

Peanut Supply Chain Reinforcement Model

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ARTICLE INFO	ABSTRACT
<p><i>Keywords:</i> supply chain SWOT reinforcement empowering communicaton</p> <p><i>Kata Kunci:</i> rantai pasokan, SWOT, penguatan, pemberdayaan, komunikasi</p> <p>Corresponding author: nonratna1@gmail.com</p>	<p>The study focused on reinforcement model establishment for peanut supply chain as one of potential exporting commodity due to the threat of global trade liberalization. As one of main peanut producer area, however, Bangkalan Regency has poor management along the chain with various problems internally and externally. The research involved primary data through both observation and in depth interview of several key informants at main producer area in Bangkalan Regency such as head of farmer groups, extension workers and local leaders. The strategic model analyzed by using SWOT analysis had resulted turn around strategy that emphasize consolidation and improvement of weaknesses while catching opportunities. Improvement of weaknesses strategies can be done by involving farmers into local base institution such as farmer group and cooperative group, providing farmers the literacy program, educating farmer on digital equipments for e-market preparation, and empowering micro scale business of peanut base material. Next, the opportunities considered to be taken are embracing middleman as partner, building peanut industry, distributing infrastructure improvement to remote agricultural area, providing information by having partnership with vendor such as XL and Telkomsel, and assisting farmer's marketing institution in the operation.</p> <p>SARI PATI</p> <p><i>Studi ini berfokus pada pembuatan model penguatan supply chain kacang tanah sebagai salah satu komoditas potensial ekspor seiring adanya ancaman liberalisasi perdagangan global. Sebagai salah satu wilayah penghasil utama kacang tanah, Kabupaten Bangkalan memiliki manajemen yang kurang di sepanjang rantai pemasarannya dikarenakan permasalahan baik internal maupun eksternal. Peneliti ini menggunakan data primer melalui observasi dan in depth interview dengan beberapa informan kunci di beberapa wilayah penghasil utama kacang tanah antara lain ketua kelompok tani, pekerja penyuluh pertanian dan tokoh masyarakat. Model strategi dianalisis dengan menggunakan analisa SWOT yang menghasilkan strategi turn around dengan menekankan pada konsolidasi dan perbaikan kelemahan sambil menangkap peluang yang ada. Perbaikan kelemahan</i></p>

dilakukan dengan melibatkan petani pada kelembagaan lokal seperti kelompok tani dan koperasi tani, menyediakan program literasi bagi petani, mengedukasi petani dalam penggunaan peralatan digital guna persiapan menuju e-market, serta empowering usaha mikro berbasis kacang tanah. Selanjutnya peluang yang perlu dipertimbangkan adalah menggandeng pedagang perantara sebagai mitra, pembangunan industri berbasis kacang tanah, perbaikan infrastruktur yang lebih merata di wilayah rawan akses pertanian, penyediaan informasi dengan bermitra bersama vendor seperti XL dan Telkomsel serta pembinaan kelembagaan terkait pemasaran melalui koperasi.

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INTRODUCTION

Peanut plays an important role for industrial sector and global trade of Indonesia. Central Information Data of Agriculture Ministry released that peanut was one of highest export commodity contributing 3.08 thousand tons in the period of 2010-2014. Bangkalan district is one of high producer area with 337,515.91 tons production, located in Madura Island of East Java Province (Badan Pusat Statistik, 2016). Similarly Hidayati (2017) mentioned that peanut in Bangkalan district has been becoming favorite crop during dry season by showing positive grow of peanut lands in the second rank after corn by 27.325 ha harvesting area and 12,352 quintal/ha productivity. Since it is categorized as dry hazard area, therefore peanut is generally planted either in the beginning of rainy season or dry season (70%), while the rest (30%) is planted in an irrigated land during dry season.

