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ENTREPRENEURSHIP COMPETENCE LEVEL OF ORGANIC FARMERS IN YOGYAKARTA PROVINCE

Level Kompetensi Kewirausahaan Petani Organik di Provinsi Yogyakarta

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ABSTRACT

Business on organic farming is now growing rapidly. Entrepreneurship competence has an important role in improving the organic business growth. Therefore, the objectives of this study are 1) to determine personal competence level such as self confidence, creative, risk taking, focus on problem solving, interpersonal ability, and readiness to learn, 2) to analyze technical competence levels such as input creation skills, increasing production skills, and enhancing quality skills, and 3) to understand the management competence levels namely general planning abilities, monitoring and evaluation, networking, customer management and marketing management. This study was conducted in Bantul, Sleman, and Kulon Progo Districts of Yogyakarta Province among organic rice, fruit, and vegetable farmers. A purposive technique was used to select 90 farmers. Normalized Rank Order method was applied to develop the scale, while Entrepreneurship Behavior Index (EBI) was used to assess the personal, technical, and management competence levels. The entrepreneurial dimension competence assumed different scale values from 5.72 to 1.00, with self-confidence getting the highest scale. The result shows organic rice, fruit, and vegetable farmers have high in some of competence. Furthermore, it still needs to increase the management, personal, and technical competence among the organic farmers.

Keywords: EBI, management competence, organic farmers, personal competence, technical competence

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INTISARI

Pertanian organik kini sedang berkembang jika ditinjau dari sisi bisnis. Kompetensi kewirausahaan berperan penting dalam meningkatkan performa bisnis pertanian organik. Penelitian ini bertujuan untuk 1) mengetahui tingkat kompetensi diri meliputi percaya diri, kreatif, fokus pada penyeleseian masalah, pengambil resiko, kemampuan interpersonal, dan kesiapan

untuk belajar 2) menganalisis tingkat kompetensi teknis yaitu kemampuan penciptaan input, kemampuan peningkatan produksi, peningkatan kualitas, dan 3) mengetahui tingkat kompetensi manajemen meliputi kemampuan perencanaan umum, monitoring dan evaluasi, kemampuan berjejaring, manajemen konsumen, dan manajemen pemasaran. Penelitian ini dilakukan di Kabupaten Bantul, Kabupaten Sleman, dan Kabupaten Kulon Progo, Provinsi Yogyakarta pada petani padi, buah, dan sayur organik. Penarikan sample dengan cara purposive digunakan untuk memilih 90 petani. Metode Normalized Rank Order digunakan untuk menghitung skala setiap dimensi, dan Indeks Kewirausahaan (EBI) untuk menghitung level kompetensi diri, teknis, dan manajemen. Keempat belas dimensi tersebut memiliki skala yang beragam mulai dari 5.72 hingga 1.00, dengan dimensi percaya diri menjadi yang tertinggi. Berdasarkan hasil analisis, petani padi, buah, dan sayur organic berada pada level tinggi dalam berbagai kompetensi. Meski demikian, peningkatan kompetensi baik kompetensi diri, teknis, dan manajemen perlu dilakukan oleh petani padi, buah, dan sayur organic.

Kata kunci: *EBI, kompetensi diri, kompetensi manajemen, kompetensi teknis petani organik*

INTRODUCTION

Organic farming provides solutions to the resource efficency challenge in terms of nutrient management, energy use, and water efficience with the potential to produce for the future. King et al., (2017) and Thamaraiselvan and Arunkumar (2010) stated that the changes in agriculture had resulted in environmental pollution, degradation of soil, and others. Therefore organic farming has become an alternative for agriculture farming system. IFOAM & FIBL (2017) reported an increasing percentage of organic agricultural land around 16.5% during 2014-2015. In the specific commodities, cereals increased around 15.84% (6% are for organic rice cultivation). Vegetables and fruit increase around 21.86%. While organic area for fruits increased around 60.74%. Organic farmer relies instead on natural farming methods and modern scientific ecological knowledge in order to maximize the long term health and productivity of the ecosystem, enhancing the quality of the products and protecting the environment (Morgera et al., 2012).

