Abstract: Muntok white pepper is one of export commodities in Indonesia that is planted by farmers in rural area. The development constraint of the pepper are the low level of entrepreneurial competitiveness as farmers are considered as non-business oriented. It can lead to the non-optimal development of muntok white pepper farming activity and slowing down the production growth. The objectives of the study are: 1) to identify the entrepreneurial characteristics of farmers in the farming activity, 2) to identify the characteristics of business environment in the farming activity and 3) to analyse the influence of entrepreneurial characteristics and the business environmental factors towards the entrepreneurial behaviour of farmers. Survey was used to collect data using structural equation modelling (SEM) and smart partial least squares (PLS) to analyse the data. The study discovered that there were four entrepreneurial characteristics and three business environmental characteristics of farmers that supported the pepper farming activity. The entrepreneurial characteristics were risk-taking ability, opportunity response, innovative thinking and work motivation. While the business environmental characteristics were political issue, government policy and input availability. There were differences on entrepreneurial and business environmental characteristics between independent farmers and member of farmers group. In the aspect of entrepreneurial characteristics, the risk-taking ability and opportunity response were dominated by the independent farmers while innovative thinking and work motivation were dominated by the member of farmers group. In the aspect of business environmental characteristics, the independent farmers were more on political issue while member of farmers group were mainly on government policy and input availability. Furthermore, the study found that both entrepreneurial and business environmental characteristics affected positively significant the entrepreneurial behaviour of farmers. The entrepreneurial behaviour of both independent farmers and the member of farmers group were mainly influenced by the business environmental characteristics. Its behaviour was shown from affective, cognitive and psychometric to innovate. The study explained that the white pepper farming activity had potential contribution on increasing the potential entrepreneurs. The entrepreneurial behaviour can be developed by maintaining the motivation to independent farmers as well as creating the healthy business environment that can provide opportunity to express the
entrepreneurial behaviour. The entrepreneurial training program should be well-prepared and adjusted with the psychological characteristics of white pepper farmers.

**Keywords:** Business Environmental Characteristics; Entrepreneurial Behaviour; Entrepreneurial Characteristics; White Pepper Smallholder

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**Introduction**

Pepper is one of the Indonesian export and prioritized commodities. Prior to 2017, Indonesia is most produced pepper in the world. Indonesia fulfils 19% of the consumers need on pepper while Vietnam is 27% (Sulaiman et al., 2018). The role of Indonesia in fulfilling the need of consumers on pepper in the world is getting weak with only 14% in 2018, decreasing 3% from previous (FAOStat, 2018).

Bangka Belitung Islands Province becomes one of the main white pepper producers in Indonesia that can contribute in export activity. The province can produce 38% of pepper production in Indonesia (Perkebunan, 2016). The pepper production in the province is known as muntok white pepper.

In the province, the white pepper farming activity is culturally planted. In South Bangka, there are 16,343 households out of 54,099 households in the province that involve with white pepper farming activity (BPS, 2013). It is clear that white pepper is planted in the form the smallholder’s plantation. Although white pepper is one of export commodities, the farming activity is run by independent farmers (Heryanto & Nugraha, 2018). The large scale estate owned by both private and government company cannot be found in Bangka Belitung Islands Province (Provinsi Kepulauan Bangka Belitung Dalam Angka, 2017). It is unsurprisingly that a lot of people in the province make the white pepper farming activity as their source of income.

The increase performance of white pepper farming activity is undeniable so the existence of white pepper in the province can affect significantly towards the welfare of farmers. The development of white pepper farming activity is still far from the optimal. The productivity of white pepper becomes the main issue which requires to be solved. Heryanto & Nugraha (2018) argues that the reducing of white pepper productivity is due to the ecology and social issue in the field of economic especially in the decision making ability of farmers during the stage of declining price. As the social, economic and technological agent, human being both in the short or long run affect the environment (Folke, 2006). It is vivid that it requires the healthy business environment, well-educated human being and positive economic growth to make muntok white pepper great again.