Despite the potential production of peanut, recent rapid global competition due to technology and information upgrade has changed the work of market. Some countries are capable of changing raw material into value added products suggesting re-export patterns although they are not main peanut producer such as European countries (Belgium, Netherlands, and France) that actually imported from other main producers in Africa (Jambor and Gibba, 2017). Hidayati (2015) also said that producer country is no longer important problem since there is advance technology to

transform the product and put main target for the ultimate consumers. The highest benefit is gained by manufacturing country that developing countries mostly neglected.

Ideally, farmers should be able take important role in either traditional or modern market. Each market has its standard with specific rules of both quality and quantity. However, this does not affect farmers since they sell their product to middleman (*small collectors*) instead of market. Decision in the market depends on the wholesaler whose as first actor sorting and grading produce taken from small collector or middleman with 'abresan system' (all grade and quality are mixed and sold in one price) (Fizzanty and Kusnandar, 2012). Farmer's capacity in communication should be built to help establishing their channel. Rantung, Adolfin and Wenas (2016) mentioned that supply chain peanut can be well-performed if there are good and efficient coordination among stakeholders. In the other hand, peanut has good price such as unpeeling price ranges in between Rp 7.500 - Rp 8.000 per-Kg, and peeled peanut have range price in between Rp 12.000 - Rp 12.500, hence, peanut has obviously stable price compared to other crop (Bangkalankab.go.id, 2014).

Farmers indeed have agricultural local wisdom but they need further information and access to the technology for more efficient farm work. Communication network among farmers or groups

is important for information sharing. Moreover, networking with stakeholders will enhance their *social clique*. A and Selvakumar (2018) argued that the most important factor influencing the supply chain performance is information sharing among business entities. Muhammad (2004) emphasizes that socio culture of society is diverse therefore communication network of each area is highly affected by sociogram. Hence, government along with other institutions needs to solve the weaknesses of market linkages, infrastructure, information and capacity building (Kerdsriseam and Suwanmaneepong, 2015). Social sustainability adoption practices in the upstream supply chain through focal firms interventions will improve both the suppliers performance and supply chain performance that may results positive performance outcomes (Mani, Gunasekaran and Delgado, 2018). In order to improve peanut supply chain performance, it is important to see whole potential actor activities to create better model for farmers for significant involvement under globalization.

Literature Review

Supply chain becomes important concept to improve farmer's capacity in produce marketing, particularly under recent global trade. Upstream supply chain design will affect whole supply chain sequences in strategic alliances operation based (Ageron, Gunasekaran and Spalanzani, 2012; Hidayati, 2017). Supply chain consists of sequence of activities that directly or non-directly involved in the consumer demand, not only about producer and consumer but also warehouse, supplier, retailer and ultimate consumer (Chopra et al, 2003) and involves activities to determine transportation to vendor, money transfer either by credit or cash, suppliers, bank and distributors, debt and accounts receivable, warehousing and supplies level, order completion, information sharing with customer, prediction and production (Heizer and Render, 2005). Success indicators of supply chain management are increase of marketing margin, producer's market knowledge, decrease of product loss during storage and transportation, increase of

product quality, increase of food product safety guaranty significant selling, increase of value added of product that enhance revenue (Roekel, Willems and Boselie, 2002). In order to build strong farm from production to marketing level, it is important to improve supplies and infrastructure quality to support agriculture in rural area, for instance, there are road construction, irrigation facilities, electricity and communication network.

The research use SWOT analysis that involved direct observation and information obtained from in depth interview for both internal and external factors. SWOT analysis is used to identify strategies for community development (Singh, 2010). Specifically, SWOT is a basic model to assess what a business both can and cannot do within potential opportunities and threats (Ommani, 2011). The method of SWOT analysis is to take the information from an environmental analysis and separate it into internal (strengths and weaknesses) and external issues (opportunities and threats).

