Acta logistica - International Scientific Journal about Logistics
Volume: 9 2022 Issue: 1 Pages: 63-74 ISSN 1339-5629

doi:10.22306/al.v9i1.271 Received: 05 Nov. 2021; Revised: 07 Dec. 2021; Accepted: 24 Jan. 2022

IMPROVING COMPETITIVENESS OF SMALL AND MEDIUM ENTERPRISES BASED ON LOCAL LEADING PRODUCTS IN TARAKAN CITY, INDONESIA

Mohamad Nur Utomo
Universitas Borneo Tarakan, Jl. Diponegoro No. 23, Tarakan, Indonesia,
mohnurutomo@gmail.com (corresponding author)
Kaujan Kaujan
Universitas Borneo Tarakan, Jl. Amal Lama No. 1, Tarakan, Indonesia,
kaujanmr@gmail.com
Widyastuti Cahyaningrum
Universitas Borneo Tarakan, Perum Korpri Blok F No. 21, Tarakan, Indonesia,
widyairawan77@gmail.com

Keywords: local leading products, work sectors, Analytical Hierarchy Process, economic growth, improving competitiveness.
Abstract: The competitiveness of SMEs is enhanced by compiling a map consisting of local superior employment sectors and local superior products. This study aims to identify and map the work sector and products of Small and Medium Enterprises that need to be developed to become the local carrying capacity of Tarakan City. Sources of data include primary data (questionnaires from respondents) and secondary data (GRDP data for the city of Tarakan). Data analysis methods include Location Quotient (LQ), Klassen Typology, and Analytical Hierarchy Process (AHP). The results showed that the fishery-based processing industry is an employment sector that has great potential to become a local leading sector in Tarakan City. The results also reveal that the competitiveness of SMEs can be increased by developing local superior products. This development must meet three criteria, respectively: development must be oriented towards the conservation of resources and the environment; its development must only involve products with local raw materials and local uniqueness, and its development is supported by local communities. Another finding is about three priority local superior products, namely Dried Fish/Peyek Pepija, Shredded Milkfish, and Amplang Milkfish Crackers. These results can be used as a basis for making policies regarding the development of a country's local superior products.

1 Introduction

The growth of the local and national economy is inseparable from the contribution of Small and Medium Enterprises (SMEs). Due to its capability to boost up people economics, therefore SMEs are considered as having a strategic role in national economics. The Government of Indonesia has recognized this role and then stipulated National Long-Term Development Plan for Period 2005-2025. One goal of this Plan is to improve the competitiveness of national resources. One way to improve this competitiveness is by empowering domestic economics based on the leading capacities of each locality. Consistent with this goal, the Government then focuses its effort on improving the competitiveness of SMEs by developing local leading products and legalizes this effort by the Regulation of Domestic Affairs Minister (Permendagri) Number 9, 2014 on Local Products Development.

Local economics improvement is initiated through the development of local economic potentials and local leading products. This development begins with identifying local economic potentials and local leading products and then mapping the potentials and products that involve local resources. Local leading products, therefore, also represent local economic potentials in delivering products that give value-added advantage to the locality. This advantageous situation comes up because local resources are widely utilized, which implies that this utilization will create jobs, raise the income of people and government, improve productivity and facilitate investment flow [1].

Research was conducted in Tarakan City, which is precisely an island city located on the eastern part of North Kalimantan Province. Tarakan City has strategic position for the Province because the City becomes the entry gate and also the transit center for inter-island trades in northern part of Kalimantan Island and also for international trade involving Indonesia, Malaysia and Philipine. According to the Data in 2017, Tarakan City has several work sectors with potentials to be developed into local leading sectors. Of these work sectors, two have the greatest effect on local economics, namely Fishery and Agriculture. In Fishery Sector, productivity level of captured fishery is 10,726.41 tons. Brackish commodities (fish, shrimp and crab) has productivity level of 56,270 tons whereas productivity level of fresh water fish reaches 52,724 tons. Meanwhile, Agriculture Sector has productivity level of 7.120,5 ton [2]. In 2017, there were 4,451 SMEs in Tarakan City [3]. The

problem is that SMEs in Tarakan City have their own leading products but are weak on marketing [4]. This problem emerges because there is no yet effort to map the products that can be categorized as local leading products. Therefore, it is necessary to both identify and map the potentials of local leading sectors. Comparative theory said that a certain state can get competitive advantages if it can produce goods or services at lower cost than the other states. The state with competitive advantages must emphasize its economic activities on industries that have international comparative advantages. The state needs to do international trading with other states to fulfill the demand in the domestic for the products that are not available or not produced in the state. This situation corresponds to international trade theory [5].

The objective of this research is to identify work sectors that have potentials to become local leading sectors and to map the products of Small & Medium Enterprises that need be developed to become local leading products in Tarakan City. Result of research showed that fishery-based processing industry is a work sector that has great potentials to become local leading sector in Tarakan City. Result of research also revealed that the competitiveness of SMEs can be increased by developing local leading products. This development must fulfill three criteria, respectively: the development must be oriented toward the conservation of resources and environment; the development must involve only products with local raw materials and local uniqueness; and the development is supported by local people. Other finding is about three priorities for local leading products, which respectively are Dried Fish/Peyek Pepija, Shredded Milkfish and Milkfish Amplang Crackers.

Researcher expects that results of this research can give contribution to empirical studies, methodology and policy making. The implication of this research might be useful for the making of development model for any products that have potentials to be developed in the future. Other expectation is that results of this research may guide the Government of Tarakan City in making policies concerning leading products development. The priority of this research is to become an alternative reference for new sources of economic growth for the acceleration, expansion and development of the economy both regionally, nationally and internationally.

2 Local Leading Products (LLP)

Two obstacles have impeded SMEs, respectively limited resources and low innovative capacity. When the SMEs learn how to be competitive, then the SMEs must compare the asset, process and performance to other SMEs that sell leading products in the industry [6]. Comparative theory has explained that a certain state can get competitive advantages if it can produce goods or services at lower cost than the other states [5]. According to comparative theory, leading products can emerge from commodities that exist abundantly in a certain locality but not yet economically utilized. These commodities can then be managed to become local leading products.

Local Leading Products (LLP) refer to products, either goods or services, delivered by cooperatives or small and medium works, that have potentials to be developed by using all resources in the locality, including natural and human resources and also local culture, in order to raise the income of local people and local government, which is then becoming the economic power of the locality because the products have competitiveness, marketability and driving foces toward global market [7]. Daryanto and Hafizrianda [8] said that some criteria must be met before declaring certain products as local leading products. These criteria are that: (1) the products become the main driving force for local economic development; (2) the products have strong forward linkage and backward linkage to either leading products at the same competition or to those in different competition; (3) the products can compete either at national or international markets; (4) the products still involve other locality either for market or for raw material supply; (5) the products have technology in advancing status; (6) the products can absorb workers who have high qualification; (7) the products must be durable in longer term; (8) the products are not easily vulnerable to internal and external fluctuations; (9) the development of the products is facilitated by many supports; and (10) the development of the products is oriented toward conservation of resources and environment.

