

Characteristics of Millennial Farmers in East Priangan West Java - Indonesia

Momon Rusmono¹⁾, Lukman Effendy²⁾, Fatimah Azzahra³⁾

^{1, 2)} Lecture Study Program of Sustainable Agricultural Extension

³⁾ Students of the Sustainable Agricultural Extension Study Program

Bogor of Polytechnics of Agricultural Development, Indonesia

Jln. Aria Surialaga, Cibalagung, Bogor West Java, Indonesia

*email: author correspondence*¹⁾: f1515di@gmail.com (Lukman Effendy)

Abstract

A research on the character of millennial farmers has been carried out in West Java covering Garut, Tasikmalaya, and Ciamis Regencies. The research objectives: (1) describe the characteristics of millennial farmers, (2) find the dominant factors that characterize millennial farmers, and (3) find a model for increasing the role of millennial farmers in agricultural development. The research approach is in the form of a survey of 72 samples determined based on a quota of 30 percent of the population. Data were collected through direct interviews using a closed questionnaire containing statements that have provided four answer options with a score of 1 - 4. Before being used, the questionnaire was first tested for validity and reliability with the results including being eligible to be used as a data collection tool. The collected data is analyzed in two ways; descriptive statistics and Partial Least Square (PLS) analysis. The results of the study found: (1) the character of millennial farmers in the East Priangan region of West Java is the category of productive age (31-60 years), relatively less experienced in farming; have high technical competence including: the ability to choose commodities, technical cultivation skills, the ability to utilize social media, and the ability to use digital applications; have adequate managerial competence, including: ability in business management, building cooperative networks, ability to manage resources, but less able to resolve conflicts; and has social competence such as having the ability to develop community education, economy, and development programs, but lacking in managing community organizations; (2) the character of millennial farmers is determined by technical competence, managerial competence, and social competence, as well as individual characteristics, especially age and experience; (3) the character of millennial farmers has a positive impact on the growth of young agropreneurs and food security.

Keywords: *Characteristics, Millennial Farmers, East Priangan, Partial Least Square (PLS)*

1. Introduction

Indonesia is currently entering the new era of demography, namely the demographic bonus as a result of changes in the age structure of population as marked by the declining ratio between non-productive age (age below 15 years old and above 65 years old) and the number of productive population (age between 15 - 64 years old). Demographic bonus occurs when the proportion of productive population is greater than $\frac{2}{3}$ of total population, or in other words, the dependency ratio is below 50. Demographic bonus is also a rare phenomenon since it happens only once in the history of a nation.

The increasing number of productive population is not only a challenge, but also an opportunity to drive the economic wheel, as suggested by [1], demographic bonus can be an opportunity to accelerate economic growth of a country which is characterized by the decrease in the birth rate and death rate. Furthermore, President Jokowi also mentioned that demographic bonus is like a double-edged sword, it is either a blessing or a disaster for Indonesia. Hence, in order to deal with demographic bonus, we have to focus on human resources. To say, human resources that is healthy, intelligent, and productive will be a blessing for the population and contributes to the population welfare.

Human resources highly affect economic development of a country, particularly Indonesia as a development country, and the basic capital of development is good quality-human resource. Abundant productive-age human resources will positively affect this country concerning the higher number of manforce involved in the production activity. Thus resulting in increasing both local and national income which eventually will increase population welfare. Conversely, demographic disaster will occur and lead to unemployment problems since people of productive age will be unemployed due to limited job opportunity, hence competition between job seekers is increasing. In the absence of good management, mass unemployment will occur and become a burden to a country, which in turn will lead to an impact on increasing poverty and criminality rate while becoming a threat to national security.

In Indonesia, several provinces had experienced demographic bonus in 2015, included: DKI Jakarta, East Java, DI Yogyakarta, Bali, East Kalimantan, North Sulawesi, Banten, Bangka Belitung Islands, Jambi, Bengkulu, Central Kalimantan, West Java, Riau Island, Central Java, South Kalimantan, South Sumatera, and Lampung. Despite the limited information available, characteristic of millennial generation has been investigated in several studies, which is denoted in the literature review, however, the characteristic of millennial generation of farmers is not yet specifically examined. Surprisingly, the term “millennial farmers” is quite popular in the community, thus identification of characteristics of millennial generation of farmers is necessarily done to obtain the standard characteristics for farmers or business players in agricultural sector in order to avoid public confusion. Based on this consideration, the problem formulations of this study are: (1) what are the characteristics of millennial generation of farmers, (2) what are the factors that affect the characteristics of millennial generation of farmers, and (3) what is the strategy to boost the role of millennial generation of farmers for agricultural development.