Rahmawati et al., (2016) mentioned that the entrepreneurship behavior among organic rice farmers is important. Organic farmers should increase their farming income and family welfare. Thus, they have to compete with the non-organic product in the market. High potential of organic product should be followed by farmers' capability in handling their product in the field and market. In line with the previous study, Wanyonyi et al., (2015) & Taghibeygi et al., (2016) stated that the majority of crop and vegetable farmers in agricultural country has low entrepreneurial capability. It is due to the low skill on some entrepreneurship competences such as innovativeness, creativity, risk taking, and others. The low capability might also due to their personal characteristic (age,

education, gender), social factors, and institutional factors (training availability, group discussion).

Entrepreneurship is a key factor for the survival of small-scale farming. Further, some researchers pointed out that entrepreneurship is considered as the engine of economic and cultural development of society. Entrepreneurship reduces unemployment, increases productivity of people and resources, and ultimately improves the income of the community (Kashani et al., 2015; Rajaei et al., 2011).

Competence is important in increasing an entrepreneur's capability. Competence is an underlying characteristic of persons, which results in effective and superior performance (Vijay & Ajay, 2011). Entrepreneurship competence directly affects firm performance and growth (Tehseen & Ramayah, 2015). Further, some researchers have suggested that an understanding of competence by the entrepreneurs can lead to successful small business and be used to support business growth (Mitchelmore & Rowley, 2013; Wankhade et al., 2013).

Based on the importance of competence among farmers, this research has a role to increase entrepreneurship behavior among farmers, which affect better capability on maintaining their organic farms and welfare. Competence among farmers can be defined by personal, technical, management, conceptual, human relationship, and business competence (Mitchelmore & Rowley, 2013). Those competence indicators are then divided into several important dimensions to formulate a framework. Further research is measured by self confidence, innovativeness, decision making ability, achievement orientation, risk taking ability, coordinating ability, planning ability, motivation, and information seeking behavior (Dahlan et al, 2014; Boruah et al., 2015; Porchezhiyan et al., 2016; Sadashive et al., 2017; Rahmawati et al., 2017).

The aforementioned competence should then be integrated to become the successful entrepreneur. The level of competence will be affected by a number of external and internal factors which directly and/or indirectly affect the business performance (Hermawan et al., 2015). Farmers working on rice, fruit and vegetable organic farm are predicted to have different competence levels. Because of those reasons, this research is aimed to 1) determine the farmer's personal competence level such as self confidence, creative, focus in problem solving, risk taking, interpersonal ability, and readiness to learn, 2) to analyze the farmer's technical competence level namely input creation, increasing production, and enhancing quality, and 3) to determine the farmer's management competence level such as general planning skill, monitoring and evaluation, networking, customer

management, and marketing management in Yogyakarta Province.

METHODS

An analytical descriptive method was used as the basic method to describe or illustrate the object or subject study that was investigated. The research was conducted in Special Region of Yogyakarta covering the districts of Sleman, Kulon Progo, and Bantul. Stratified Non Purposive sampling had been used in this research with a total of 90 respondents, 30 for each category respondent. Several judges will be interviewed to find the scale value. Primary data were based on the interview results and through an observational method. The secondary data were obtained from related institutions (2006 to 2017); IFOAM, FiBL, AOI, Ministry of Agriculture, FAOSTAT, and OTA. To measure the personal, technical, and management competence level, Normalized Rank Order method (Guilford, 1959) has been used in this research to calculated the scale value of every dimension. There are five steps on measuring every competence as follow (Guilford, 1959):

1. Identify the dimensions and statements
2. Relevancy weightage Statement rated as relevant with a relevancy weightage of > 0.70 were considered Shirur et al., (2015).

$$RW=\frac{\text{Most Relevant*5+Relevant*4+Netral*3+Least Relevant*2+Not Relevant*1}}{\text{Maximum possible scores*no of expert}}$$

3. Calculates scale values

$$R_i=(n-r_i+1)$$

Where:
Ri : rank of the value
ri : rank given by the expert
n : the number of things

$$P=\frac{(R_i-0.5)x100}{n}$$

The next step is determining the C values for each rank from Table M.

$$Rc=\frac{\sum(f_{ji}C)}{\sum f_{ji}}$$

Table 1. Calculation of Scale Value

Ri	R_i	D_1	D_2	D_{14}	∑	P	C
1	…	…	…	…	…	…	…
….	…	…	…	…	…	…	…
14	…	…	…	…	…	…	…
∑fji	…	…	…	…	…	…	…
∑fjiC	…	…	…	…	…	…	…
Rc	…	…	…	…	…	…	…