Pardede, et al. [9] proposed 4 indicators as predictors of local leading products. These indicators are: (1) economic contribution, (2) social aspect, (3) cultural aspect, and (4) organization. Of these indicators, cultural aspect has the greatest effect because local leading products are generally commodities that have been used daily by local people and have become their pride. Products that can compete in longer term in global economic are products with great competitive advantages, which are brought by local characteristics, local knowledge, local relationship, and local motivation, which all of these are hardly imitated by competitors [10]. Location has been neglected as a determinant factor since long ago. But, there is strong proof showing that successful innovation and competition are mostly concentrated in certain geography. Therefore, besides fulfilling ten criteria suggested by Daryanto and Hafizrianda (2010), local leading products must fulfill two criteria, respectively the uniqueness based on cultural aspect and the geographical position of the locality. Geographically, Tarakan City is in the position as “transit city” for other localities. This position implicates to the diversity of Indonesian ethnics that do business and domicile at Tarakan City, including Javanese, Padang, Bugis, Madura, Chinese and others. Such ethnical heterogenity has created unique culture related to entrepreneurship. This uniqueness has become a leading capacity in products made by local people. Moreover, geographical position of Tarakan City as “transit city”

gives competitive advantage to the products because the products easily enter inter-regional trade.

3 Methodology

In Stage 1, local leading sectors were identified using secondary data collected from Central Bureau of Statistics (BPS) for Tarakan City. The data concerned with Gross Regional Domestic Products (GRDP) of Tarakan City from 2016 to 2020. Data analysis technique in this stage involved Location Quotient (LQ) and Klassen Typology.

3.1 Location Quotient (LQ)

Location Quotient (LQ) is conducted to ensure whether a locality acts as *net importer* or *net exporter* after comparing its local production with its local consumption.

The value of LQ (1) is counted through the following formula:

$$LQ = \frac{{}^{Si}/_{S}}{{}^{Ni}/_{N}} \quad (1)$$

Where: LQ = the value of Location Quotient, Si = GRDP of sector i of Tarakan City, S = total GRDP of the sector of Tarakan City, Ni = GRDP of sector i in North Kalimantan Province, and N = total sector GRDP of North Kalimantan Province.

Tarigan [11] suggested three conditions to estimate LQ value. First condition is that if LQ value is >1, then the role of Sector i in local domain will be more dominant or stronger than its role in national domain. Based on this condition, Sector i is said to be exporter (*Relative Specialization in Sector*). This sector exports the products because there is surplus. This Sector is also considered as leading sector because it has high prospect for development and also has high contribution to local economics improvement. Second condition is that if LQ value is < 1, then the role of Sector i in local domain is less dominant or weaker than its role in national domain. This Sector must import products from outside (*Production Deficit in Sector*) because the Sector fails to fulfill its own needs. Third or final condition is that if LQ = 1, the role of Sector i at local and national domains is similar. Productivity level of this Sector at both domains is in balance. However, the Sector can only fulfill the demand of local people and never think about exporting (*Average Production in Sector*).

3.2 Klassen Typology

Klassen Typology is carried out with two comparisons. First is the comparison between the growth of each work sector in Regency/Town with the growth of GRDP of Tarakan City. Second comparison is comparing the contribution of each work sector in Regency/Town to GRDP of Tarakan City. Klassen Typology classifies work sectors into four categories, respectively (a) Prime (Leading) Sector, (b) Potential Sector, (c) Developing Sector, and (d) Laggard Sector.

Work sectors are categorized based on mean growth level of each work sector and mean contribution level of each work sector to GRDP. By this categorization, a matrix of Klassen Typology is constructed as shown in the following table:

Table 1 Category Matrix of Klassen Typology

Mean Contribution Rate of Each Work Sector to GRDP / Mean Growth Rate of Each Work Sector	Y of Work Sector > Y of GRDP	Y of Work Sector < Y of GRDP
r of Work Sector > r of GRDP	Prime Sector	Developing Sector
r of Work Sector < r of GRDP	Potential Sector	Laggard Sector

Source: Widodo [12]

Where: Y of Work Sector = Mean Contribution Level of Each Work Sector, Y of GRDP= Mean Value of GRDP, r of Work Sector = Mean Growth Rate of Each Work Sector, and r of GRDP = Mean Growth Rate of GRDP

3.3. Analytical Hierarchy Process

In Stage 2, local leading products were decided by making reference to local leading sectors identified in Stage 1. After local leading sectors were ascertained, then some alternatives of local leading products were suggested. The alternatives were compiled after conducting observation and interview with informants regarding local leading products in Tarakan City. Informants were sorted out with two criteria. First is that informants must have knowledge, capability and experience in local leading products. Second is that informants must have authority in policy making. These informants are three officers from three departments in Tarakan City. Informant selection technique is one informant for one department. The departments involved in the analysis are Department of Cooperatives, Trade and Small & Medium Enterprises; Department of Industry; and Department of Fishery.

The alternatives of local leading products were then sorted by 12 (twelve) criteria based on three literatures, respectively Daryanto and Hafizrianda [8], Pardede, et al. [9] and Porter [10]. The criteria require: (1) the products to be the driving force for local economic development; (2) the products to have strong forward linkage and backward linkage to either leading products at the same competition or to those in different competition; (3) the products to have capability to compete either at national or international markets; (4) the products to still involve other locality either for market or for raw material supply; (5) the products to have technology in advancing status; (6) the products to absorb workers who have high qualification; (7) the products to be durable in longer term; (8) the products to not easily vulnerable to internal and external fluctuations; (9) the development of the products to be

facilitated by many supports; (10) the development of the products to be oriented toward conservation of resources and environment; (11) the products to be used daily by local people and to become their pride; and (12) the products to use local raw materials and to represent local uniqueness.

After sorting out the alternatives by 12 criteria, the selected products were then analyzed with *Analytical Hierarchy Process* (AHP) facilitated by computer application of Expert Choice Version 11. The process of this analysis uses primary data obtained from questionnaires given to informants as the respondents. The questionnaires require respondents to make comparison on two items (pairwise comparison), either across criteria or across alternatives. Answers given by respondents were scored at a scale from 1 to 9. Value, definition and quantitative opinion from comparison scale are presented in Table 2.

Table 2 Scale of Comparison Matrix

Importance Intensity	Definition	Explanation
1	One element is similarly important to other element.	Contribution level of both elements to the characteristics of local leading products is similar.
3	One element is a bit more important than other element.	Experience slightly favors one element.
5	One element is clearly more important than other element.	Experience strongly favors one element.
7	One element is extremely clearly more important than other element.	Experience has been strongly preferred and dominated by one element.
9	One element is absolutely more important than other element.	Experience shows that one element is extremely clearly more important.
2,4,6,8	There is no decision due to hesitancy on two elements, especially when the values of two elements are in proximity to one another.	This range of values is provided as middle-way solution.

Source: Saaty [13]

4 Result and discussion

4.1 Result of LQ and Klassen Typology Analysis

Results of analysis with LQ and Klassen Typology have produced the identification of work sectors, precisely four work sectors, that have been classified as leading sectors (by LQ value > 1) and prime sectors (through Y of Work Sector > Y of GRDP, r of Work Sector > r of GRDP) with contribution level to GRDP above 10%. These results are displayed in Table 3.