The endeavour of government in the development of white pepper is endless. However, entrepreneurial skills in developing the farming activity is inadequate acquired from the training alone. It also needs the existence of healthy business environment so that smallholder is able to form the business network that can lead to the creation of similar business activity (Hadisoegondo, 2006). The entrepreneurial environment is all but not limited to customer, supplier, competitor, creditor, economy, social, politic, technology and ecology. However, not all of the mentioned entrepreneurial environment have the same role in influencing the creation and the development of smallholder entrepreneur (Wulandari, 2009). The identification of the external support requires to conduct the research on identifying the environmental characteristics that affect the smallholder’s entrepreneurial behaviour in the white pepper farming activity. Thus, the study aims to: identify the entrepreneurial characteristics of farmers.
in the farming activity; identify the characteristics of business environment in the farming activity; and analyse the influence of entrepreneurial characteristics and the business environmental factors towards the entrepreneurial behaviour of farmers.

**Literature Review**

Entrepreneurship is known as the process of implementing the innovation as there is a trigger to gain the business growth. The Entrepreneurial behaviour is part of the process (Bygrave & Zacharakis, 2010). It is the personal behaviour in responding the opportunity through identifying activities and exploiting the chance in establishing new business or expanding the established business (Bird, 1996) as well as the explorative and creative opportunity. It is based on the concept and entrepreneurial action such as creative and innovative.

The individual behaviour can be explained by using the attribution theory of Fritz Heider who studies about how the individual behaviour is formed by internal and external factors. The internal factor is a personal characteristic and behaviour while the external factor is from the environment or situation (Mustafa, 2011).

The general model of entrepreneurial behaviour and the business performance illustrates that the entrepreneurial behaviour can also be reflected from the personal quality. Delmar (1996) provides general model that describes the factors which influence the entrepreneurial behaviour (Figure 1). Thus, the entrepreneurial behaviour of farmers will be observed from the agribusiness of farmers’ farming activity.

![Diagram of General Model of Entrepreneurial Behaviour and Business Performance](image)

Source: Adopted from Delmar (1996)

**Figure 1. General Model of Entrepreneurial Behaviour and Business Performance**

At least, there are 12 characteristics of entrepreneur, which are: (i) achievement-oriented, (ii) always having perspective, (iii) highly creative, (iv) high innovative behaviour, (v) dedicated worker, (vi) highly working ethic and responsibility, (vii) independent, (viii) unafraid of risk, (ix) always looking for opportunity, (x) leadership skills, (xi) managerial skills and (xii) personal skills. (Suharyono, 2017). The entrepreneurial behaviour can be described by using the variable related with the attribute of psychology, personality, attitude and hevaour (Ahmad, 2016). The entrepreneurial characteristics is one of the main factors in the variable of entrepreneurial behaviour.

Various indicators of behavioural characteristics that determine the entrepreneurial behaviour is the motivation of the need for achievement, risk-taker, initiative, creative, innovative, confidence and leadership. Those factors are identified as the main factors determine the entrepreneurial behaviour of farmer in the farmer group in Cianjur, West Java (Ahmad, 2016). The entrepreneurial behaviour of *tempe* craftsmen in running the business is formed by the entrepreneurial characteristics. It is dominated by the cognitive and affective indicator as well as influenced by the unafraid of risk, the innovation, opportunity response and the motivation of them (Nursiah *et al.*, 2015).
Next, the entrepreneurial characteristics of coffee farmers in Lampung can be highlighted from the following characteristics: commitment, drive to achieve, opportunity orientation, initiative and responsibility, persistent problem solving, seeking feedback, internal locus of control, tolerance for ambiguity, calculate risk taking, integrity and reliability, tolerance for failure, high energy level, creativity and innovativeness, vision, self-confidence and optimism, independence, independent personality, team building and managerial skill for entrepreneurs. Four dominant characteristics of them are commitment, seeking feedback, integrity and reliability and tolerance for failure (Burhanuddin, et al., 2018).