Source: Guilford (1959) in Shirur et al., (2015)

Where:
Rc : Scale value
∑fji : total judges
C : C value (Table M)

4. Calculate the level

To analyze personal competence, technical competence, and management competence are the composite value from each indicator. According to Boruah et al., (2015), there are three category includes Low ($\bar{X}$–SD), Medium ($\bar{X}$±SD), and High ($\bar{X}$+SD).

$$\text{Personal Competence}=\frac{\sum_{i=1}^{n}\frac{T_n}{M_n}xRcn}{\sum_{i=1}^{n}Rc_n}$$

$$\text{Technical Competence}=\frac{\sum_{i=7}^{n}\frac{T_n}{M_n}xRcn}{\sum_{i=7}^{n}Rc_n}$$

$$\text{Management Competence}=\frac{\sum_{i=1}^{n}\frac{T_n}{M_n}xRcn}{\sum_{i=1}^{n}Rc_n}$$

RESULTS AND DISCUSSIONS

All the dimensions have relevancy weightage more than 0.70, meaning that all of the indicators are relevant indicators. Sadashive et al., (2017) and Bolarinwa et al., (2016) stated that achievement motivation and fresh idea of the goals are due to the enthusiasms to become successful entrepreneur.

Personal Competence

Overall personal competence level among organic rice, fruit, and vegetable farmers are different. The highest performance of personal competence is organic rice farmers, which recorded 20% of organic rice farmers in high level. It relates to the capabilities among organic rice farmers in every dimension in personal competence aspects.

a. Self Confidence.

Organic rice and fruit farmers have longer experience in the organic farming, which is more than 7 years. They are able to handle the organic market. On the other hand, even though organic vegetable farmers have certain markets, it does not increase their self-confidence, because they are newcomers and have less than 4 years' experience. Compared with previous study by Abeyrathne & Jayawardena (2014) which majority of organic vegetable farmers has moderate of confidence level.

Table 2. Entrepreneurship Scale Value

Indicator	Scale Value
Self Confidence	6.03
Creative	5.72
Focus on Problem Solving	2.89
Risk Taking	4.93
Interpersonal Ability	2.42
Readiness to Learn	3.05
Input Creation	1.00
Increasing production	2.42
Enhancing quality	3.68
General Planning	3.99
Monitoring and Evaluation	2.10
Networking	4.15
Customer Loyalty	3.20
Marketing Management	4.46

Source: Primary Data (2018)

Table 3. Farmers Percentage in High Level of Personal Competence Indicator

Indicator	Category	Rice(%)	Fruit (%)	Vegetable (%)
Self Confidence	High	23.3	16.6	13.33
Creative	High	26.6	10.0	23.33
Focus on Problem Solving	High	13.3	23.3	23.33
Risk Taking	High	23.3	16.6	20.00
Interpersonal Ability	High	33.3	33.3	26.67
Readiness to Learn	High	23.3	10.0	33.33
Overall Personal Competence	High	20.0	16.6	16.67

Source: Primary Data (2018)

They rarely take the initiative in crop decision, planting, harvesting, and selling. They were moderate in adapting in new situation. The high self-confidence supports the capability of farmers in expanding their market. It is also related with Sadashive et al., 2017 where it states that self-confidence will affect farmers' abilities and success to improve their enterprise.

b. Creative

Organic rice farmers were creative in creating the new input combinations (organic fertilizers and pesticides), diversifying products, and expanding market. Taghibeygi et al., (2015) identified that factors affecting the development of farmer entrepreneurship is successful experience in the field, supported by self-confidence and creativity. Organic rice farmers are creative in detecting the potential resources needed for their input and knowing the consumers' needs from their product. On the other side, the majority of organic vegetable farmers prefer to buy their input to make it by themselves According to Bolarinwa et al., (2016), the entrepreneurs should come with fresh ideas and make a good decision in every opportunity. Singh (2013) stated that the majority of cereal farmers have high opportunities to become an entrepreneur, where creativity becomes the highest factor in becoming the successful entrepreneur.

c. Focus on Problem Solving

The high percentage of organic vegetable and fruit farmers are due to the accompaniment availability if there is a problem with their farm. Most organic fruit and vegetable farmers always share and discuss with their group leaders, among farmers, and their partner (government, expertise, and stakeholders). While organic rice farmers receive less government or institutional support. Rai, et al., (2014) mentioned that the majority of organic farmers have low entrepreneurial behavior level because of the lack of information for farmers. The majority of organic rice farmers only learns by the previous experience and discuss with their leader. Sadashive et al., 2017, states information seeking behavior will increase the capability of farmers in enhancing their farm.