2. Literature Review

2.1. Definition and Characteristics of Millennial Generation

In several sources, there was no definite year when exactly the birth of the millennial generation or generation Y, however, millennial generation or generation Y are those born from generation X. This term has become popular since it was introduced by American writers, William Strauss and Neil Howe who were a history expert, in some of their books titled *Millennials Rising: The Next Great Generation* which was published in 2000 [2]. Moreover, Elwood Carlson in his book entitled *The Lucky Few: Between the Greatest Generation and the Baby Boom* (2008), mentioned that millennial generation are those born between 1983 and 2001. Later, the Generation Theory introduced

by [3] also mentioned that *millennial* generation is the generation born in year between 1980 and 2000. Based on those explanations, millennial generation is a person born between 1980s and 2000s.

According to the Ministry of Women Empowerment and Child Protection in the book entitled *Profil Millennial Indonesia 2017*, the characteristics of millennial generation are described as follows:

(1) Familiar with The Use of Technology

Millennial generation is very familiar with the use of technology. Daily, they could spend hours on laptop or cellphone. They are busy surfing in the virtual world. The goals are varies, depend on the needs of different individuals. Some are searching for school or college materials, some are looking for materials to support their works, and some are busy with their social media.

(2) Finding New Useful Innovation

Familiarity of millennials with technology motivates them to innovatively create useful application. The application might vary. For example, there are applications that facilitate transportation service and support daily activity, such as Go-jek, Grab, Uber, etc. In Addition, there is Jojonomic, a technology-based *start up* which also develops applications for firm activity, namely JojoExpense, JojoPayroll, JojoTimes, and other applications that are currently developed. These applications provide different benefits depends on the type of application.

(3) Excellent Education

If compared with the previous two generations, millennials or generation Y is more advanced in term of education, and they also realize the importance of education. Education is not only able to change the quality of life since, with education, we can gain more insight and important knowledge to apply in many things. Obviously, there is a significant difference between those who attended school and those who never. Every single person tries their best to obtain knowledge or master skills to further become a success person in the future.

(4) Informative, Creative, and Productive

Ease of access to knowledge has put the millennial generation into person who is responsive to the development of situation occurs both in Indonesia and other parts of the world. Rich of information makes *millennials* produce creative ideas, which can be applied further in daily life. For instance, the production of creative toys that is useful for children, hence, *millennials* are getting more productive by spending their time to do many useful activities. In fact, many are good at making daily schedule for better activity management.

(5) *Open-Minded*

Having an open mindset or being *open-minded* also shows a characteristic of *millennial* generation. When observing something, millennials do not focus on habit or general theory that has existed for a long time. This open-mindedness lets *millennials* to be more tolerant to others. They are not easily offended or judge others with different opinion. *Millennials* are certain that each individual has different background, thus they could have different mindset.

(6) Critical to Political, Social, and Economic Situation

Open-minded also makes *millennials* become very critical when facing a problem, especially related to things that are going viral, they tend be more reactive to comment. Moreover, *millennials* also have a big concern for political situation and economic system in Indonesia, particularly when it is concerning the changes in laws or regulation related to important things. As in mid-2019 when the government was rumored to revise several points of the Laws of labor.

Furthermore, report of *Future of Jobs Report, World Economic Forum* [4] explains 10 skills that should be mastered by millennials to face the year 2020 are:

(1) Complex Problem Solving

Different challenges will be faced by millennials in 2020, thus they need to have skill in solving problem. This skill will be useful in a difficult situation. This skill will help solving the problem faced easily.