The entrepreneurial characteristics of unafraid of risk and motivation are known as the psychological characteristics in the entrepreneurial psychology study. The entrepreneurial psychology emphasizes on the personal approach both personality and trait. Entrepreneurial psychology study contributes to build the knowledge on the type of entrepreneur based on the psychological characteristics. Hisrich, Langan-Fox, & Grant (2007) argues that the entrepreneurial psychology study can be used in identifying the potential entrepreneur as well as in preparing the training program needed and appropriated with the psychological characteristics.

Research Method
The identification on the entrepreneurial behaviour of white pepper farmers focused on the behaviour of farmers in farming activity. Three regencies were decided as the location of the study: South Bangka, Central Bangka and West Bangka. Those three regencies were the top three white pepper producers in Bangka Island, Bangka Belitung Islands Province.

Primary and secondary data were used to collect the data. The primary data was taken from the observation and interview using questionnaire while the secondary data was collected from the Statistics Indonesia.

Simple random sampling was applied as the sampling method of the study. There were 115 respondents of the study. The population of the study was all white pepper farmers in Bangka Belitung Islands Province. Observation and survey were applied as the data collection method. It also used the questionnaire to collect the data.

Both qualitative and quantitative were used to analyse the data. The qualitative data was analysed using descriptive analysis for non-parametric as it related with the general profile of white pepper smallholder. Nazir (2003) argued that the descriptive analysis was used to describe the situation, condition and phenomena of the particular issue. The study used the descriptive analysis to describe the entrepreneurial characteristics, the condition of business environment and the entrepreneurial behaviour of white pepper farmers.

The quantitative data was processed using Microsoft Exel 2010 and analysed using Structural Equation Modelling (SEM) with smart Partial Least Squares (PLS). SEM was believed to be able to describe all relationships between construct and direct model (Wijanto, 2008). Two variables were used to analyse the data: entrepreneurial behaviour as the endogenous latent variable and entrepreneurial characteristics as the exogenous latent variable. The business environment was also used as the indicator variable.

There were five indicators of entrepreneurial characteristics of farmers that could be observed: innovation, motivation, risk-taking ability, experience and responding towards the
opportunities (Dirlanudin, 2010; Puspitasri, 2013; Nursiah et al., 2015). Whereas the business environment was observed by five indicators which were input availability, government policy, political condition, farmer group as well as extension and training whereby affective, cognitive and psychometric were the three indicators to understand the entrepreneurial behaviour (Dirlanudin, 2010; Bygrave & Zacharakis, 2010; Alma, 2010; Puspitasri, 2013; Nursiah et al., 2015).

Two steps were conducted to analyse the data: Outer and Inner Model. Outer model analysis was used to explain the relationship between indicator variables and latent variables while the inner model was used to explain the relationship amongst the latent variables. The evaluation of measurement model used the loading factor score ($\lambda$). If the loading factor score ($\lambda$) was above 0.5, it considered as valid. Next, significant test was conducted based on parameter’s estimated coefficient by using resampling method such as bootstrapping.

**Results and Discussion**

**The Profile of the White Pepper Smallholder**

The respondents were derived from three regencies in Bangka Belitung Islands Province. They were South Bangka, Bangka and Central Bangka. The white pepper farmers were seen from the family member status, age, experience and educational attained.

The white pepper farming activity was conducted by both the independent farmers and farmer group. Both non farmer group and farmer group were the respondents of the research. The farmer groups were Mapuk Indah, Kamboja, Banjar Lestari, Sudi Mampir, Subur Makmur, Banjar Dua, Lalang Luar, Masirak, and Bina Tani Mandiri while the name of the villages were Air Gegas, Bencah, Serdang, Petaling and Desa Nibung.

Five groups of age were decided to identify the age of the respondents. There were only 4.3% of farmers with age above 65 years old. The most dominated group of age in the study was 36-45 years old.