METHODS

The research was held at Bangkalan Regency by focusing on four subdistricts of peanut main producer namely Konang, Geger, Socah and Modung sub district. Data was gathered through questionnaire distribution by interview. It used *purposive sampling* targeting on 40 farmers at separate sub districts, each 10 respondents. It involved *indepth interview* approach to key informants such as local leader, farmers, wholesaler, middleman and extension workers whose understand problems. It also supported by secondary data such as literature review and governmental report through *surfing internet*. There was small discussion with related parties to support the research result.

Framework of research was started by identifying peanut market channel to investigate farmer's capacity in marketing and listing involved parties along the channel. Next, there was selection of vertical and horizontal channel particularly in terms of marketing communication channel.

Several factors were also identified to investigate supporting parties in the establishment of marketing communication network. Other data such as farmer’s characteristic, communication facilities, availability, network, extension worker, industry and farmer group have been analyzed. These combination data were used as references in creating the model.

The analysis procedures used following steps, firstly to list the factors presumed to be affecting marketing activities, secondly to identify the factors into SWOT matrix based on internal factor (consisting strength and *weaknesses*) and external factors (consisting opportunity and threats), thirdly to Analyze by using IFAS and EFAS. Then, strategy can be formulated by integrating four scenarios arrangement as shown in Table 1.

RESULTS AND DISCUSSION

Summarize of internal and external analysis of peanut supply chain assessed in Bangkalan District of East Java Province is illustrated in Table 2 and Table 3. Overall, there are less strength compared to weaknesses and more opportunities than threats.

Identification of Internal Factor in Peanut Farming at Bangkalan Regency

Table 2 shows negative score which means that weaknesses overweigh strength of supply chain at Bangkalan Regency.

The major threat of farmers is information source taken solely from middleman and hardly farmers

gain more information from other sources since they are lack of access for both media and tools ownership. Hidayati (2017) also said that despite digital world existence, handphone ownership on peanut farmer’s are 63% and the rest at about 37% could not use this tool. Unability to access this type of information had been worsen due to many farmers who are still not part of farmer group since this group is extremely important in supporting farmer’s capacity enhancement particularly in sharing any update. Sukanata and Yuniati (2015) resulted that farmer’s involvement in farmer group will help them to get information for further action of adoption and cooperate among farmers in technology impelentation.

However, there are other powers on farmers that can be used to empower themselves for better participation in supply chain. There are easy cultivation and easy marketing, stable price and long experience of peanut farming for more than 10 years. Easy cultivation is main key to produce high quality, efficient and continuous product meanwhile good market can support effective product distribution. Producer will give good response on stable and safe price guaranty from any fluctuation, which is supported by middleman. This result is similar to Rantung, Adolfina and Wenas (2016) that middleman could help peanut farmer in marketing by coming directly to the field area. In addition, 10 year experience of farmers shows that these years are equal to informal training for farmers like trainee at office work *on the job training* session,

Tabel 1. SWOT Matrix

External Factor	<i>Strength</i>	<i>Weakness</i>
Internal Factor		
Opportunity	<i>SO Strategy</i> Using strength in order to utilize opportunities	<i>WO Strategy</i> Minimizing weaknesses and utilize opportunities
Threats	<i>ST Strategy</i> Using streghth to face threats	<i>WT Strategy</i> Minimizing weaknesses to avoid threats.

Tabel 2. IFAS Analysis result of Peanut Supply Chain Model in Bangkalan Regency

Number	ITEM	WEIGHT	RATING	SCORE
<i>Strength</i>				
1	Peanut is easy to grow and matched soil type in Bangkalan	0.1	3	0.3
2	Peanut is easy to be marketed	0.1	4	0.4
3	Peanut has good and stable price	0.1	3	0.3
4	The majority of peanut farmers has at least 10 years experience	0.05	2	0.1
	Sub Total			1.1
<i>Weakness</i>				
1	Small number of farmers join farmers group	0.1	2	0.2
2	Some farmers do not have access tool for information and communication (such as hand phone)	0.1	2	0.2
3	Farmers hardly know marketing information of peanut commodity either by electronic or printed media	0.15	4	0.6
4	Farmers sell raw peanuts	0.1	3	0.3
5	Farmers gain price information solely from middleman	0.2	3	0.6
	Sub total			1.9
	TOTAL	1		-0.80

eventhough farmers mostly focused on cultivation without upgrading marketing capacity. It may give strong education in cultivation, but they never actually learn about how to market their produce with good price.