Table 3 Results of LQ and Klassen Typology Analysis

No.	Work Sector	LQ	Klassen Typology	Contribution to GRDP (Percent)
1	Wholesale and Retail Tradings; Reparation of Cars & Motorcycles	1.87	Prime Sector	20.01
2	Construction	1.24	Prime Sector	15.47
3	Transportation and Warehousing	2.00	Potential Sector	12.51
4	Processing Industry	1.33	Prime Sector	12.46

Source: Data of BPS are processed (2021)

Based on the results of Stage 1 Analysis, four work sectors have been regarded as leading sectors. Those work sectors are Wholesale and Retail Tradings, Construction, Transportation and Warehousing, and Processing Industry. Of these four sectors, Processing Industry is categorized as leading sector with high prospect to be developed for improving local economics. Processing Industry has become the backbone of local economics in Tarakan City because this industry has given Tarakan City with *competitive advantage* over the other localities on the same province, which in this case is North Kalimantan Province. This *competitive advantage* has put Tarakan City in a better position to export its outputs (*Relative Specialization in Sector*) to other localities in North Kalimantan Province, such as to Bulungan Regency, Nunukan Regency, Malinau Regency and Tana Tidung Regency.

One sub-sector under Work Sector of Processing Industry has been exporting its products to outside Tarakan City. This sub-sector is fishery-based processing industry. The activity of exporting products makes this sub-sector highly potential for development because fishery commodities are available abundantly in Tarakan City. Based on data the results of fishery production in Tarakan City compared to other areas in North Kalimantan Province, ranked the highest [14]. This position gives Tarakan City with capability to supply fishery

commodities to other localities. The development of local leading products in Tarakan City has been focused on Processing Industry that emphasizes on the processing of fish raw materials. This development is in line with the government program stipulated in "Spatial Order Plan for North Kalimantan Province, Number 1 for Period 2017-2037". According to this Plan, Tarakan City will be given a status as National Activity Center. This status has several orientations and one of them is to make Tarakan City to become the center of processing industry that is based on fishery commodities with environmentally friendly procedures.

4.2 Result of Analytical Hierarchy Process

4.2.1 Hierarchy of Research

Referring to the results of Stage 1 Analysis, local leading products in Tarakan City are products delivered by fishery-based processing industry. Results of observation and interview with the experts of local leading products have produced the suggestion of eight (8) alternatives of local leading products for SMEs in Tarakan City. These alternative products include: (1) Shredded Milkfish, (2) Milkfish Amplang Crackers, (3) Presto Milkfish, (4) Terap Layer Sponge Cake, (5) Crispy Soka Crab, (6) Meat/Sampit of Crab & Surimi, (7) Dried Fish/Peyek Pepija, and (8) Chips/Crackers (processed from Fish/Shrimp/Crab/Sea Grass). All these products derive from the processing of fishery commodities except for Terap Layer Sponge Cake, which uses raw material from agriculture. This sponge cake product is considered unique because the making involves raw material of fruit called "terap" which only grows in North Kalimantan. Twelve criteria and eight alternatives of local leading products for SMEs in Tarakan City are then arranged through AHP into a hierarchy of research, which is depicted in Figure 1.

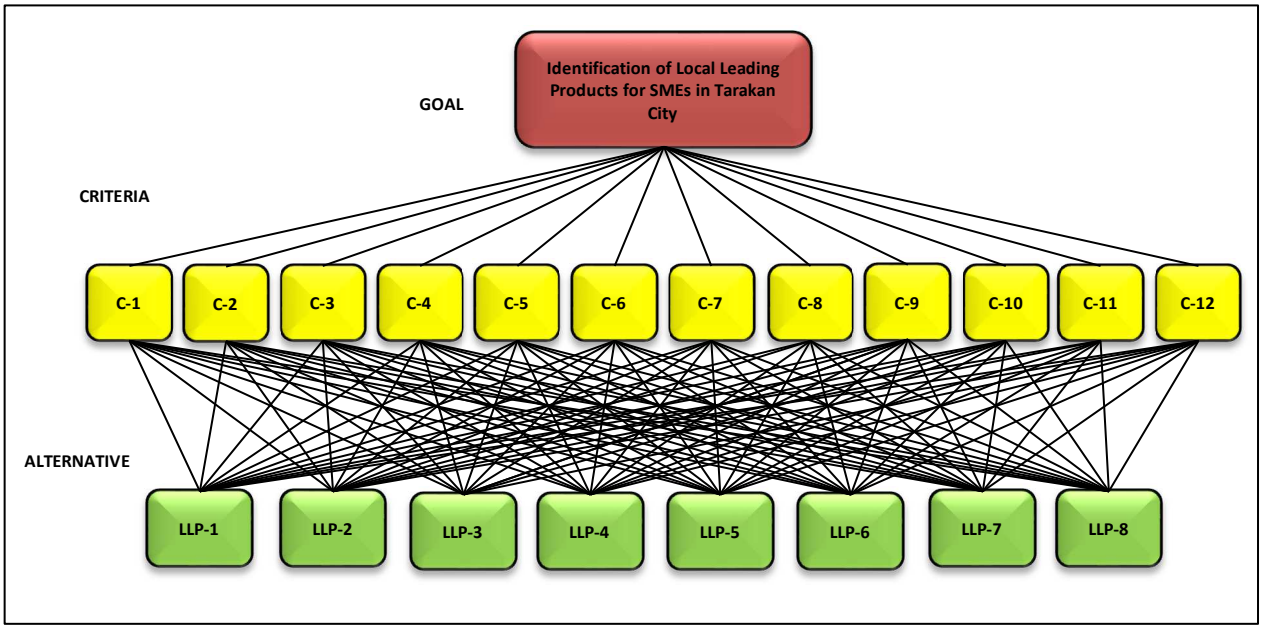

Figure 1 Hierarchy of Research

Where: C-1 = Become the driving force for local economic development; C-2 = Have strong forward linkage and backward linkage to either leading products at the same competition or to those in different competition;
C-3 = Have capability to compete either at national or international markets; C-4 = Still involve other locality either for market or for raw material supply; C-5 = Have technology in advancing status; C-6 = Absorb workers who have high qualification; C-7 = Durable in longer term; C-8 = Not easily vulnerable to internal and external fluctuations; C-9 = Facilitated by many supports for its development; C-10 = Oriented toward conservation of resources and environment; C-11 = Used daily by local people and become their pride; C-12 = Use local raw materials and represent local uniqueness.

LLP-1 = Shredded Milkfish; LLP-2 = Milkfish Amplang Crackers; LLP-3 = Presto Milkfish; LLP-4 = Terap Layer Sponge Cake; LLP-5 = Crispy Soka Crab; LLP-6 = Meat/Sampit of Crab & Surimi; LLP-7 = Dried Fish/Peyek Pepija; LLP-8 = Chips/Crackers (processed from Fish/Shrimp/Crab/Sea Grass).

4.2.2 Pairwise Comparison Across Criteria

Each criterion to determine LLP for SMEs in Tarakan City will be compared through pairwise comparison. There are 12 criteria for LLP and all these criteria are arranged based on its importance intensity. This arrangement is shown in Figure 2.