In the educational attained, 50.4% of respondents only held primary school while only 5% graduated as bachelor degree. The rest were junior high school, senior high school and diploma with 6.2%, 35.7% and 2.7% respectively.

Furthermore, the experience in the farming activity also played an important role in the success story of white pepper smallholder. Almost three-fourth of respondents were having enough experience in farming activity with above 10 years of experience. There was only 35 out of 115 respondents who were below 10 years of experience.

**The Entrepreneurial Characteristics of Muntok White Pepper Farmers**

The entrepreneurial characteristics were the individual factor that determined the entrepreneurial behaviour of white pepper farming activity. As the internal factor, the entrepreneurial characteristics were formed by both natured and nurtured. The characteristics of farmers were observed from five variables: innovation, risk-taking, motivation, experience and responding to opportunities. The result showed that there were four out of five variables that were valid and reliable. They were innovation, risk-taking, motivation and responding to opportunities.
Table 1. The Contribution of Manifest Variable Reflecting the Latent Variable based on Loading Factor and T-value Variable

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Manifest Variable</th>
<th>Status of Pepper Smallholder Group</th>
<th>Status of Pepper Smallholder Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Loading Factor</td>
<td>T-value</td>
</tr>
<tr>
<td>Entrepreneurial Characteristics</td>
<td>Innovation</td>
<td>0.741</td>
<td>4.552</td>
</tr>
<tr>
<td></td>
<td>Motivation</td>
<td>0.797</td>
<td>6.128</td>
</tr>
<tr>
<td></td>
<td>Risk-taking</td>
<td>0.539</td>
<td>2.827</td>
</tr>
<tr>
<td></td>
<td>Responding to</td>
<td>0.819</td>
<td>5.025</td>
</tr>
<tr>
<td></td>
<td>opportunities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>Input Availability</td>
<td>0.866</td>
<td>14.908</td>
</tr>
<tr>
<td></td>
<td>Political condition</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Entrepreneurial Behaviour</td>
<td>Smallholder</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>togetherness</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Policy</td>
<td>0.859</td>
<td>15.037</td>
</tr>
<tr>
<td></td>
<td>Affective</td>
<td>0.873</td>
<td>25.278</td>
</tr>
<tr>
<td></td>
<td>Cognitive</td>
<td>0.898</td>
<td>21.868</td>
</tr>
<tr>
<td></td>
<td>Psychometric</td>
<td>0.608</td>
<td>6.128</td>
</tr>
</tbody>
</table>

The analysis of SEM illustrated that in general the entrepreneurial characteristics of white pepper farmers were reflected by some indicator variables: innovation, motivation, risk-taking and responding towards opportunities. The loading factor scores of all four indicator variables were above 0.5 (Table 1). The study discovered that the entrepreneurial characteristics between two groups of respondents were different. The independent farmers were considered as braver in taking risk but less ability in responding the opportunities, less motivation and less innovation than the farmer group farmers. The different entrepreneurial characteristics of farmers could be seen at figure 2 and 3. The independent farmers were braver in taking risk but less responding towards the opportunities, less motivation and less innovation than the farmer group farmers.

Figure 2. Entrepreneurial Characteristics of Farmer Group Farmers

Figure 3. Entrepreneurial Characteristics of Independent Farmers
Innovation played a vital role in shaping the entrepreneurial behaviour. Innovation was believed as the element that could improve the available resource or create the new one. The innovation loading factor score of farmer group farmers was bigger than the independent farmers one with $\lambda=0.741$ and $\lambda=0.523$ respectively. It indicated that the farmer group farmers were more innovative in white pepper farming activity than the independent farmers. It was due to the technological extension and training programs were more often involved by farmer group farmers than independent farmers.