Identification of External Factor in Peanut Farming at Bangkalan Regency

External analysis of peanut supply chain showed that the opportunity is wider than the threats. This gave positive signal for peanut market development in Bangkalan Regency. Hereunder is detail of analysis result as shown in Table 3.

Table 3 described that external analysis has positive value. There are opportunities that can be used for peanut market development such as wide market existence, peanut base industry opportunity, available infrastructures and communication network. In contrast there are still threats such as

extension worker issue, weather support due to water availability, particular infrastructure at remote area and unestablished marketing networking.

Opportunities for peanut supply chain in Bangkalan Regency are many. First, peanut is easily to be distributed to other adjacent potential area such as Surabaya which is second big city in Indonesia. Surabaya city attracts visitors from various places and it has central market for surrounded city nearby such as Gresik, Probolinggo and Sidoarjo. Secondly, main road infrastructure at some main producer areas is already well built to support marketing access such as at Modung and Socah. Other infrastructure is cooperative building to provide inputs for farming and distribution at wider areas. There are 54 cooperative buildings at Modung subdistrict, 50 units at Konang subdistricts, 39 at Socah and 73 units at Geger subdistrict. These facilities can be used by farmer to buy

Tabel 3. External Factor Analysis of Peanut Supply Chain in Bangkalan Regency

NO	ITEM	BOBOT	RATING	SKOR
<i>Opportunities</i>				
1	Peanut market is still widely open, particularly for Gresik and Surabaya market	0.1	4	0.4
2	There is no peanuts base industrial in Bangkalan Regency established yet	0.2	4	0.8
3	Good infrastructures at main peanut producer area such as Modung and Socah sub district	0.05	2	0.1
4	Communication vendors are available, such as Telkom and XL	0.05	2	0.1
5	Peanuts commodity information are available in the internet and potentially to be accessed by farmers	0.1	3	0.3
	Sub Total			1.7
<i>Threat</i>				
1	Socialization by extension workers are mostly for other commodity instead of peanut (paddy, corn and soybean)	0.05	2	0.1
2	Lack of water supply during dry season	0.05	2	0.1
3	Bad Road infrastructure in hilly area at peanut producer area Konang and Geger Sub District	0.1	1	0.1
4	Inadequate extension worker to facilitate farmers	0.2	4	0.8
5	No communication system among peanut chain stakeholders	0.1	3	0.3
	Sub total			1.4
	TOTAL	1		0.3

inputs and as media to share information among supplier and farmers or among farmers as buyer. Beside infrastructure, communication network is also important in providing informations. There are two main vendors at Bangkalan Regency, namely Telkomsel and XL that could support information network for farmers. It is expected that farmers will have curiosity in utilizing internet as information media to explore peanut commodity issue. As resulted by Jumiati *et al.*, (2013) that farmer needs to seek information about price at consumer level to obtain better bargaining position.

The majority threat is related to facilities and media availability. In extension issue, emphasized

material is cultivation enhancement particularly for paddy, corn, and soy therefore farmers gain less knowledge about peanut. They also lack of knowledge in terms of marketing issue. In addition, there are inadequate extension worker since 2-4 extension workers covered one village that consists of several dusuns (sub village/ community). Infrastructure issue as threat involves hilly area that have poor road infrastructure so that produce distribution to other area could not go smooth. Meanwhile in communication issue, cross-communication network has not been established among stakeholders in the chain, especially between middleman and farmer. Middlemans actively come to farming area to buy products and

offer price to farmer which will be immediately agreed due to lack of information. In the other word, farmers are passive side. This is similar to Churi *et al.* (2012) that farmers never plan their product marketing after harvesting session and just need to sell. Next, result of internal ad external analysis is drawn into Figure 1.