d. Risk Taking

With respect to risk-taking ability, the organic rice and vegetable farmers have higher interpersonal ability than organic vegetable farmers. As mentioned by Abeyrathne & Jayawardena (2014), the level of risk taking orientation of organic farmers is high and farmers will learn from the other successful farmers to avoid the pest and disease attack. Although high of risk-taking, they continue to cultivate the organic product. Boruah et al., 2015; Rosairo & Potts, 2015, stated that the relation between entrepreneurship and

risk-taking ability is an important factor in determining an entrepreneur's success.

e. Interpersonal Ability

The majority of organic rice and fruit farmers have higher interpersonal ability than organic vegetable farmers. The longer experience is related to their interpersonal ability to take care their consumer and market such as they know how to persuade the potential consumer to be of their loyal consumer. On the other hand, most organic vegetable farmers only know how to cultivate and not how to handle the market. It is supported with the previous study from (Bolarinwa & Okolocha, 2016), every farmer should possess their interpersonal skill to be the successful farmers. Personal characteristic has positive significant on developing entrepreneurship. Beside that, interpersonal ability will be effect on their networking. Jimenez et al., (2011) underlined the success of strategies depends on the adaptation capability of the stakeholders to control the network.

f. Readiness to Learn

The majority of organic vegetable farmers have higher readiness to learn than rice and fruit farmers. Most of the organic vegetable farmers will receive training and information on organic farming by their business partner. Organic fruit farmers have cultivated organic products supported by government, and because of their experience they feel that they possess adequate knowledge in organic farming. It is also supported by the previous study by Taghibeygi et al., (2015) stating that farmers who always attend in training courses have high willingness and interest to be an entrepreneur. The readiness of farmers to learn organic farming is also related with their educational background, where most of the farmers range from junior high school to bachelor degree graduates. Jelenc and Pisapia (2015) mentioned that successful entrepreneurs have the capability to see the problem as opportunities when other people see it as a risk.

Technical Competence

In line with personal competence above, technical competence of organic rice, fruit, and vegetable farmers also differ. They are able to understand the technicalities on organic cultivation. Organic rice farmers and organic vegetable farmers have the highest performance (Table 4). The certain market of rice and vegetable is related to their capability, while organic fruit farmers have small markets for organic products. The majority of organic fruit products enter non-organic products with lower price than the organic product.

a. Input Creation

The high input used will affect both production quantity and cost. Most of rice farmers are aware to use the near resources

for their input. On the other hand, the majority of vegetable farmers will obtain their input from their partner. It is different from the independent vegetable growers which was mentioned by Wankhade et al., (2013) has high in innovative indications. The innovativeness on creation leads the growers to develop their entrepreneurial behavior. Innovative on farming might be emerged due to the information exposure.

b. Increasing Production

Most organic vegetable and fruit farmers have high intention to increase their production. High production is important for fruit because they are sold based on their quantity with low price, while vegetable farmers have to sell in specified amount based on their contract. Their holding status and the large area affects their motivation to increase the production. It is related to Rai et al., (2014) stating that the large vegetable growers has higher entrepreneurial behavior in increasing their farms than the small vegetable growers.

c. Enhancing Quality

The highest ability in quality enhancement is possessed by organic vegetable farmers, and followed by organic fruit farmers and organic rice farmers. Compare with the previous study by Wankhade et al., (2013), the farmers has high intention on knowledge ability, they tends to produce the best product which is accepted by the consumers. It related that some farmers in the study area showed behavior in enhancing and maintaining their product quality such as; 1) organic rice farmers always put the milled rice in a clean storage and dried well. 2) Organic fruits farmers grade the product and clean it from the spines. 3) Organic vegetable farmers always take the vegetable carefully and clean from the soil.

Management Competence

Farmers who belong to group member will get wider information from extension officers, while the non-members will get some information from other media. Besides that, farmers who belong in group have more opportunities to take training. Organic rice farmers have higher performance than organic vegetable and organic fruit farmers.