The willingness to innovate was driven by the motivation and responding towards opportunities. The farmer group farmers were very responsive in utilizing the opportunity as it was shown from the score of loading factor ($\lambda=0.819$). The motivation led to maintain, run and develop the white pepper farming activity. The farmers considered that there were tremendous benefits in joining the farmer group such as easy to access information, better acquiring transferable technology and knowledge with the experienced colleague and easier access on the subsidized seed and fertilizer.

The risk-taking ability also determined the entrepreneurial characteristics. The study found that independent farmers were more on risk taker than the farmer group farmers in the white pepper farming activity. The loading factor of independent farmers in the risk-taking ability was higher than the farmer group farmers with $\lambda=0.771$ and $\lambda=0.539$ respectively. Most of the time, independent farmers run the farming activities without receiving any transfer technology and subsidized fertilizer. They also often took the production risk due to inability on the access of subsidized fertilizer as it mostly prioritized to farmer group farmers. On the other hand, the farmer group farmers were considered as risk averse. Majority of farmers’ motivation to join with the farmer group was not as their own want but just to get access on the government program. The results was in line with Harun (1996) and Hadi (2011) that in Lombok the farmer group farmers were the same motivation with white pepper farmers in joining with the group.

**The Entrepreneurial Environment of White Pepper Farmers**

Being an entrepreneur was a choice as it required the courage to face the uncertainty. Entrepreneurship was defined as a person’s skill to respond the environmental change through identifying the opportunity to gain the high working performance (Wulandari, 2009). Pearce & Robinson (1991) argued that the external environment was a situation that can be strength or weakness and influenced someone’s decision to act and compete in business. Economic, social, political, technological and ecological factors were examples of external environment.

Entrepreneur had activities in a dynamic environment (Haryani, 2017). It was uneasy for entrepreneur to rely only on the environment. Thus, the role of government in creating the supportive external environment condition on the entrepreneurship activity. The external factor in this study was understood as the behaviour-formed factor that derived from far environment. The factor of business environment was part of the factors affected the behaviour. It was derived from four indicators: input availability, government policy, the solidarity of farmers and political condition. The result of SEM analysis found that only two indicator variables in strongly reflected the environmental condition: input availability and political condition. On the other hand, the solidarity of farmers and government policy were otherwise. The result of SEM in the different use of model discovered that there was different on the environmental condition with two groups in the white pepper farming activity. The white pepper activity of the independent farmers received support on the input availability and political condition. While
the white pepper farming activity of farmer group smallholder were supported with the input availability and government policy.

The white pepper farming activity was run by farmers in vary villages in the province. The environmental identification that supported the white pepper farmers to have entrepreneurial behaviour was to analyse the model separately for both independent and farmer group farmers. The study also revealed that there was different form of support from external environment condition towards the white pepper farmers. The independent farmers and member of farmer group farmers gained the environmental support such as input availability. The independent farmers were lack of support from government policy while the member of farmer group farmers were the opposite. This difference could be seen from the score of loading factor (Table 1). The score was considered high as it was 0.5 above. This could also be seen at figure 4 and 5.

Input had a crucial role in determining the success process of white pepper farming activity. It should be supported with the availability and the ability of farmers to access the input. The study revealed that input availability positively reflected the good environmental condition for both farmer group and independent farmers with the loading factor score $\lambda=0.866$ and $\lambda=0.527$ respectively. It was obvious that the farmer group farmers received more input availability than the independent farmers.

The political condition was part of external factor that also contributed to the success of white pepper farming activity. The study found that the political condition was only valid to the independent farmers with the score of loading factor $\lambda=0.848$. It was considered as high score. It meant that the support of political condition was only experienced by independent farmers in doing the white pepper farming activity.

The loading factor score of political condition was invalid in supporting the farming activity of farmer group farmers. They assumed that the free seed program needed guidance and control in transferring technology. Furthermore, the program was considered as beneficial in reducing the production cost. Hence, to maintain the benefit it required the training on improving the managerial skills on the program so they could be more creative.