Position at quadran III showed that farmer has weaknesses at various issues that need to be overcome through beneficial opportunities. Therefore, suitable strategy for peanut farmer empowering is by three alternatives namely consolidation, improvement and altering farmer's point of view that may help deleting any threats. As Churi *et al.*, (2012) said that designing communication related-strategy for agricultural information in study area will need considerations such as resources, channel, and farmer's social economic status. Hidayati (2016) also stated that government has important role in facilitating elements such as material access, information technology, technical assistance (training, assistance, advocacy) and provide conducive-capital situation. Therefore, the strategy model is established:

SO Strategy:

1. Building peanut industry in Bangkalan Regency to absorb local peanut. Role of several agencies such as Micro, Small and Medium Scale Business and Cooperative Agency is to support this.
2. Creating information database for agricultural commodity including peanuts at Bangkalan that easily accessed by handphone for extension workers or other important party to supply information for farmers regularly.
3. Empowering middleman as farmer's informants under cooperation with government

WO Strategy:

1. Approaching non-group farmers to join and gain benefit from the group by the assistance of extension worker. It is expected to be used as information media sharing both vertically and horizontally.
2. Creating marketing communication program for farmers in remote area under cooperation with College. There are several steps can be occupied namely farmer's literacy program, digital education program and

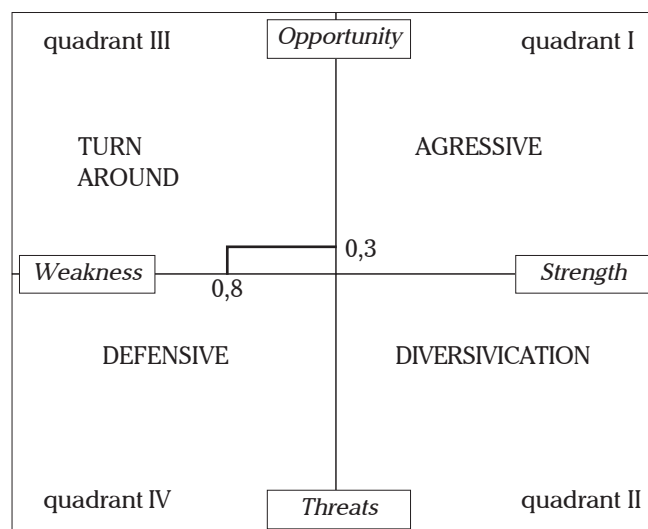


Figure 1. SWOT Analysis Result of Peanut Marketing Networking in Bangkalan Regency

software application program by establishing cooperation with Telkom or XL.

3. Giving value added to peanut by grading, drying and peeling to support micro business establishment at farm level.
4. Establishing cooperation with middleman agent and cooperative of farmer in digital marketing and e-market to build fair trade.
5. Building peanut business industry in Bangkalan to absorb local peanut potential

ST Strategy:

1. Increasing socialization program about marketing of agricultural products
2. Distributing infrastructure program in the remote area to smooth commodity distribution
3. Adding number of extension worker or at least assistant of extension workers by empowering potential youth in the area such as Karang Taruna institution. They will be able to assist farmers in gaining information about agricultural issues.
4. Building communication network of marketing chain through e-market implementation.

WT Strategy

1. Extension worker make approach to farmer who has not join the group to involve in the group that can be used as information media, vertical and horizontal communication with stakeholders
2. Increasing information and communication role in the remote area by creating marketing communication program for farmers. This can be done in several steps starting from literacy for farmers program, digital education program, software application program cooperation with vendor such as Telkom or XL.
3. Adding number of extension worker or at least assistant of extension workers by empowering potential youth in the area

such as Karang Taruna institution. They will be able to assist farmers in gaining information about agricultural issues.