IMPROVING COMPETITIVENESS OF SMALL AND MEDIUM ENTERPRISES BASED ON LOCAL LEADING PRODUCTS IN TARAKAN CITY, INDONESIA

Mohamad Nur Utomo; Kaujan Kaujan; Widyastuti Cahyaningrum

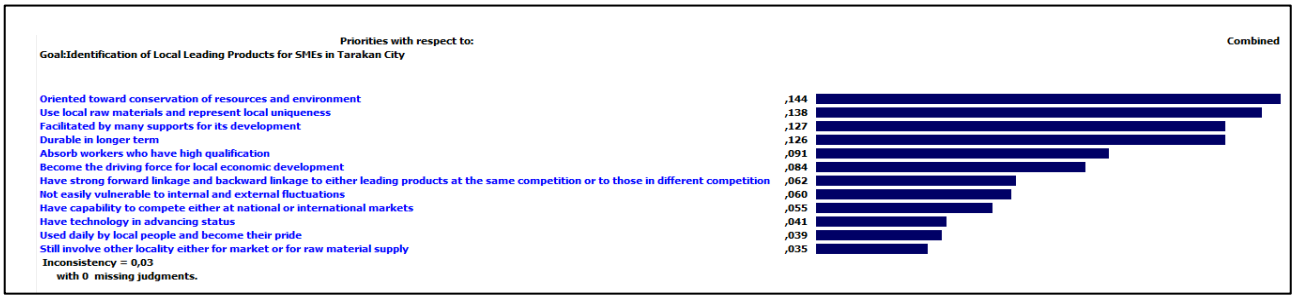

Figure 2 Pairwise Comparison for Importance Intensity Across Criteria

As depicted in Figure 2, three criteria to determine LLP for SMEs in Tarakan City have become top priorities based on its importance intensity. These criteria are: the development of the products is oriented toward conservation of resources and environment (0.144); the products must use local raw materials and represent local uniqueness (0.138); and the development of the products is facilitated by many supports (0.127). Criterion with the lowest importance intensity is that the products still involve other locality either for market or for raw material supply (0.035).

The development of LLP for SMEs in Tarakan City must emphasize on three most important criteria in order to achieve high level of competitiveness. The first of these criteria is that the development of the products is oriented toward conservation of resources and environment. This criterion is consistent to the latest trend among Indonesians who begin to develop strong favor on green products (environmentally friendly). In 2020, green products were becoming popular in Indonesia and most of them were sold out. The producers of these products then reaped huge profit because their cash turnover increased to 25% [15]. Environmentally friendly products have become a requirement and also a challenging task if SMEs decides to enter international market. Despite this challenge, any business managed with orientation toward environmentally friendly posture can give positive impact on its export performance in international market [16,17]. Therefore, there is a belief that one criterion for developing LLP to improve the competitiveness of SMEs is by building orientation toward conservation of resources and environment.

Second criterion is that the products must use local raw materials and represent local uniqueness. Comparative theory asserted that a state is said to be competitive only if the state can produce goods and services at lower cost than other state [5]. Raw materials in this criterion is those that can be obtained at lower price, are available locally in great abundance, and have uniqueness. This position is in line with Resources-Based View (RBV) theory, which said that specific (specialized) resources can give the companies with sustainable competitive advantages [18]. Specific resources are usually possessing economic value, heterogenous, and hardly imitated by others. Such resources are then considered as unique [19]. The uniqueness of specific resources can be the strategy to develop value-added to the products and to distinguish itself from other products [20].

Third criterion is that the development of the products is facilitated by many supports. The development of LLP for SMEs must get supports from the government that always has interest on improving local economics growth. Successful development of LLP always involves the supports and cooperation from LLP entrepreneurs, government and other stakeholders [21].

4.2.3 Pairwise Comparison Across Alternatives

The alternatives of LLP will be compared through pairwise comparison based on 12 criteria for LLP. Results of pairwise comparison for LLP alternatives in criterion "Become the driving force for local economic development" are presented in Figure 3.

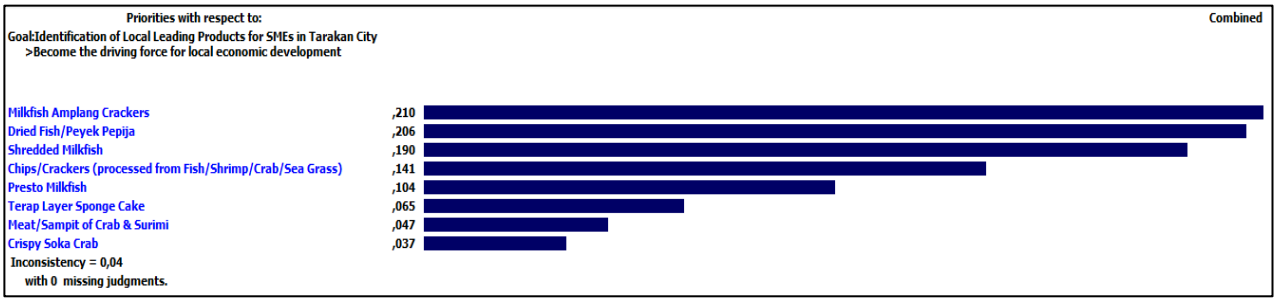

Figure 3 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Become The Driving Force For Local Economic Development"

IMPROVING COMPETITIVENESS OF SMALL AND MEDIUM ENTERPRISES BASED ON LOCAL LEADING PRODUCTS IN TARAKAN CITY, INDONESIA

Mohamad Nur Utomo; Kaujan Kaujan; Widyastuti Cahyaningrum

With respect to the description in Figure 3, the most important LLP alternatives are Milkfish Amplang Crackers (0.210), followed by Dried Fish/Peyek Pepija (0.206), Shredded Milkfish (0.190), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.141), Presto Milkfish (0.104), Terap Layer Sponge Cake (0.065), Meat/Sampit of Crab & Surimi (0.047), and Crispy Soka Crab (0.037).

Results of pairwise comparison for LLP alternatives in criterion "Have strong forward linkage and backward linkage to either leading products at the same competition or to those in different competition" are displayed in Figure 4.

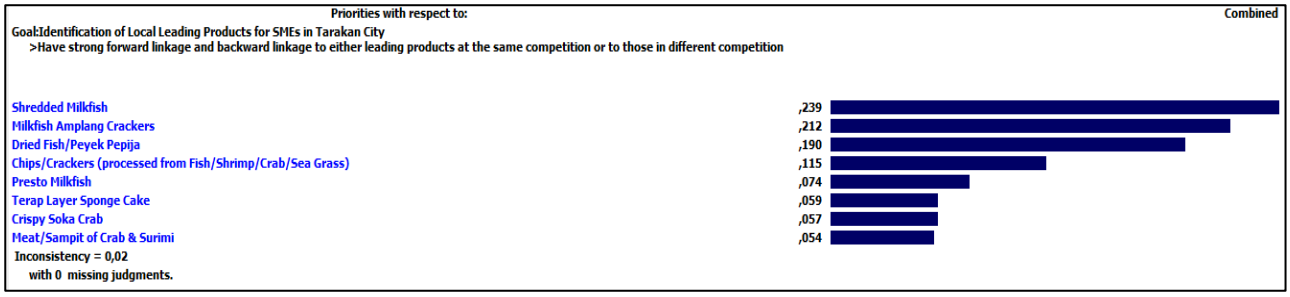

Figure 4 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Have Strong Forward Linkage And Backward Linkage To Either Leading Products At The Same Competition Or To Those In Different Competition"

Based on the description in Figure 4, the most important LLP alternatives are Shredded Milkfish (0.239), followed by Milkfish Amplang Crackers (0.212), Dried Fish/Peyek Pepija (0.190), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.115), Presto Milkfish (0.074), Terap Layer Sponge Cake (0.059), Crispy Soka Crab (0.057), and Meat/Sampit of Crab & Surimi (0.054).

Results of pairwise comparison for LLP alternatives in criterion "Have capability to compete either at national or international markets" are shown in Figure 5.