- (2) **Critical Thinking**
When dealing with something, we should not believe or agree on things considered true. Millennials are critical by digging things deeper since they will find more interesting facts when start thinking critically.
- (3) **Creativity**
High creativity is greatly demanded in future years. Millennials should be able to create new ideas that are useful for many people. Less creative people will lose to those who are more creative. Ideas are found by reading books, watching news, or *youtube*. Today, information is easily access anywhere and anytime through the use of internet.
- (4) **People Management**
Well self-management eases us to manage other people. We should know that others have different characteristics. Thus, we learn how to deal with other people with different characteristics. This way, managing other people will be easier.
- (5) **Coordinating with Others**
The years approaching is no longer the era of competition, but collaboration. In forming a new collaboration, we have to be able to do a good coordination with our team. A good coordination will result in solid team. Team coordination should be formed without *missed communication* since this might lead to a big problem in the future.
- (6) **Emotional Intelligence**
Human emotions are in various forms, there are angry, disappointed, sad, happy, touched, and so on. Emotion is like a system that will continue to exist. As in the law of attraction, system cannot be disappeared, but it can only changes in form. Those who are difficult to control their emotion will be trapped in a difficult situation, i.e. a situation which could result in mental illness and requires help. The issue of mental illness is getting more popular and is expected to be caused by poor emotional control frequently experienced by millennials. In fact, the heavy burden of life has made some people to end their life. This fact is ironic, but it is the reality that happens around us. Fortunately, the government does not remain silent in facing this problem. Physiologists are available in several public health center to help dealing with the problem of life.
- (7) **Judgement and Decision Making**
As a generation with excellent educational background, the ability to make judgement and make decision is highly required because it can help assessing thing objectively, not only based on subjective judgement without evidence or facts. This method is considered wiser when deciding right from wrong. The right decision will lead to a good result, thus makes sure the decision made is the best one. keep trying to not making wrong decision since greater risk is waiting ahead.
- (8) **Service Orientation**
Orientation to provide service for others is one ability that should be comprehended. Put in your mind to serve and help other, not the other way around. Serving those who needs is not easy, especially when we meet someone who needs a lot of things. However, this situation can train ourselves to be more patient in providing the best service to others. When serving other well and the served person is satisfied or happy, we are considered successful and have a great ability to serve others.
- (9) **Negotiation**
A good negotiation skill is highly required, particularly when establishing business partnership with other companies. Millennials should have the ability to convince people as it will help them find the meeting point between things that are contradictory to form a unified unit. Therefore, all are solved well and properly.
- (10) **Cognitive Flexibility**
The ability of cognitive flexibility can be trained for both children and adults to explore with new experiences and existing knowledge. This skill will help facing the problem of life in a creative way, thus we get used to challenges that we have never experienced before. Experience is truly a

valuable lesson in life that money cannot buy. Various experiences could change a person to be more mature and wiser in the future.

2.2. Young Agropreneur

Young agropreneur is young generation who implements and involves in agricultural entrepreneurial activity with entrepreneurial spirit, creative and imaginative [5]. Young agropreneur is a noble effort since they do what they like while benefiting others. Based on several sources, young agropreneur commonly has characteristics related to their close relationship with information technology, such as various digital applications through the use of internet of technology (IoT).

Result of study conducted by Aceng *at. al* [6] showed that several factors were found to influence entrepreneurial capacity of young agropreneur, included; the level of formal education, ease of access to communication and information technology, perception, and motivation towards agriculture.

2.3. National Food Security

Food is the basic primary human need which also determines the nation's progress, hence food availability that is sustainable must be guaranteed. Food security is food availability and the ability of a person or community to access it. As an illustration, a household is considered to be food secured if the household members are not starving. It is stated in the Law Number 7 Year 1996 about Food that food is the basic need and one of human rights. Foods have a strategic meaning and role for the life of a nation. Food availability that is lower than food needs could lead to economic instability, which in turn will create impact on social and political issues, and even national stability. The Law Number 18 Year 2012 about Food stated that Food resilience is fulfillment condition for the state until to individually, which reflected from Food availability of sufficient quantity and quality, safe, diverse, nutritious, equitable, and affordable and does not conflict with religion, beliefs, and culture of the community in order to healthy, active, and productive life in sustainable.

2.4. Research Hypothesis Framework

Hypothesis framework of research was built to provide hypothesis description about variables that affected the characteristics of millennial farmers. According to several references, there are factors expected to greatly influence the characteristics of millennial farmers, namely; (1) individual characteristics which consist of age, formal education, non-formal education or training, and achievement obtained; (2) technical competence which includes; ability to select the commodity, technical ability of farming, the use of social media, and ability to run digital device application; (3) managerial competence, that is the ability in business management, ability in establishing partnership networking, ability in resource management, and ability in conflict resolution; and (4) socio-cultural competence which consists of; actively participate in educational or religious activity, development of community economy, the role in organization or community group, and the role in development program. Schematically, hypothesis framework of the study is presented in Figure 1.

