Local Economic Innovation: 
Lesson from Rotan Ketak Industry in Central Lombok Regency, Indonesia 

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Abstract:

The Rotan Ketak (local rattan) industry is an industry born as handicraft industry with strong local cultural capital. The strengths of this industrial value are; the involvement of women in the production process, environmentally friendly (zero waste), has a value-added network of raw materials, has a high local value from the design aspect, and has a strong network of markets both at domestic and abroad. This study uses a descriptive explanatory method by applying several approaches namely; canvas model business, industrial process analysis, and content analysis. Some important findings of this study describe the ability of the local industry to provide specific added value. Rotan Ketak Industry innovation system can be a source of local economic competitive advantage in facing the global market. The strong value proposition of the product could compete with another product. The industry is also capable to expose some strength of the human side that cannot be completely replaced by the function of sophisticated technology because it combines local values, humanity, art, and local economy. The capacity of this industry to build partnerships between artisans with the local trading system is also a major finding. In the medium-long term, this industry has a potential contribution to achieving local sustainable economic growth.

Keywords: community, local industry, the local economy, local innovation

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1. Introduction

Community plays an important role in shaping local innovation because the community's living system gives birth to a lot of local knowledge including livelihood systems. This innovation was born from a local culture adapted to market demand. A community that grows with a strong local culture will be followed by the development of small and medium business groups that have distinctive characteristics, attached to the atmosphere and local values. The position of the local economy is increasingly important because the push for globalization creates products that are produced by prioritizing machines with large quantities while the local economy relies on humans as the core of innovation. Schumpeter (1994) in Pansera & Richard (2016) have stated that machines are indeed capable of developing competitive technological innovation but are accompanied by the destruction of creativity. For this reason, creativity in the form of tangible and intangible local cultural capital must be positioned as the development of productive values that support competitiveness through the alignment of value and behavior constructions (Sebayang, Roel Rotten, & Dessy, 2015).

The local rattan handicraft industry in Central Lombok Regency is increasingly being considered in line with the rapid development in Central Lombok Regency. The placement of the Lombok International Airport provides an important contribution to the development of Central Lombok Regency. Central Lombok is an important entry point for West Nusa Tenggara. Regional development requires the support of sector and commodity development. In this case, the development of the region drives the demand for crafts. One of them is handicraft products made from Rotan Ketak which is part of the rattan variant but with a smaller and lighter structure. Demand for these handicraft products is also not sudden but through a process that has happened decades ago. Increasingly open access in Central Lombok makes the probability of increasing value-added.

Table 1. Potential of Small and Medium Handicraft Industry in Central Lombok, 2016

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of Handicraft</th>
<th>Number of Business Unit</th>
<th>Labor</th>
<th>Investment (000 IDR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Local Rattan (Rotan Ketak)</td>
<td>16,095</td>
<td>22,310</td>
<td>4,426,125</td>
</tr>
<tr>
<td>2</td>
<td>Woven Bamboo</td>
<td>1,415</td>
<td>1,937</td>
<td>707,500</td>
</tr>
<tr>
<td>3</td>
<td>Bamboo Furniture</td>
<td>60</td>
<td>90</td>
<td>36,000</td>
</tr>
<tr>
<td>4</td>
<td>Wood Carving / Sculpture</td>
<td>31</td>
<td>66</td>
<td>53,500</td>
</tr>
<tr>
<td>5</td>
<td>Wood Furniture</td>
<td>241</td>
<td>451</td>
<td>3,504,000</td>
</tr>
<tr>
<td>6</td>
<td>Woven Pandan</td>
<td>569</td>
<td>689</td>
<td>284,500</td>
</tr>
<tr>
<td>7</td>
<td>Ijuk</td>
<td>325</td>
<td>460</td>
<td>162,500</td>
</tr>
<tr>
<td>8</td>
<td>Hyacinth Crafts</td>
<td>5</td>
<td>10</td>
<td>2,500</td>
</tr>
<tr>
<td>9</td>
<td>Leather Crafts</td>
<td>6</td>
<td>25</td>
<td>52,350</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th></th>
<th>Fur Broom Crafts</th>
<th>5</th>
<th>5</th>
<th>2,500</th>
</tr>
</thead>
</table>