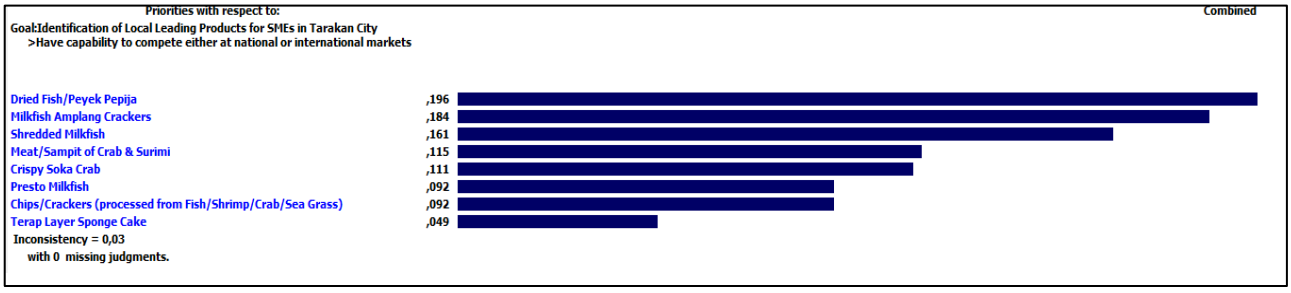

Figure 5 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Have Capability To Compete Either At National Or International Markets"

The description in Figure 5 shows that the most important LLP alternatives are Dried Fish/Peyek Pepija (0.196), followed by Milkfish Amplang Crackers (0.184), Shredded Milkfish (0.161), Meat/Sampit of Crab & Surimi (0.115), Crispy Soka Crab (0.111), Presto Milkfish (0.092), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.092), and Terap Layer Sponge Cake (0.049).

Figure 6 exhibited the results of pairwise comparison for LLP alternatives in criterion "Still involve other locality either for market or for raw material supply".

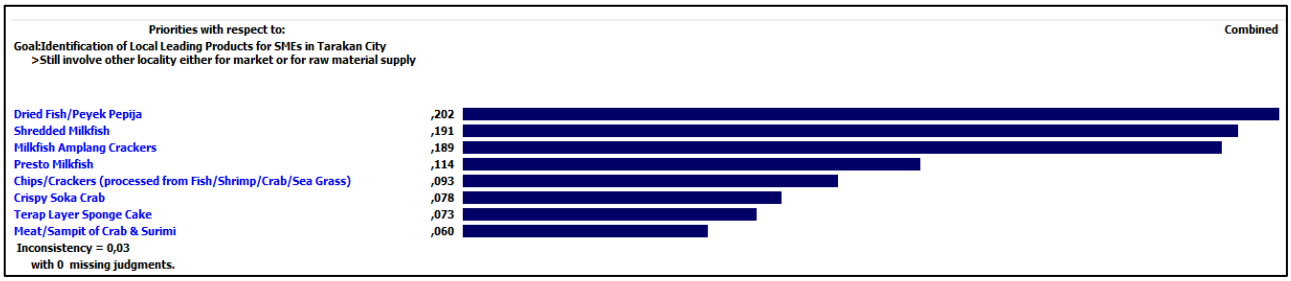

Figure 6 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Still Involve Other Locality Either For Market Or For Raw Material Supply"

According to the description of Figure 6, the most important LLP alternatives are Dried Fish/Peyek Pepija (0.202), followed by Shredded Milkfish (0.191), Milkfish Amplang Crackers (0.189), Presto Milkfish (0.114), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.093), Crispy Soka Crab (0.078), Terap Layer Sponge Cake (0.073), and Meat/Sampit of Crab & Surimi (0.060).

Results of pairwise comparison for LLP alternatives in criterion "Have technology in advancing status" is depicted in Figure 7.

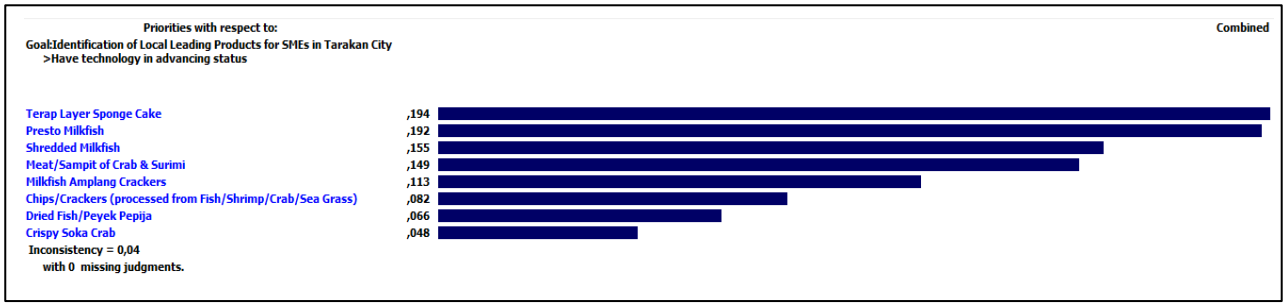

Figure 7 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Have Technology In Advancing Status"

Referring to the description of Figure 7, the most important LLP alternatives are Terap Layer Sponge Cake (0.194), followed by Presto Milkfish (0.192), Shredded Milkfish (0.155), Meat/Sampit of Crab & Surimi (0.149), Milkfish Amplang Crackers (0.113), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.082), Dried Fish/Peyek Pepija (0.066), and Crispy Soka Crab (0.048).

Figure 8 presents the results of pairwise comparison for LLP alternatives in criterion "Absorb workers who have high qualification".

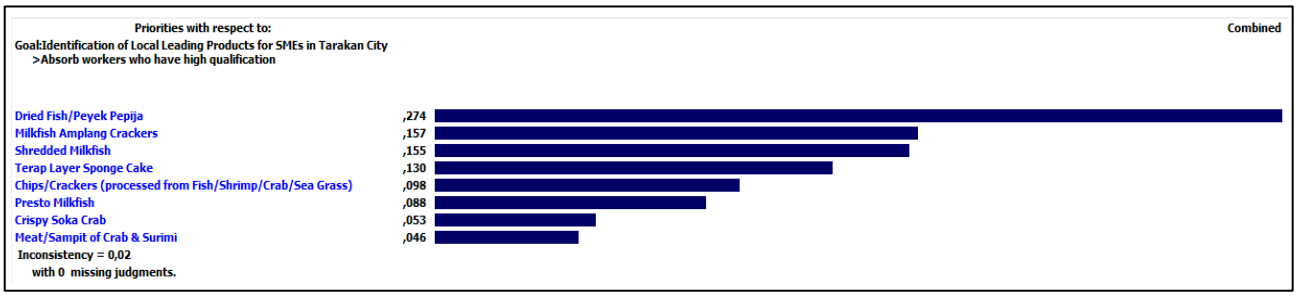

Figure 8 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Absorb Workers Who Have High Qualification"

In respect of description in Figure 8, the most important LLP alternatives are Meat/Sampit of Crab & Surimi 00 (0.274), followed by Milkfish Amplang Crackers (0.157), Shredded Milkfish (0.155), Terap Layer Sponge Cake (0.130), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.098), Presto Milkfish (0.088), Crispy Soka Crab (0.053), and Meat/Sampit of Crab & Surimi (0.046).

Figure 9 displays the results of pairwise comparison for LLP alternatives in criterion "Durable for longer term".