TECHNICAL COMPETENCE (X₂)

- X2.1. Selection of commodity
- X2.2. Farming technique
- X2.3. The use of social media
- X2.4. The use of digital application

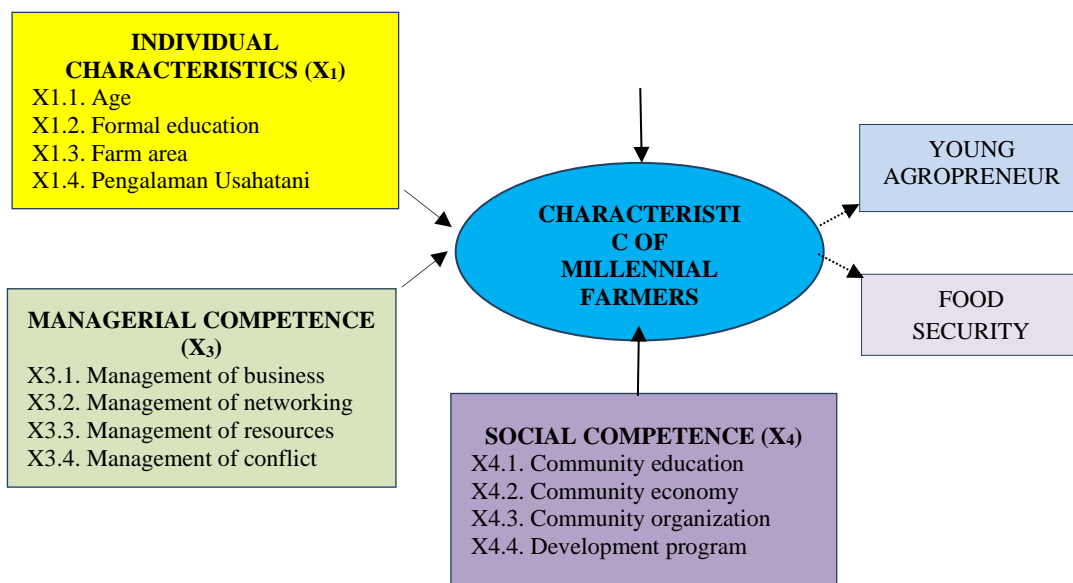


Figure 1. Research hypothesis framework of millennial farmer characteristic and its impact on the creation of agropreneur and food security in East Priangan

3. Objective of the study

Based upon the problem formulation, specifically, the objectives of this study are as: (1) to describe the characteristics of millennial generation of farmers, (2) to investigate dominant factors that affect the characteristics of millennial farmers, and (3) to design the model to boost the role of millennial farmers in term of agricultural developmet.

3. Methods of the Study

The study was conducted in several regencies in West Java where young farmers and agricultural entrepreneurs represented advanced farmers, thus research location was purposively selected by taking agricultural center area and young farmers into consideration. This study was carried out for four months (June – September 2020).

This study was a quantitative research with survey approach, namely study to obtain data from certain location by use of questionnaire and structured interview. The

interview was done with a number of individuals which represented the population in order to determine certain score concerning certain number of research variables.

Research population included advanced farmers of age between 15 – 40 years old who lived in East Priangan, West Java. Sample determination was done according to the approach of non-probability sampling, namely proportionally stratified sampling due to non-uniform population. Based on the data obtained from BPPSDMP in 2021, the number of millennial farmers in the Regency of Garut, Tasikmalaya, and Ciamis were 15, 12, and 6 people, respectively. Each regency represented 30 percent of population of millennial farmers. Moreover, each millennial farmer was determined proportionally according to the bureaucratic element of regency level (2 people), extension in BPP (3 people), and farmer (3 people), thus total sample amounted to 72 people as detailed below:

Table 1. Number of samples per location

Regency	Population of Millennial Farmers (30%)	Sample		
		Bureaucratic Level	Extension Officer	Farmer
Garut	5	2	15	15
Tasikmalaya	4	2	12	12
Ciamis	2	2	6	6
Total	11	6	33	33

The instrument used was questionnaire consisted of question list related to research variable. Prior to data collection purpose, questionnaire was tested for its validity and reliability. The validity of questionnaire was focused on content to investigate: (1) whether the substance of measurement tools has reflected the content (*property*) and (2) whether the information collected was in accordance with the concept used. Reliability of instrument reflects its ability to consistently measure such phenomenon or response. According to [7], there are three elements required for instrument reliability, namely: stability, accuracy, and validity.