4. Adding extension agenda for socialization namely peanut value adding, tips and trick for dry season peanut farming and peanut
5. Having cooperation with middleman agent and farmer cooperative in digital marketing communication by implementation of e-market. This program can be used to empower farmers and buy their products fairly.

By prioritizing on several actions therefore more detail model is created to have comprehensive on each stakeholder. Each side is design to take role based on the sequences as hown in Figure 2.

There are opportunities and strength on peanut's commodity that can be seen from stakeholder's role in upstream and downstream to create supporting strategy on an efficient supply chain (Rantung, Adolfina and Wenas, 2016). Therefore, strategy creation is based on each role of stakeholders that will be detailed as follows:

1. Government's role will be based on each duties attached in the agency, as Fizzanty and Kusnandar (2012) mentioned that government has important role in produce distribution. The expected roles based on the model are:
 - a. Public Work Agency (PU Bina marga) should support infrastructure building such as road and bridge at remote area. This work will open marketing access of agricultural product from farm to market area and helpful for farmers, middleman, and industry. Moreover, extension worker will be easy in spreading information to many areas in order to deliver program from government.
 - b. Agriculture and livestock agency will support for *back up* of market related-information data. This can be done through partnership establishment with telecommunication vendor such as XL and

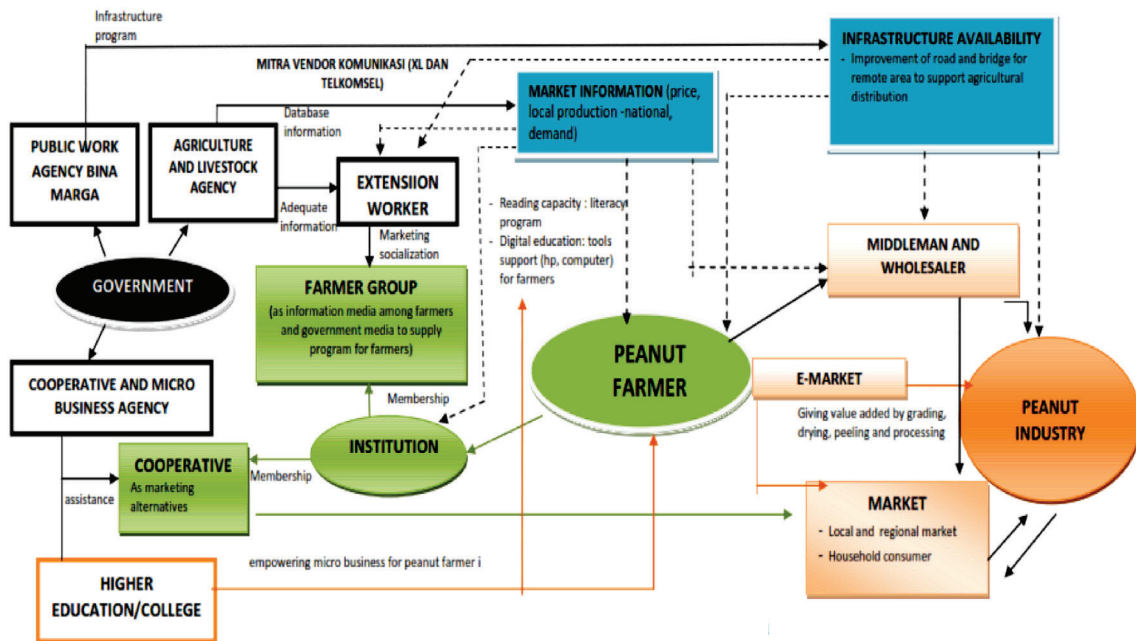


Figure 2. Peanut Supply Chain Reinforcement Modeling in Bangkalan

Telkomsel that mostly used by local people in Bangkalan Regency. Data being provided at least covers price trend, production, and any available program in local and national level that can be used by local farmer within groups. This information should be easily accessed by extension worker as delegation of Agricultural Agency that further will be delivered to peanut farmer through socialization of extension work and also simple training.