The study further revealed that the government policy affected the environmental characteristics of farmer group farmers ($\lambda=0.860$) while the independent farmers were on the
other way around (Table 1). Surprisingly, the farmers’ solidarity had no significant contribution towards both type of farmers. The score of loading factor on the government policy was considered as high but it was still less benefit gained by farmers. It was due to inexistence of the financial access, as a result; they were demotivated (Table 1). Ferediouni (2010) stated that the reason of Iranian people in starting new business was due to the environmental factor. Loan access and ease of doing business were emphasized to be taken into account. On the other hand, the different results were found that government policy and farmers’ solidarity influenced significantly towards the business environment to tempe craaftmen in Bogor (Nursiah et al., 2015), integrated plant and livestock business in Limapuluh Kota (Rahmi et al., 2016) and to the broiler chicken livestock in Jawa Barat (Burhanuddin et al., 2018).

The insignificant contribution of farmers’ solidarity towards the environmental condition to support the entrepreneurial behaviour indicated that the white pepper farmers still faced difficulties. One of them was organisational issue which required to be taken into account seriously. As it found that there were a lot of inactive farmer group in the field. The interaction amongst farmers was also considered as low. They had no regular schedule on the process of farming activity such as planting, fertilizing and harvesting. All were done individually and conducted based on their own interest and schedule. It occurred as plenty of farmers’ motive in involving with the farmer group was just to get facility on the subsidized fertilizer. Thus, it required the training and extension to develop the solidarity and collaboration among the farmers through forming the well-organized farmer group. The farmer group was established not only for the media to get subsidized fertilizer but also to motivate each other, share the resource and solve the problem to achieve the goal of organization. Pichardo et al (2012) argued that to establish the effective farmer group it required the collaboration and credibility among the farmers. It was vivid that the farmer group should be reorganized.

The Entrepreneurial Behaviour of White Pepper Farmers

The ability of entrepreneur in facing the dynamic environmental change was shown from the behaviour of daily routines. Supartha (2005) stated that attitude and behaviour of a person in facing the environmental change was a form of entrepreneurial ability. The identification of behaviour could be done through the attribution theory of Fritz Heider in Walgito (2010) who stated that the condition of internal and external factor determined a person’s behaviour. It could also be conducted through the approach of entrepreneurial behaviour model adopted from Delmar (1996) who stated that there were two factors that could determine the entrepreneurial behaviour: Individual and environmental factors.

The entrepreneurial behaviour could be formed and observed both directly and indirectly (Bygrave & Zacharakis, 2010). It began with the process on the aspect of cognitive, affective and psychometric. The knowledge (cognitive) and mentality (affective) could not directly be observed while the skills (psychometric) was otherwise (Bird, 1996). The entrepreneurial behaviour of farmers was on the farmers’ behaviour in the farming activity. The identification of entrepreneurial behaviour was broken into two types of farmers: farmer group farmers and independent farmers. The SEM-PLS’ results on the entrepreneurial behaviour’s model showed that affective, cognitive and psychometric influenced positively significant towards the entrepreneurial behaviour.

The study found that the model analysis was different for two types of farmers in terms of dominant behaviour. The score of loading factor of farmer group smallholder was higher than the independent farmers (Table 1). It showed that farmers had entrepreneurial behaviour in
farming activity. The affective was dominated by independent farmers whereas cognitive was dominated farmer group farmers. The results were in line with Nursiah et al. (2015) who also found that affective, cognitive and psychometric contributed in the tempe craftsmen.

In general, the entrepreneurial behaviour of white pepper farming activity was valid. It was reflected by affective, cognitive and psychometric. Table 1 figured the score of loading factor gaining from each indicator variable of farmer group farmers were \( \lambda = 0.873, \lambda = 0.898, \lambda = 0.608 \) and of independent farmers were \( \lambda = 0.928, \lambda = 0.919, \lambda = 0.772 \) for affective, cognitive and psychometric respectively. It was vivid that the loading factor score of entrepreneurial behaviour was dominated by cognitive. Furthermore, based on the comparison of factor loading score of independent farmers were more vary than farmer group farmers one.