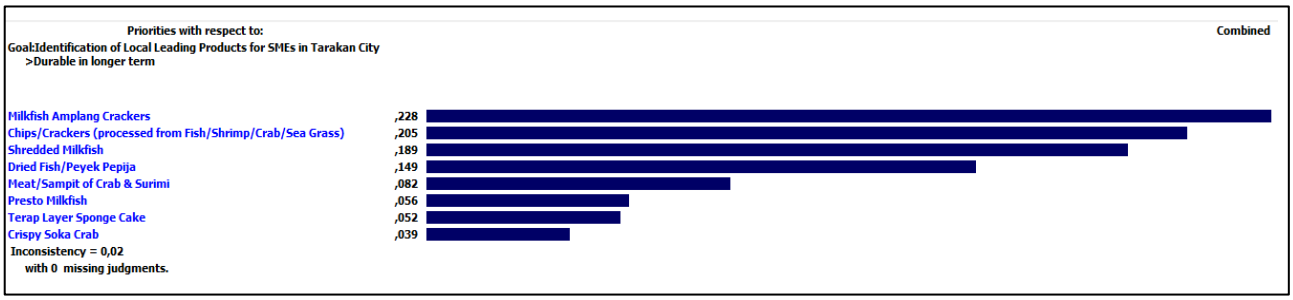

Figure 9 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Durable For Longer Term"

Based on the description in Figure 9, the most important LLP alternatives are Milkfish Amplang Crackers (0.228), followed by Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.205), Shredded Milkfish (0.189), Dried Fish/Peyek Pepija (0.149), Meat/Sampit of Crab & Surimi (0.082), Presto Milkfish (0.056), Terap Layer Sponge Cake (0.052), and Crispy Soka Crab (0.039).

Results of pairwise comparison for LLP alternatives in criterion "Not easily vulnerable to internal and external fluctuations" are shown in Figure 10.

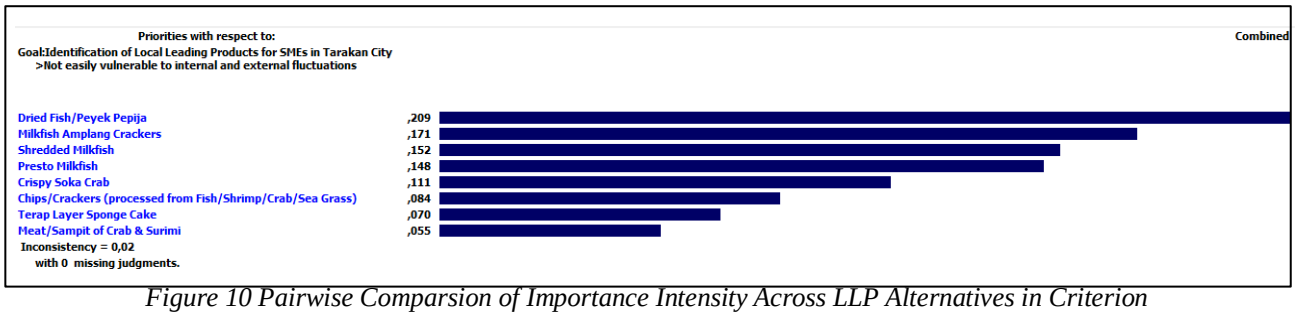

Figure 10 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Not Easily Vulnerable To Internal And External Fluctuations"

The description in Figure 10 shows that the most important LLP alternatives are Dried Fish/Peyek Pepija (0.209), followed by Milkfish Amplang Crackers (0.171), Shredded Milkfish (0.152), Presto Milkfish (0.148), Crispy Soka Crab (0.111), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.084), Terap Layer Sponge Cake (0.070), and Meat/Sampit of Crab & Surimi (0.055).

Figure 11 exhibited the results of pairwise comparison for LLP alternatives in criterion "Facilitated by many supports for its development".

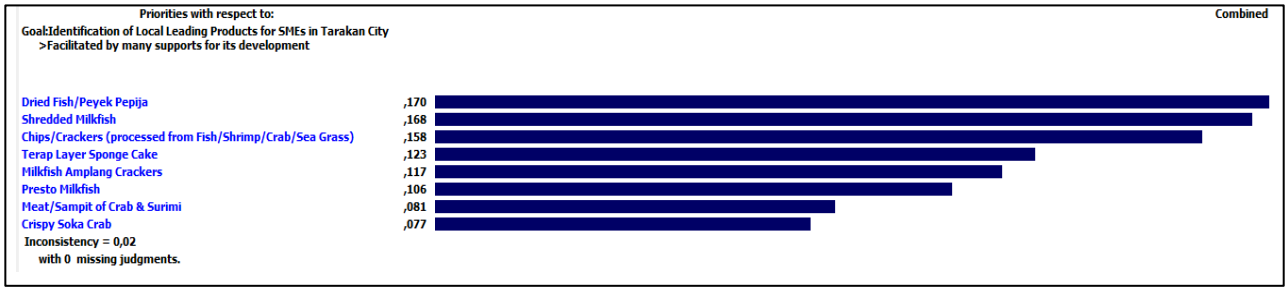

Figure 11 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Facilitated By Many Supports For Its Development"

According to the description of Figure 11, the most important LLP alternatives are Dried Fish/Peyek Pepija (0.170), followed by Shredded Milkfish (0.168), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.158), Terap Layer Sponge Cake (0.123), Milkfish Amplang Crackers (0.117), Presto Milkfish (0.106), Meat/Sampit of Crab & Surimi (0.081), and Crispy Soka Crab (0.077).

Results of pairwise comparison for LLP alternatives in criterion "Oriented toward conservation of resources and environment" is depicted in Figure 12.

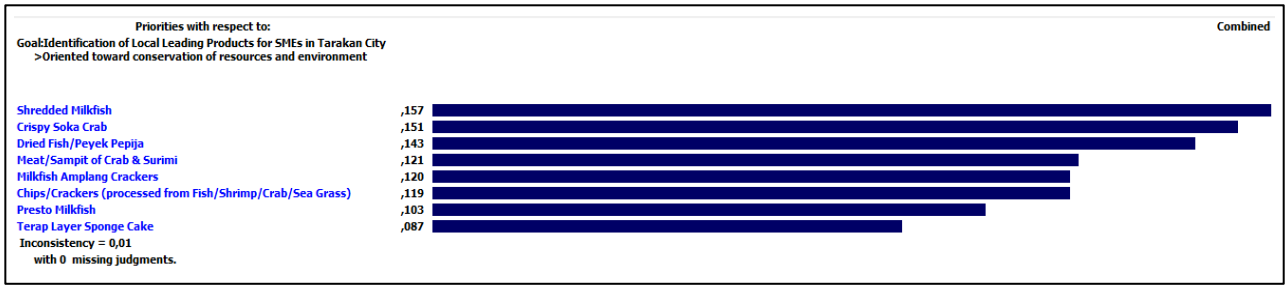

Figure 12 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Oriented Toward Conservation Of Resources And Environment"

Referring to the description of Figure 12, the most important LLP alternatives are Shredded Milkfish (0.157), followed by Crispy Soka Crab (0.151), Dried Fish/Peyek Pepija (0.143), Meat/Sampit of Crab & Surimi (0.121), Milkfish Amplang Crackers (0.120), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.119), Presto Milkfish (0.103), and Terap Layer Sponge Cake (0.087).

Figure 13 presents the results of pairwise comparison for LLP alternatives in criterion "Used daily by local people and become their pride".