Local characteristics of rattan handicraft in Lombok Tengah among others; involving labor and partners consisting of women, involving businesses at the household scale, having a unique design in the Lombok area, being eco friendly because it does not create waste (*zero waste*), loaded with a communal production system that preserves a cooperation work culture because each worker are specialized and must cooperate with each other in the completion of the product. The local handicraft of rattan can not also be a manifestation of how the development of the primary sector can be developed with added value with a strong association with the ability to develop industry and trade at the same time.

Local ideas and innovations cannot be interpreted as anti-modernization. Knowledge of the market, design, and aspects to win the hearts of consumers is still needed. The local economy is the economy of identity. In the constellation of global competition, there are aspects of society that must remain open, namely the ability to take up niche opportunities to increase added value and innovative culture. Klektotko & Joanna (2018) paid attention that balance was still needed in the face of the development of globalization. Certain conditions indicate that the community has the potential to become victims of development (Rubin & Rubin, 2001; Etzioni, 2001, Ktodzinski, 2003). Communities must play an important role in determining development by utilizing local resources and local mechanisms in certain ways without ignoring identity. Agung (2015); Hasbiah (2015); and Ubol (2016) in Basuki (2019) showed that local wisdom was born from values and norms that are organized, intentionally held, understood, and applied by local people based on experience when interacting with the environment. The source of this ability can be from within and outside the community. Various forms of local wisdom have been proven to be able to protect and ensure that the community environment can synergize with one another. This indicates that the local economy was also born of environmental interaction. This paper will fill in how the local economy can be used as a source of innovation to win the competition trough global competition era. The community can gain an increase in income but not lose its local identity as a strategy for local economic development in the future. There are two main objectives will elaborate; description sources of local economic excellence through small and medium industries Rattan Ketak in Central Lombok and identification results of competitive advantages/disadvantages of small and medium industries Rattan Ketak through business model tools.
2. Theoretical Background

Innovation plays an important role in the development of small industries within a certain geographical area. Innovation is a valuable activity in increasing market capability. The importance of innovation has been revealed for a long time. Entrepreneurs are believed to do various forms of innovation because they have an adaptive response which is then manifested in various forms of creativity. The ability of entrepreneurs to innovate will give color to the company. Entrepreneurs with good innovation capacity are resources that cannot be calculated. The innovation activities are; introducing new products that did not exist before; the introduction of new methods of production; opening new markets; finding new sources of material; and changing organizational forms to be more efficient (Schumpeter, 1991).

The findings of a study conducted by (Chatterji, Glaeser, & Kerr, 2014) indicated that important factors that must be exposed to encourage innovation on a city scale are; education, age structure, entrepreneurial culture at the local level, and physical infrastructure. This means that innovation at the local level needs to be supported by an innovation environment at the regional level. The ability of the local scale industry to improve source of innovation was also expressed by (Goetz & Han, 2020) as latent innovation which was defined as the ability to produce a product with a new “taste” and then the product became a market leader. The latent innovation occurs in businesses various scales, both using simple and high technology. The study found that in a dense industrial cluster, innovation also tends to be higher. The moving of high innovation companies to other regions will affect the level of innovation in the previous region. The innovations in the United States cases had a significant and positive influence on capita income growth. Previous studies conducted by (Glaeser, Kallal, Scheinkman, & Schleifer, 1992) had also shown that innovation at the regional level in the United States case had a strong correlation between small businesses and the growth of economic sectors.

