conditions**, refers to the availability of a ready domestic market plays became an important element in generating competitiveness. Currently the market for processed products Oyster Mushrooms are still a consumer's Idol is dry food in packaging. Will be processed but still sold products without packaging, so there is no brand image in the form of trademarks that are equipped with PIRT or permission of industry.

Industry small medium enterprises in an effort to increase the competitiveness of the market need are present in processed the varying, and supported by promotive quantities in having a trade, permission industry and other document that is explained excellence consumer products to draw (Choerudin, 2014).

**Related and Supporting Industries**, referring to the availability and the presence of a series of strong linkages between industry and supporting companies, relationships and support this positive nature leads to penngkatan the competitiveness of company. On this factor requires the support of industry supporters, namely the availability of raw materials, which is quite possible. However, the factors supporting the form of materials to cultivate Oyster mushrooms in the form of flour, oil, flavorings, plastic packaging, and this requires the availability of a continuous nature.

**The Firm strategy, Structure and Rivalry**, refers to strategies and structures that exist at most companies and the intensity of competition in the particular industry. Factor in strategy may consist of at least two aspects: the capital market and individual career choices. Domestic capital markets to affect corporate strategy, whilst individuals often

make career decisions based on opportunity and prestige. A State will have on the competitiveness of an industry where key personnel used to be considered.

The last factor is the choice of strategy for the chosen by the perpetrator of the attempt to increase the competitiveness of products. Such efforts can be done by implementing the standardization of production processes and standarisasi products. To standardize the process requires a process in accordance with health and hygiene standards, whereas the standardization of products in the form of licensing of health services will be processed food.

#### IV. CONCLUSSION

The industry development effort of oyster mushrooms into products chips of oyster mushrooms worthy enough, innovative and provide a significant advantage. Product innovations of chips of oyster mushrooms are expected to be accepted by consumers is the addition of flour white yams (20%) as a coating, with characteristic of the water levels (1,625%), levels of ash (1,622%), levels of protein (16,598%), fat content (5,172%), and a score sensory analysis (1,87%), yellowish of color (3,07) tasteless fungi, crisp (4,13) and enjoyment the whole 3,80 (like).

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## AUTHORS PROFILE



**Dr. Dora Kusumastuti, SH, MH.**, was born in Sukoharjo, 21 May 1980. She obtained a Law Degree (SH), Master of Law (MH) and completed the Law Doctoral Program (Dr.) at Sebelas Maret University Surakarta, Central Java, Indonesia. The author actively writes in national and international journals and the latest publication in the PJMS journal with the title "Management of Small and Medium Scale Industries in Indonesia in

Dealing with Global Challenges: PLS-SEM Approach". The author is active in research activities both funded by the Ministry of Research and Higher Education, funded by the domestic government, NGOs and internal universities of UNISRI Central Java. The author is also active in membership as a lecturer in anti-corruption education activists in the Central Java region.

**Dewi Saptantinah PA., SE., MM.**, has a Bachelor of Economics (SE) and Master of Management (MM). The author as a lecturer in the Faculty of Economics at the University of Slamet Riyadi, Surakarta. The author actively conducts research and publications in the field of business management.

**Merkuria Karyantina, SP., MP.** Born in Klaten, October 7, 1975. In 1999 completed his undergraduate study in the Department of Agriculture Social Economics UNS (SP) and in 2004 completed his master's degree in the Department of Food Science and Technology (MP), Faculty of Agricultural Technology UGM. Since 2005, she has been active as a teaching staff in the Faculty of Food Technology and Industry, Slamet Riyadi University, Surakarta. The fields of study that were deepened were Agriculture Product Processing, Food Microbiology, Food Preservation and Food Safety Sanitation. Scientific publications include Kombucha Rosela Potential as a Probiotic agent, Application of *Pediococcus* sp (*Pediococcus halophilus* and *Pediococcus acidilactici*) on Lactic Acid Bacteria of Fermented fish with NaCl Variation, Activity of Proteolytic Bacteria of Manyung Species of Fish (*Arius thalassinus*), Characteristic of Salted Catfish (*Pangasius yopphthalmus*) with Salt Concentration Variations and Time of Fermentation, Characteristics of Fruit Leather with variations in the ratio of red dragon fruit (*Hylocereus polyrhizus*) - Papaya (*Carica papaya*) and Drying Temperature and others. The field of community service is actively providing information to the public about food processing.