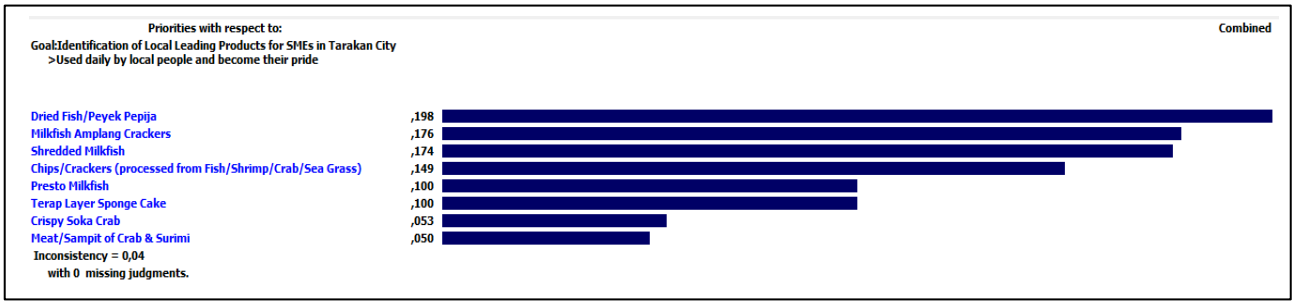

Figure 13 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Used Daily By Local People And Become Their Pride"

With respect to the description in Figure 13, the most important LLP alternatives are Dried Fish/Peyek Pepija (0.198), followed by Milkfish Amplang Crackers (0.176), Shredded Milkfish (0.174), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.149), Presto Milkfish (0.100), Terap Layer Sponge Cake (0.100), Crispy Soka Crab (0.053), and Meat/Sampit of Crab & Surimi (0.050).

Results of pairwise comparison for LLP alternatives in criterion "Use local raw materials and represent local uniqueness" are displayed in Figure 14.

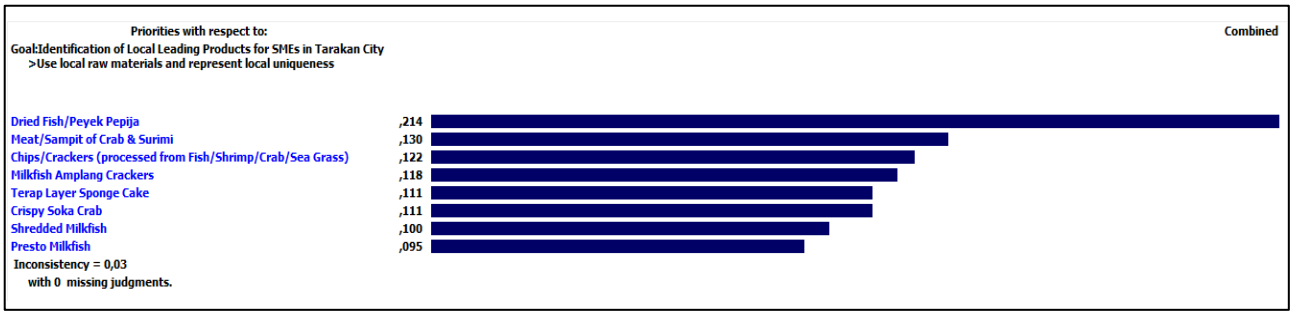

Figure 14 Pairwise Comparsion of Importance Intensity Across LLP Alternatives in Criterion "Use Local Raw Materials And Represent Local Uniqueness"

Based on the description in Figure 4, the most important LLP alternatives are Dried Fish/Peyek Pepija (0.214), followed by Meat/Sampit of Crab & Surimi (0.130), Chips/Crackers (processed from fish/shrimp/crab/sea grass) (0.122), Milkfish Amplang Crackers (0.118), Terap Layer Sponge Cake (0.111), Crispy Soka Crab (0.111), Shredded Milkfish (0.100), and Presto Milkfish (0.095).

4.2.4 Priorities of Local Leading Products Alternatives for SMEs in Tarakan City

Local Leading Products (LLP) alternatives have been compared and the results of the comparison guide the determination of priority for these alternatives. Opinions regarding the best alternatives are given by expert informants. Results of prioritization of LLP alternatives are exhibited in Figure 15.

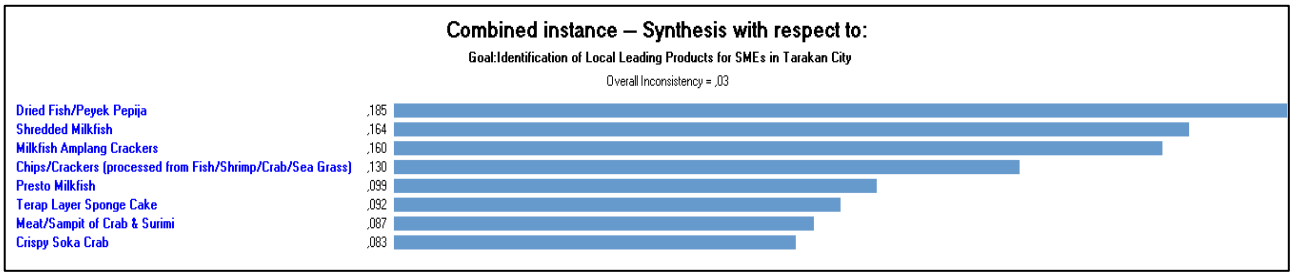

Figure 15 Prioritization of LLP Alternatives

The description of Figure 15 shows that there are three alternatives of Local Leading Products (LLP) receiving top priority. These alternatives are: (1) Dried Fish/Peyek Pepija; (2) Shredded Milkfish; and (3) Milkfish Amplang Crackers. First priority is focused on "Dried Fish/Peyek Pepija". Result of analysis on this LLP alternative indicates that this alternative has fulfilled LLP criteria, such as: still involve other locality either for market or for raw material supply; absorb workers who have high qualification; not easily vulnerable to internal and external fluctuations; facilitated by many supports for its development; used daily by local people and become their pride; and use local raw materials and represent local uniqueness. Dried Fish/Peyek Pepija is processed from Nomei Fish, or also known as *Ikan Pepija* (local name). In Latin, this fish is called *Harpadon Nehereu* whereas international name for this fish is bombay duck. Nomei Fish (*Harpadon Neheru)* is commercial fish widely marketed as one of food commodities consumed by people in Tarakan City. Economic value of this fish is very high with production level reaching 10 tons per month for fresh nomei fish or 3 tons per month for dried nomei fish [22].

Second priority is given to "Shredded Milkfish". According to the result of analysis on this LLP alternative, this product alternative has met some criteria, such as: have strong forward linkage and backward linkage to either leading products at the same competition or to those in different competition; have capability to compete either at national or international markets; and oriented toward conservation of resources and environment. Shredded Milkfish is a product processed from meat fiber of milkfish. Latin term for milkfish is *chanos chanos.* Milkfish production dominantly derives from embankment pool cultivation. Productivity level of milkfish embankment in Tarakan City is relatively high. Economic value of milkfish embankment is quite promising with mean value of 1.2 tons/ha/year in 2017 [23].

Furthermore, third priority is emphasized on "Milkfish Amplang Crackers". Result of analysis on this LLP alternative shows that this product alternative has fulfilled two criteria, namely become the driving force for local economic development and durable in longer term. Milkfish Amplang Crackers is snacks processed from milkfish (*chanos-chanos*) mixed with powder. *Amplang* has been known as traditional snacks that are widely consumed by people in northern and eastern parts of Kalimantan Island.