The local economy has an significant role in the order of innovative milieu at the regional and country level. The local economy has a strategic role in the search for sources of sustainable competitive advantage. The strength of the local economy that comes from its proximity to the community's life system is a characteristic of the region that will distinguish it from other regions because of the availability of resources at the local level and is difficult to move to other locations because it is attached to the living systems in the area. A local economy with a strong character is a contra form of the development of industrialization that develops a massive industry where human touch feels lacking because of the pursuit of super-efficiency (Hongying, Yang, Ji Youlang, & Jinqiu, 2018). Schumpeter (1991) saw this condition as a source of sociological entrepreneurship to create more creative and adaptive communities.
True development strategy must strengthen the human side with the involvement of various parties in the production process. Craft manufacturing has become a way for modern humans to obtain large quantities of commodities quickly with greater profits due to higher quantities. On the other hand, handicrafts have higher artistic value at higher prices but require a longer time so that the quantity of goods produced is less. Both of these systems can be present in developing regional economies. At present, the development of the handicraft industry for many community groups is made a part of the subsistence economy because it does not become the main source of livelihood. Hipp & Grupp (2005), De Jong and Marsili, 2006 in Marques, et., Al., (2018) identified that cultural elements influence micro-enterprise innovation. This means that culture has a positive influence on micro-business performance.

Purnomo (2016) & Ratna (2014) in Wiradinata & Gunawan (2018) explained that the concept of realizing sustainable economic development based on creativity is a renewable resource that is not limited as shown through ideas, talents, and creativity. The function of local wisdom in certain regions is applied from generation to generation as a means of bringing about social stability.

The realm of bottom-up theory realizes that the center or grouping of industries in a certain area needs to be encouraged sustainably. It will good for the industrial system in the short term it also raises a healthy ecosystem in the long run. This form is commonly referred to as an industrial cluster. Lack of resources and entrepreneurship can be obtained from the local environment (Feldman 1994; Audretsch & Feldman 1996) which was popularized again by Feldman (2014) which can give a new touch to local innovation strategies through group competition to deal with larger groups. Scott (2016) in Lucia & Giovanna (2017) stated that the cultural and creative industries have a strong relationship and encourage the community's economy as long as it can produce value and innovation in local development. The market penetration of external culture and global culture must be sorted and chosen so that the local economy can still grow well.

The literatures above explain many things that underlie the importance of local economic development not only to increase local income but also to give color to the identity of each place that is a brand of the local economy. Small and medium industrial processes that are born from a local cultural process must be placed in the perspective of the development of the current business model. Conceptualization in this paper is presented in Figure 1 below.
3. Methodology

3.1 Data Collection Methods

This paper consists of secondary data and primary data. Secondary data were obtained from various related institutions consisting of; Regions in figures for several periods, relevant Local Government Office especially Local Government on Industry and trade publication data in the regions, as well as data published by official institutions such as the Ministry of Industry, and others. Primary data obtained through; field observations, questionnaires for Rotan Ketak entrepreneurs, as well as in-depth interviews with several key informants development figures in Central Lombok Regency, among others; The Head of the Industry and Trade Office and several prominent business actors champion in the Rotan Ketak handicraft industry. The data obtained are tabulated and structured to the needs of the analysis. Triangulation process also involved various stakeholder, they are; Regional Planning Office, Head of Local Government on Industry and Trade, and local industry stakeholder (representative of trader and small medium handy craft business). There were two focus group discussion in Lombok Tengah to maintain a good data and the result progress.

3.2 Data Analysis Methods

The analysis method used in this paper is a quantitative descriptive method that describes the behavior of economic development that arises from tradition but can create a competitive advantage for regional development in the long run. Data analysis starts from the process of identifying industrial processes carried out in
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creating added value by using descriptive method by utilizing the results of observations and interviews. In the second stage, the current condition of business development is displayed in a business model by applying the Canvas Model and the next step is an analysis assisted by statistical tools to describe the position of each aspect in the business model.