Table 4. Farmers Percentage in High Level of Technical Competence Indicator

Indicator	Category	Rice (%)	Fruit (%)	Vegetable (%)
Input Creation	High	26.6	20.0	20.00
Increasing Production	High	20.0	30.0	30.00
Enhancing Quality	High	23.3	16.6	20.00
Overall Technical Competence	High	23.3	16.6	23.33

Source: Primary Data (2018)

a. General Planning Skill

Due to their experience, organic rice farmers will choose the best varieties for the next season and prepare every input. Although some of farmers has high general planning skill, majority of farmers still have low to medium level of general planning skill. The low level of planning ability of farmers which studied by Porchezhiyan et al., (2016) might be due to the old age and low training exposure. The general planning skill be affected to the high profit taken by the farmers. In addition Ningsih (2014), planning ability will reduce the risk taken by farmers for long term.

b. Monitoring and Evaluation

The majority of farmers, monitor and evaluate the cultivation activities. Organic rice and vegetable farmers went to their field everyday in the morning and gave more intention in harvesting time, organic fruit farmers only monitored their field to cut the braches but showed lower level of evaluation. Farmers have to monitor and evaluate their farm to get the better production and profit. Ningsih (2014) also mentioned the monitoring and evaluation skill as the indicator on entrepreneurial skill especially in agriculture sectors. Farmers who evaluate their farm have high profit and willingness to be a successful entrepreneur. Monitoring and evaluation skill are related to the strategy by the farmers to maintain their filed.

c. Networking Skill

Networking skill is related with a farmer's interpersonal ability. The majority of organic rice and fruit farmers have various market channels and are active in persuading potential consumers. Abeyrathne & Jayawardena (2014) stated the active group interaction bridging the successful entrepreneurial activities, especially on network linkage. They sometimes get the new market from their farmers group. Compared to the previous study, organic rice and fruit learn each other to hand the organic market and get the loyal consumer. On the other hand, most of organic vegetable farmers already have certain markets and passive on finding the new market. Morgan et al., (2010) believed that the ability to make good networking will be related to the strategic objectives

Table 5. Farmers Percentage in High Level of Management Competence Indicator

Indicator	Category	Rice(%)	Fruit(%)	Vegetable (%)
General Planning Skill	High	26.6	20.0	13.33
Monitoring and Evaluation	High	20.0	0.00	13.33
Networking Skill	High	26.6	16.6	16.67
Customer Management Skill	High	30.0	16.6	0.00
Marketing Management	High	10.0	6.67	20.00
Overall Management Competence	High	23.3	13.3	16.67

Source: Primary Data (2018)

of the farmers in order to build their own market channels.

d. Customer Management Skill

It was recorded that 30% of organic rice farmers have high customer management skill. They have longer experience on handling organic market, understand the consumer needs, maintain the quality product, never disappointing their consumers, accept the criticism, they evaluate, and they do the improvements. unfortunately, none of organic vegetable farmers in high level of consumer management skill because most of them who belongs to partnership only think about how to be a good partner. It is also related with Rai et al., (2014), which majority of organic vegetable farmers have low entrepreneurial behavior because of their capability on handling their consumer and lack of market channel information.

e. Marketing Management Skill

Research showed that 20% organic vegetable farmers have high marketing management skill, as they always used the organic labels as suggested by their partner. Meanwhile, organic rice and fruit farmers depend on their networking and interpersonal capabilities to sell through the most profitable and easiest method (loyal consumer), and to find the new market if possible. According to Hussin et al., (2012) marketing is one of the most important factor in encouraging the involvement of farmers in entrepreneurship. Most of the organic farmers are 35 to 55 years old, meaning that there are more productive farmers than unproductive farmers. therefore it is possible to increase their capability.

CONCLUSION AND SUGGESTION

Organic rice farmers have higher percentage in overall personal competence, technical competence, and management competence than organic fruit and vegetable farmers. But in some indicators organic rice farmers have lower percentage than organic fruit and vegetable farmers. Organic rice farmers have low capability on focusing on problem solving. They have to realize that they can use various media on finding the new technology of organic farming not only by their experiences. Government also needs to increase farmers .capability by providing training and extension services on organic farming for every farmers. On the other hand, the low capability of consumer management possessed by organic vegetable farmers can be overcome by training the farmers on finding the new market channels (not only depending on their partner) such as getting involved in an exhibition. It will increase both their self -confidence and networking skill. In respect to the low capability in monitoring and evaluation possessed by the organic fruit farmers can be overcome by the training how to evaluate their farms and records.

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