The white pepper farming activity were conducted by both farmer group farmers and independent farmers. The study discovered that there were different form of entrepreneurial behaviour between farmer group farmers and independent farmers. The entrepreneurial behaviour of independent farmers more dominantly reflected by affective while the farmer group farmers were the cognitive one. The contribution on the entrepreneurial characteristics and environmental factor towards the entrepreneurial behaviour of both type of respondents was also different (Table 2).

Table 2. The Effect of Entrepreneurial Characteristics and the Environment towards the Entrepreneurial Behaviour

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Status of White Pepper Farmers</th>
<th>Farmer Group Farmers</th>
<th>Independent Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kw -&gt;Pk</td>
<td>Original Sample</td>
<td>t-value</td>
<td>Original Sample</td>
</tr>
<tr>
<td>KL-&gt;PK</td>
<td>0.483</td>
<td>4.506</td>
<td>0.243</td>
</tr>
<tr>
<td></td>
<td>0.271</td>
<td>2.433</td>
<td>0.45</td>
</tr>
</tbody>
</table>

The entrepreneurial behaviour of white pepper farmers was influenced by the entrepreneurial characteristics and environmental factors (Nursiah et al., 2015). The result of the study explained that there was a different contribution of factors that affected the entrepreneurial behaviour of farmers. Risk-taking ability was one of variable that can affect the influence of entrepreneurial characteristics (Ahmad, 2016). The positive parameter’s estimated coefficient of business environment and entrepreneurial characteristics explained that the entrepreneurial behaviour of farmers was getting vary. Astuti et al. (2016) the positive parameter’s estimated coefficient illustrated the more vary in the entrepreneurial process.

The conducive business environment determined the creation process of entrepreneur. It can provide business opportunity in the future. It could also lead to development of potential business (Haryani 2017). The result in line with Nursiah et al (2015) and Rahmi et al (2016) that found that the external factor affected positively significant towards the form of entrepreneurial behaviour.

A driving factor in creating the entrepreneurship was consisted of internal and external factors (Bygrave 2004). The internal factor can create the new entrepreneurship through the entrepreneurial characteristics: risk-taking ability. Nursiah et al (2015) argued that the entrepreneurial behaviour could lead to the well performance of activity. The entrepreneurial
behaviour could always grow and develop. One of the ways to do so was by the improvement of the motivation (Puspitasari, 2013).

Setiana (2005) explained that affective was a person’s attitude in responding a social phenomenon that could influence the society behaviour. The entrepreneurial behaviour was not only seen from the attitude but also knowledge and skills. The study found that there was a weak contribution from the psychometric and skills. It was used to create innovation product. However, due to some constraints, the innovation was just the change on the use of the new production and change the use of input regularly. Surprisingly, the innovation objective was just to survive the business, to reduce the diseases, to do efficiency of production cost and to improve the production.

**Conclusion**
There are four entrepreneurial characteristics of white pepper farmers which are risk-taking ability, willing to innovate, having motivation and responding towards opportunities. Two types of farmers have different entrepreneurial characteristics. The independent farmers are dominant at the risk-taking ability and responding towards the opportunity while the farmer group farmers are dominant at willing to innovate and having motivation. There are three identified entrepreneurial characteristics which are political condition, input availability and government policy. The input availability was dominated by the two types of farmers but political condition was dominated by independent farmers while the governmental policy was dominated by farmer group farmers. The farmers’ characteristics and environmental factor influence positively significant towards the entrepreneurial behaviour of white pepper farmers. The entrepreneurial behaviour of white pepper farmers is shown from attitude (affective), knowledge (cognitive) and skills (psychometric) to innovate the farming activity. Finally, the entrepreneurial behaviour of independent farmers is dominantly influenced by environmental factor while the farmer group farmers is dominantly influenced by the entrepreneurial characteristics of white pepper farmer.

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