4 Empirical Findings/Result
4.1 The Crafts Industry Processes and Their Problems

The development of the local industry is inseparable from understanding the industrial process so that taking steps or development strategies are not mistargeted. Small industrial processes differ from mass production industries that tend to be mechanistic. The process in the traditional small industry cannot be stated in principal-agent a strict relationship because there is an element of human relations in the community that is bound by the norms of local tradition. The enforcement of strict sanctions for violations of standardization of processes and products is often not optimal given there is a relationship between each craftsman (there can still be kinship). On the other hand, social supervision also contributes positively because it makes artisans always try to maintain good relations by maintaining the trust of community members. The field findings identified industrial processes and the problems faced at each stage presented in the Table 2 below.

Table 2. Process Stages in the Rotan Ketak Industry and Its Problems

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description of The Stage</th>
<th>Description of the Process</th>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Collection of raw materials</td>
<td>Raw materials are obtained from the area around Central Lombok and also imported from outside the region especially Kalimantan because it is not sufficient for local production Regional</td>
<td>The difficulties access to local raw materials, so it needs to be considered for sustainable access to raw materials.</td>
</tr>
<tr>
<td>2</td>
<td>Drying the rattan</td>
<td>The wet rattan must go through a process of drying and smoothing. The process is done by drying the rattan by relying on sunlight.</td>
<td>This traditional process relies heavily on the season. If the sun's heat is less then the rattan will not dry longer.</td>
</tr>
<tr>
<td>3</td>
<td>The process to become a handicraft (semi-finished product)</td>
<td>Dry rattan selected and divided into handicrafts with their respective models.</td>
<td>The skill of each craftsman differ with the intensity of the workmanship that is also different so that the output</td>
</tr>
</tbody>
</table>
(product) is different depending on the target and order that must be completed by each craftsman. Crafters of many part-time workers. Not all craftsmen have ovens because there are only those who work until half-finished goods while finishing is done by other craftsmen because product standards are very important especially for products that are ready to export abroad.

4 **Burning Process**

The craft that has been formed is heated in an oven provided by the craftsman. These ovens are generally modified by the artisans themselves according to production capacity. Craftsmen who already have a stable level of business usually have prepared a greater capacity. This stage is useful for giving a firmer natural color, reducing water content so that the product is more durable.

5 **Staining**

The process with the oven in some crafts is the final process but for some other crafters continued with the coloring process. The process with the oven produces natural colors that are preferred by consumers but some consumers ask for different color variations. This coloring process follows the buyer's request. The buyers with export markets are usually sensitive to environmental issues so they need environmentally safe coloring standards while still producing attractive colors. This process is not all crafters can fulfill.

6 **Finishing**

This process is adapted to handicraft products. Some products require complicated finishing but some are not complicated. Some products are accompanied by additional accessories such as Lombok typical This process requires accuracy and good artistic touch so that the maximum product yield. Not all craftsmen have the same workmanship standards.
7 Quality Control

This stage is the final stage to ensure that each product is ready to be well received by the buyer by meeting the standards set by the buyer. There are still many craftsmen who do not have the standard and procedure to carry out quality control properly so that often the product is rejected by the buyer and the goods returned because they do not meet the standards.

Source: Processing of Field Survey Results, 2017.

At each stage, different problems lead to the result of the craft product whether it is acceptable to the end consumer or not. The market plays a role in the drive for standardization at every stage because consumers are the best judges to choose the product they want or not. Japanese consumers will have different tastes with European or American consumers and actors will respond quickly to aspects of customer satisfaction. There are advantages and disadvantages to the production system identified above. The advantages are; flexible production system with high involvement of local resources, the ability to maintain the expertise of the craftsmen. The advantages of this production system are; guaranteeing consistent quality standards is relatively more difficult because it relies heavily on human perseverance and high dependence on the tastes of buyers which implies the need for increasingly complex stages of production at each stage of production.