There are several statements of extension workers that can be used for further improvement consideration. Mr. Abdul Rouf is as Head of extension worker who has been working for about 40 years in Kamal subdistrict of Banyuajuh village informed that the visit is generally twice a week to the village for extension service in farmer's group. He mentioned that there is short share information and discussion about peanut farming with farmers. Most problems on farmers to be discussed is

cultivation issue particularly about fertilizer, which farmer could solve their problem by using organic fertilizer. In addition, he also mentioned that farmers are hardly to join farmer's group that make it difficult to share more information or innovation. Other extension officers are Inna Nur Farida, Supriono and Ali Ibrahim who said that extension services are mostly in groups and they have never share any information about peanut although there are many peanut farmers. Problem that may arise is infrastructure for access. However all extension workers are agree that information facilities are not available yet for farmers service. They consider that extension worker is better way to deliver information rather than those farmers accessing through internet by themselves due to literacy problem.

- c. Cooperative and Micro, Small Medium Enterprise Agency should assist farmer's cooperative in marketing orientation. This agency can support industrialization

- inisation in Bangkalan Regency. Head of sub unit for institutional affair at Cooperative and Micro, Small Medium Enterprise Agency Bangkalan Regency Mr. Sukandar informed that there are actually many micro businesses that operate in Bangkalan area without the assistance of related agency because of unregistered. Therefore, more active officer is needed to complete the data of Agency in order to give proper assistance and at least updated data availability of small micro business.
2. Farmers need to have role in farmer's institution such as cooperative and group. Their involvement will enable government to check the possible list of needs for any aids or programs. A research result mentioned that in order to solve farmer's problem, one of possible solution is having farmer's group role as marketing facilitator (Fizzanty and Kusnandar, 2012) although according to Natawidjaja *et al.* (2007) that farmer's group role in marketing is still in beginning step and can be found at high commercialization area with adequate infrastructure. In addition, farmers could shorten their marketing margin by selling their produce directly to the market or use e-market. As Kai *et al.*, (2016) said that short marketing channel and small cost will give better benefit to farmers and encourage them to reach an efficient marketing system.
 3. The operation of *E-Market* should be simple and easy use. In this part, there are steps need to be done by farmers to gain more consumers that supposed to be assisted by academician or related agency. First is by giving value added to the product such as grading, drying, peeling or processing to capture wide range of consumers including regional market or industry. Secondly, farmers need to take interesting image within traceability information of the product to show the quality through image such as harvested time and varieties. Thirdly, they need to upload into the social media that they familiar with such as facebook or tokopedia as initial potential e- market. It is possible to create special agricultural e-market by the help of local government but it will take long run for common people to know the site. Oftentimes new web site is hardly found by potential consumer. Finally, it may needs additional information inserted with the image

Tabel 4. Results of Multiple Regressions Analysis

Model	Coefficient	Standard coefficient	t	Sig.
Constants	-1.406		-2,981	0.004
Size	0.063	0.425	4,089	0,000 *
ROA	0.247	0.194	1,782	0.079 **
Leverage	-0.002	-0,058	-0.576	0.566
Liquidity	-0.011	-1.25	-1,176	0.244
Industry Type	0.027	0.102	1,006	0.318
DK Composition	-0.204	-0.173	-1,718	0.090 **
Audit Committee Size	0.015	0.061	0.581	0.563
R	= 0.540			
R Square	= 0.291			

Dependent variable: Intellectual Capital Disclosure

* = significant at the level 5%

** = significant at the level of 10%

such as, available amount in Kg or tonne, price, contact number, payment method, packing and distribution method. These steps establishment should be assisted by related institution such as agency and academision.