Data collection was done through direct interview using a set of instrument in the form of questionnaire that was previously prepared and tested for its validity and reliability. To support the data directly obtained from respondents (primary data), the deepening of secondary data collected from reports and documentation available in local institutions (Village Office or District Office) was performed along with in-depth discussion (*FGD*). Moreover, several field officers (agricultural extension officers) from BP3K also helped in the data collection process by working as enumerators who had previously received adequate training and instruction from researchers regarding the technique to fill in the questionnaire.

The data collected in this study consisted of four independent variables of: individual characteristics (X_1), technical competence (X_2), managerial competence (X_3), and social competence (X_4); while dependent variables contained: characteristics of millennial farmers (Y_1), *agropreneur* (Y_2), and food security (Y_3). To ease the measurement, each variable was operational-divided as follows: (1) demographic characteristics of millennial farmers (X_1) consisted of age, level of formal education, non-formal education, farming area, and farming experience; (2) technical competence (X_2), consisted of ability to select commodity, technical ability to perform farming, ability to use social media, and ability to run digital application in farming; (3) managerial competence (X_3) consisted of ability to manage business, ability to manage partnership networking, ability to manage resources, and ability to manage conflicts; (4) social competence (X_4) consisted of the role in educational development of the community, economic development, organizational development, and improvement of development program; (5) characteristics of millennial farmers (Y_1) consisted of dominant competency resulted from the analysis; (6) *agropreneur* (Y_2) is the number of new millennial farmers as a result of millennial farmer performance; and (7) food security (Y_3) is the condition where food turmoil does not exist (adequate food supply for the community is available).

The data collected were analyzed in two technics: *First*, the descriptive statistic analysis with aim to explain the performance of research variable. Descriptive analysis was done in two steps, namely presenting the data of variable through tabulation method and further determine the trend of respondents' score for each variable which was divided into three classes of criteria, namely *low*, *moderate*, and *high*. *Second*, data were analyzed using the *Partial Least Square* (PLS) method to design two models which reflected the indicator, those were: Reflective Indicator Model and Formative Indicator Model. The *reflective model* shows that each indicator is the error measurement on latent variable. The direction of this causal effect is from the latent variable towards the indicator, hence indicators are reflection of the variance of latent variable [8]. Therefore, change in latent variable is

expected to change all indicators. The formative model is a causal relationship from the indicators towards latent variable. This might occur if a latent variable is defined as the combination of its indicators. Therefore, changes in indicator will be reflected in changes in its latent variables.

4. Result

4.1. Description of Area

As explained in the research methods, this study was conducted in East Priangan, West Java which included the Regency of Garut, Tasikmalaya, and Ciamis. People of this area are still attached to the Sundanese culture and custom which are characterized by gentleness in speaking and obedience to the traditional values of ancestral heritage.

Research location was the place where millennial farmers lived, namely in several districts in three regencies with the potential for agricultural development. Most respondents (farmers) cultivated food crops (rice and maize) and horticultural crops (chili, potato, orange, and other vegetables). The majority of respondents were male, in fact there was only 5.34 percent (6 persons) female of total 89 persons. The business performed in the area was mostly related to production sector (*on-farm*).

4.2. Description of research variable

Result of descriptive analysis consisted of individual characteristics (X_1), technical competence (X_2), managerial competence (X_3), and social competence (X_4); while dependent variables consisted of: characteristics of millennial farmers (Y_1), *agropreneur* (Y_2), and food security (Y_3), which described in detail as follows.

4.2.1. Performance of individual characteristics

Analysis of individual characteristic of respondents resulted in general finding that the majority of respondent was between 31 – 40 years old, attended formal education for 10 – 16 years, had farm area of above 0.5 hectare, and were less experienced in farming of below 5 years. In detail, performance of individual characteristics are presented in Table 2.