5 The Business Model of the Rotan Ketak Industry in Central Lombok

The local economy is always characterized by unique business behavior but has a strong survival capability. Various economic crises indicate that the household business sector has remained relatively resilient because of the very strong relations between all related subsystems. The local economy can adjust wage requirements to economic conditions. In various cases of small industries in Indonesia, crafters and partners can tolerate reducing profit margins when the economy is difficult. Conversely, the craftsman and his partner can also strengthen each other aspects of production funding when the craftsman does not have the initial capital to start the production process. In the case of the Rotan Ketak industry, women who have the ability and expertise can just start the production process when there is an order by supplying raw materials from the artisans of the collector. This process relies heavily on the strength of relationships with each other and is based on high values of trust. Things like this are the key to the success of small businesses in the local economy, especially in terms of social agreements to ensure consumer satisfaction.
The results of the identification of business models using the Canvas Model (Osterwalder & Pigneur, 2010) indicate the main strength of the rattan business is that it does not place product values that are environmentally safe and have strong traditional values. For this reason, this industry will develop along with the preservation of culture and nature. Nature provides materials while culture preserves capacity/expertise in managing rattan. This condition requires consumer loyalty because the appeal of globalization with synthetic rattan products also appears together. An overview of the current rattan business models if they are displayed in the following canvas models.

![Figure 2: The Business Model of the Rotan Ketak Craft Industry in Central Lombok](image)

Development of the local economy by placing a value proposition as a way of differentiating local craft products from mass products. The development of a network between Central Lombok and various consumers in the world makes the design and fulfillment of consumer needs encourage craftsmen to increase their capacity. Local values combined with the wishes of the global market make artisans do not stop creating, discovering new patterns that might not have been thought of in the past. Consumers, in this case, are the best judge to increase added value. Rotan Ketak products from Lombok are often recognized as Balinese products because the development of the handicraft and art business is still dominated by Bali. Besides, many consumers are more familiar with Bali compared to Central Lombok. For crafters who are also owners of art shops opening branches or headquartered in Bali are often more profitable because access to various consumer segments is wider. In terms of location and culture, these two places have relatively strong ties.
The results of identification using the nine elements of the Canvas Model indicate that the main strength of the current business model is the aspect of key activities that are demonstrated by making various crafts. This expertise (especially) in women has been mastered for generations. Girls in Lombok have been accustomed to learning to weave and make handicrafts from childhood. Weaving and making crafts programs are also introduced in formal schools. This custom contributes greatly to the development of the region, bearing in mind the expertise of these Lombok women is not easily imitated and is sustainable because it is passed down across generations.

Figure 3 indicates three relatively stable aspects namely the key activities, value proposition, and customer relationship. This condition shows that the fundamentals of this industry have taken root for the community. One craftsman who receives orders from one large consumer will share with other crafters. Social relations between craftsmen will encourage steps to maintain trust. Likewise, the relationship with suppliers of raw materials. Female craftsmen are very easy to access raw materials in the collecting craftsmen. Raw materials are usually provided by larger crafters, while more flexible crafters work at home or in their respective workshops without leaving their role as housewives or students. Relationships with consumers can go directly to large crafters or small crafters who generally live in
groups in existing villages. The strength of the relationship between the crafters and their partners usually occurs naturally by instilling the values of honesty and social ties.

The weakest aspect of the results above is shown by the revenue stream. This condition is greatly influenced by the work systems that exist in small industries. The craftsmen who partner with the surrounding community are faced with the efforts of high product standards as consumers demand (especially if the craftsmen export abroad) while the industrial work system is relatively flexible and becomes a part-time activity for the crafters' partners. This condition opens up the potential for a failed product to be borne by the workshop owner so that the total profit must consider various risks. Buyers from Japan, for example, are very strict in product standards. If something goes wrong and the product repairs, the craftsman must come to repair the product up to Japan. In some products sold directly by artisans, the profit value is also not too large because it considers the purchasing power of consumers. The income stream also has certain seasons (unstable all the time) because there are peak season and low season tourism. For this reason, continuous orders are needed to increase the certainty of the revenue stream.