Academician from higher degree or university will support the assistance in gaining and delivering information. The very basic thing is developing reading capacity trough literacy program for farmers. Next program is digital education which conducted by having socialization of information media importance for life improvement and communication media ownership such as handphone or computer. Research result showed that peanut farmers oftentime loss due to inability to find out proper time in selling and setting minimum price (Kai *et al.*, 2016) therefore farmers need information access into price data to avoid any price playing by middleman (Zuraida and Wahyuningsih, 2015). Next is product marketing orientation that reach ultimate consumer should be initiated by empowering micro scale business that use peanut as material base. This assistance program will give value added on peanut and increase the selling price. Ending point of this activity is encouraging farmers to sell their peanuts through *E-Market* that could be possibly done in farmers group. This market could be used as information's bridge between customers and farmers.

4. Midleman needs to be taken as partner in marketing network because they have more information. Partnership should be established between farmer and middleman so that continuous communication and engagement will be more responsible as (Swastika, 2014) said that partnership can be used to gain together benefit among peanut stakeholders with most important issue namely market guarantee. Have as middleman worker at Modung sub district informed that he directly come to the farm and meet farmers for

transaction. He mentioned that there are many farmers produce peanut that benefit him to get many products. In addition, Modung sub district has good road infrastructure to go through. However, it is different from the statement of other midlemans such as H. Homiseh, Marju and Sariyeh. They said that road is main problem for them because they targeted Geger sub district and Socah subdistrict area that has poorer access. But, they have similar method of transaction which is directly come to the farmer. Another problem on middleman is peanut that easily being rotten if not being sold soon, being dried or properly stored.

5. It is necessary to build peanut base industry in Bangkalan. This can be used to absorb local peanut commodity that has potential to be further developed into manufactured product. As mentioned by recent research that it is important to enhance entrepreneurship capacity by using peanut as basis material such as nuts jam, cake or snack for giving value added to the commodity that can be initiated by farmer group (Fauziyah and Hidayati, 2016). In addition, if the e market being established, there are wide opportunities for not only industry in Bangkalan but also other national level that would be able to reach the product. However, existence of industry is important in supporting the local potential product.

In short, supply chain reinforcement needs various stakeholders involvement that have market orientation, as Wibowo, Supriyadi and Adp (2017) said that creating strong supply chain should be done through market exploration to asorb the produce and develop partnership by considering governmental role to support both direct and indirect aid.

MANAGERIAL IMPLICATIONS

The research results will give impact on stakeholder's role arrangement along peanut supply chain. Farmer's empowering as producer is highly empha-

sized in order to involve them into significant participation in the peanut supply chain by assistance and education. Passive marketing should be altered by more active marketing by communication and information upgrade. This should be supported by institution as mentioned in the model such as Public Work Agency, Agriculture Agency and Cooperative and Micro, Small, Medium Enterprise Agency. In the other hand, supporting institution like University should take part as assistance in the society empowerment. Therefore, integration among stakeholders should be clearly known by each side. This model can be used as one of solution for changing of farm gate selling orientation into ultimate consumer selling orientation.

CONCLUSION

This paper has introduced the peanut supply chain reinforcement model for Bangkalan district by using *turn around* strategy that needs of more

consolidation, weaknesses improvement and taking opportunity. Drawing from all elements, weaknesses are improved through empowerment program for farmers in the institution (farmer group and cooperative), education program for farmers through sequences of activities such as literacy program, digital tool education, and e market education program. Meanwhile consolidation agenda in marketing operation could use middleman as strong partner for information sharing. It is also important agenda to build industrial base of peanut in Bangkalan Regency to catch widened opportunity. Furthermore, governmental support in infrastructure will significantly open access of distribution area and several related agency such as Public Work and Cooperative Agency will support the assistance in marketing. And one of access opening effort is by building partnership with vendor such as XL and Telkomsel. ■

Acknowledgement

Gratituiton is delivered to LPPM of Trunojoyo University that support research finance in 2017.

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