5 Conclusions

The objective of this research is to identify work sectors and local leading products that need to be developed to improve the competitiveness of Small & Medium Enterprises in Tarakan City. Result of research showed that four work sectors have been identified as having potentials to be developed into local leading sectors. These sectors are: Wholesale and Retail Tradings, Construction, Transportation and Warehousing, and Processing Industry. Research recommends fishery-based processing industry to be developed into local leading sector. This recommendation is consistent to the government program stipulated in "Spatial Order Plan for North Kalimantan Province, Number 1 for Period 2017-2037". This Plan intends to develop Tarakan City to become the center of processing industry that is based on fishery commodities with environmentally friendly procedures. This research also found three criteria that have the highest importance intensity to be applied on identification of local leading products that help Small & Medium Enterprises to improve its competitiveness. These criteria are: the development of the products is oriented toward conservation of resources and environment; the products must use local raw materials and represent local uniqueness; and the development of the products is facilitated by many supports. Besides these criteria, research also discovered three alternatives of Local Leading Products that shall be given priority for development. These product alternatives are Dried Fish/Peyek Pepija, Shredded Milkfish and Milkfish Amplang Crackers.

Local leading products are very much in line with comparative theory, so the results of this study can be a reference in increasing the economic growth of a country based on local advantages. In addition, this research can be a recommendation for future research, especially designing a strategy model for the development and sustainability of selected local leading products. Development and sustainability strategies can be directed at increasing product quantity and quality, strengthening derivative product innovations, increasing sales promotions, developing science and technology, and building partnership programs. Thus, local leading products can compete in a wider market both nationally and internationally.

Acknowledgement
This research is supported by Directorate General of Higher Education, Research and Technology, that is responsible to the Ministry of Culture, Research and Technology of the Republic of Indonesia.

References

[1] SUSANTO, H.: Kajian Komoditas Unggulan, Andalan Dan Potensial Di Kabupaten Grobogan, *Journal of Rural and Development*, Vol. 5, No. 1, pp. 63-80, 2014. (Original in Indonesian)
[2] BPS, Statistik Daerah Kota Tarakan, BPS Kota Tarakan, Tarakan 2018. (Original in Indonesian)
[3] Disperindagkop-kaltara, Pelaku UKM Kota Tarakan, 19 Agustus, 2018. (Original in Indonesian)
[4] '*Produk UMKM Terkendala Pasar dan Kemasan*', in *PROCAL.CO*, ed. Tarakan, 2017. (Original in Indonesian)
[5] RICARDO, D.: *On the Principles of Political Economy and Taxation*, London, John Murray, Albemarle-Stree, 1817.

[6] SINGH, R.K., GARG, S.K., DESHMUKH, S.G.: Strategy development by SMEs for competitiveness: a review, *Benchmarking: An International Journal*, Vol. 15, No. 5, pp. 525-547, 2008.
[7] Peraturan Menteri Dalam Negeri Republik Indonesia, Nomor 9 Tahun 2014, Tentang Pedoman Pengembangan Produk Unggulan Daerah, NOMOR 9, 2014. (Original in Indonesian)
[8] DARYANTO., HAFIZRIANDA, Y.: *Analisis Input-Output & Social Accounting Matrix untuk Pembangunan Ekonomi Daerah*, Bogor, IPB Press, 2010.
[9] PARDEDE, R.H., TARMIZI, H.B., RAHMANTA, R., PURWOKO, A.: Measurement Instruments for Superior Product Development: A Case Study of Deli Serdang Cassava in Indonesia, *Journal of Asian Finance, Economics and Business*, Vol. 8, No. 5, pp. 1139-1145, 2021.
[10] PORTER, M.E.: *The Competitive Advantage: Creating and Sustaining Superior Performance*, New York, Free Press, 1985.
[11] TARIGAN, R.: *Perencanaan Pembangunan Wilayah*, Jakarta, PT Bumi Aksara, 2005. (Original in Indonesian)
[12] WIDODO, T.: *Perencanaan Pembangunan, Aplikasi Komputer (Era Otonomi Daerah)*, Yogyakarta, UUP STIM YKPN, 2006. (Original in Indonesian)
[13] SAATY, L.T.: *Pengambilan Keputusan Bagi Para Pemimpin, Proses Hierarki Analitik untuk Pengambilan Keputusan Dalam Situasi yang Komplek*, Jakarta, Gramedia, 1993. (Original in Indonesian)
[14] BPS, Produksi Perikanan Tangkap di Laut Menurut Komoditas Utama, Badan Pusat Statistik Kalimantan Utara, 2019. (Original in Indonesian)
[15] LUKIHARDIANTI, A.: "Green Product Kian Diminati Masyarakat Indonesia," in *Republika*, ed: Republika, 2020.
[16] LEONIDOU, L.C., CHRISTODOULIDES, P., KYRGIDOU, L.P., PALIHAWADANA, D.: Internal drivers and performance consequences of small firm green business strategy: the moderating role of external forces, *Journal of Business Ethics*, Vol. 140, No. 3, pp. 585-606, 2017.
[17] LEONIDOU, L.C., KATSIKEAS, C.S., FOTIADIS, T.A., CHRISTODOULIDES, P.: Antecedents and consequences of an eco-friendly export marketing strategy: the moderating role of foreign public concern and competitive intensity, *Journal of International Marketing*, Vol. 21, No. 3, pp. 22-46, 2013.
[18] BARNEY, J.: Strategic factor markets: expectations luck and business strategy, *Management Science*, Vol. 32, No. 10, pp. 1231-1241, 1986.
[19] COSTA, L.A., COOL, K., DIERICKX, I.: The Competitive Implications of The Deployment of Unique Resources, *Strategic Management Journal*, Vol. 34, No. 4, pp. 445-463, 2012.
[20] PARRAS, M.: *New global and local marketing strategies: creation of added value through differentiation and high quality products*, In: Arcas N. (ed.), Arroyo López F.N. (ed.), Caballero J. (ed.), D'Andria R. (ed.), Fernández M. (ed.), Fernandez Escobar R. (ed.), Garrido A. (ed.), López-Miranda J. (ed.), Msallem M. (ed.), Parras M. (ed.), Rallo L. (ed.), Zanoli R. (ed.). Present and future of the Mediterranean olive sector. Zaragoza: CIHEAM / IOC, 2013. pp. 87-95. (Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 106). International Seminar: Present and Future of the Mediterranean Olive Sector, 2012/11/26-28, Zaragoza, 2012.
[21] ROCHMAWATI, A., HADI, M., SUWONDO.: Peran Pemerintah Dalam Pemberdayaan Pengrajin Tenun Ikat Bandar Kidul Sebagai Produk Unggulan Daerah (Studi Pada Sentra Kerajinan Tenun Ikat Bandar Kidul Kota Kediri), *Jurnal Administrasi Publik*, Vol. 3, No. 11, pp. 1827-1831, 2015. (Original in Indonesian)
[22] NUGROHO, E.D., VLORENSIUS., SALURAPA, A.: Preferensi Pemijahan dan Habitat Ikan Nomei (Harpodon nehereus) di Perairan Juata Laut Tarakan Sebagai Upaya Konservasi, *Biogenesis*, Vol. 5, No. 1, pp. 55-60, 2017. (Original in Indonesian)
[23] MACHMUDDIN, N., SULISTYO, A., PURWATI, Y.: Efisiensi Produksi Budidaya Ikan Bandeng (Chanos Chanos) Di Kota Tarakan, *J-PEN Borneo, Jurnal Ilmu Pertanian*, Vol. 2, pp. 1-7, 2018. (Original in Indonesian).

Review process
Single-blind peer review process.