6 Discussion

The crafters certainly cannot themselves to push all aspects of the business model in a "sustainable" condition. In the current network era, the collaboration of various parties plays an important role. Long & Morpeth (2006) in Lucia and Giovanna Segre argued that tourism managerial organizations and private entrepreneurs have been recognized as important drivers and beneficiaries of creativity and innovation. Interaction of various parties will bring a stronger local economic structure. One of the parties expected to attend is the government. There are crafters' needs that still need to be assisted by the government such as those related to cheap loans, grants, tax relief, and public services on economic development that focus on policies and practices to gain competitiveness (Schwarts & Ellen, 2000 in Carmeli, 2011). Key actors consisting of crafters, suppliers, art shops, government, and financial institutions can help formulate the sustainability of the industry with the active role of each actor. Market certainty and quality assurance must be the main things that are driven to generate the local industry. Local market leaders who present a fair trading system in the community become important actors so that the industry can survive in the long run.

Rees (1995) in Connelly, Markey, Roseland (2011) has also seen the same thing where local wisdom is a core form of sustainable development efforts because in it there are social innovations that keep the roots of the community from being eroded by global environmental influences that have an impact on change social consequences of technological development. The idea of local wisdom gives new
face to the local economic development strategy while still providing space for innovation with a strong local character. In its development local wisdom theory is referred to as local culture theory (Robinson, 1990; Sternberg, 2000; Clayton & Birren, 1980) where the position of local potential was considered as a source of competitive advantage approached by three approaches namely; philosophical approach, implicit theory approach, and explicit theory approach (Rahyuda et al, 2018). Sibarani (2018) stated that local wisdom is identity, which can show the essence of the basic values of cultural traditions that have an orientation on human behavior or existence. This idea reinforces that the local economy which is part of the local wisdom system has a strong foundation as an effort to occupy local identity. Local people are important actors in creating local collective value that has a positive impact on regional competitiveness.

The aspects of economic development of the Rotan Ketak economic culture, for example, are strongly influenced by Bali and other regions in Indonesia which have handicraft made from rattan. The openness of the environment is believed to facilitate the synergy of internal, external resources, create a different ideological atmosphere, and increase innovation (Chesbrough, 2012 in Hongying, et., Al., 2018). Wang (2006) in Hongying, et., Al., in 2018 also mentioned that the diversity of resources will encourage innovation followed by new procedures that are more profitable.

Innovation in the production of local rattan emerge from local ideas that are adapted to market demands which currently tend to favor environmentally friendly products. Innovation at the local scale by involving geographical proximity also creates additional knowledge that is used by businesses to create new creativity. The social conditions of the community provide an important role in innovation activities. Informal relations in the community open up the transfer of knowledge that is open to actors related to new model products, new methods used for coloring rattan, distribution channel efficiency and logistics of the final product delivery, and various other forms of innovation that ultimately have an impact on improving society income per capita.

7 Conclusions

The Rotan Ketak Industry, which is part of efforts to develop local wisdom as a source of economic growth, still requires attention to become a sustainable local industry. Several elements in the industrial process must be considered, namely; sustainability of raw materials which contrasts with the development of increasingly dense urban areas with business and trade activities that shift the function of the land provider of raw materials into residential areas and centers of economic activity. A rapidly developing global economy also requires creative resources that cannot be
stopped, namely the capacity of local craftsmen who are getting stronger from time to time. The development of various collaboration models is still needed to ensure the creation of a sustainable revenue stream and have an impact on improving the welfare of the craftsmen. There is one strongest aspect that needs to be encouraged to be sustainable, namely key activities, creating various handicraft products. Knowledge of the development of the global market is increasingly needed by utilizing the development of information technology and social forces that are important values of the handicraft industry. Approaches to encourage local industry to require a business perspective that must be understood by all stakeholders including policymakers. The context of introduced collective efficiency is expected to be able to encourage all elements of the business model to reach its best capacity. The local economy cannot grow alone but is driven by all elements of the business model. All aspects must be able to reach a sustainable stage to ensure that the capacity of the local economy is at a developing or advance cycle to support regional and national economies.

7. Acknowledgements

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References:


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