Individual Characteristics	Total (person)	Percentage (%)
Age (years)		
Early Adult (18-30)	35	39.3
Middle Adult (31-40)	54	60.7
Average = 35 years		
Formal Education (year)		
Low (2-9)	11	12.4
High (10-16)	78	87.6
Average = 13 years		
Farm Area (hectare)		
Low (<0,5)	25	28.1
High (>0.5)	64	71.9
Average = 0.5 hectare		
Experience (years)		
Low (0-5)	54	60.7

High (>5)	35	39.3
Average = 6 years		

Table 2. Description of Individual Characteristics of Millennial Farmers

According to Table 2, individual characteristics of farmers in general are as follows; they were quite educated as they attended Middle School (SLTP) and High School (SLA), thus they had formal education experience for 10 – 16 years. Most respondents (71.9%) had a relatively large farm area of above 0.5 ha. In term of age, farmers were mostly (60.7%) adult at age between 31 – 40 years old. However, millennial farmers were observed to have less experience in farming (60.7%) of less than 5 years

4.2.2. Description of technical competence

Result of descriptive analysis concerning the technical competence showed that the majority of respondents had a high technical competence in selecting commodity, mastering farming technique, using social media, and running the digital application. In detail, performance of technical competence of farmers is listed in Table 3.

Table 3. Technical Competence of Millennial Farmers

Technical Competence	Total (person)	Percentage (%)
Commodity Selection		
Low (≤ 15)	34	38.2
High (> 15)	55	61.8
Farming Technique		
Low (≤ 15)	34	38.2
High (> 15)	55	61.8
The Use of Social Media		
Low (≤ 15)	44	49.4
High (> 15)	45	50.6
Knowledge Digital Application		
Low (≤ 17)	36	40.4
High (> 17)	53	59.6

Based on Table 3, technical competence of respondents is explained as follows; most farmers (61.8%) had a quite high technical competence in selecting commodity and farming technics. Most respondents (59.6%) also had a high technical competence in using digital application and social media which supported their business.

4.2.3. Description of managerial competence

The result of descriptive analysis showed that managerial competence of respondent was high since farmers in majority had a great ability in managing business, establishing partnership networking, and managing the existing resources, yet they had low competence in conflict management. Detail performance of managerial competence of farmers is presented in Table 3.

Table 4. Managerial Competence of Millennial Farmers

Managerial Competence	Total (Person)	Percentage (%)
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Management of Business		
Low (≤ 6)	5	5.6
High (> 6)	84	94.4
Establishing Partnership		
Low (≤ 11)	13	14.6
High (> 11)	76	85.4
Management of Resources		
Low (≤ 14)	16	18.0
High (> 14)	73	82.0
Management of Conflicts		
Low (≤ 19)	59	66.3
High (> 19)	30	33.7

Table 4 explained that respondents had a great managerial competence; most farmers (94.4%) had a high competence in business management, establishment of partnership networking, and resource management, yet they were mostly less able to solve conflicts.

4.2.4. Description of social competence

Result of descriptive analysis related to the social competence of respondent showed that the majority of farmers had a high competence in the development of community education, development of community economy, and participation in development program, but they had low competence in community organization. In detail, performance of managerial competence of respondents is provided in Table 5.

Table 5. Social Competence

Social Competence	Total (person)	Percentage (%)
Role in Community Education		
Low (≤ 11)	42	47.2
High (> 11)	47	52.8
Role in Community Economy		
Low (≤ 11)	39	43.8
High (> 11)	50	56.2
Role in Community Organization		
Low (≤ 12)	52	58.4
High (> 12)	37	41.6
Role in Development		
Low (≤ 9)	8	9.0
High (> 9)	81	91.0

Table 5 shows that respondents had social competence as most of them (91.0%) had an important role in the development program in their area, in the development of community economy, and in the development of community education. However, in term of community organization, they were still less competent.

4.3. Factors affecting the characteristics

Analysis results of factors affecting the characteristics of millennial farmers showed that all independent variables directly affected the characteristic development of millennial farmers and indirectly influenced young agropreneur as well as food security. The schematic illustration of factors affecting the characteristic development of millennial farmers is seen in Figure 2.

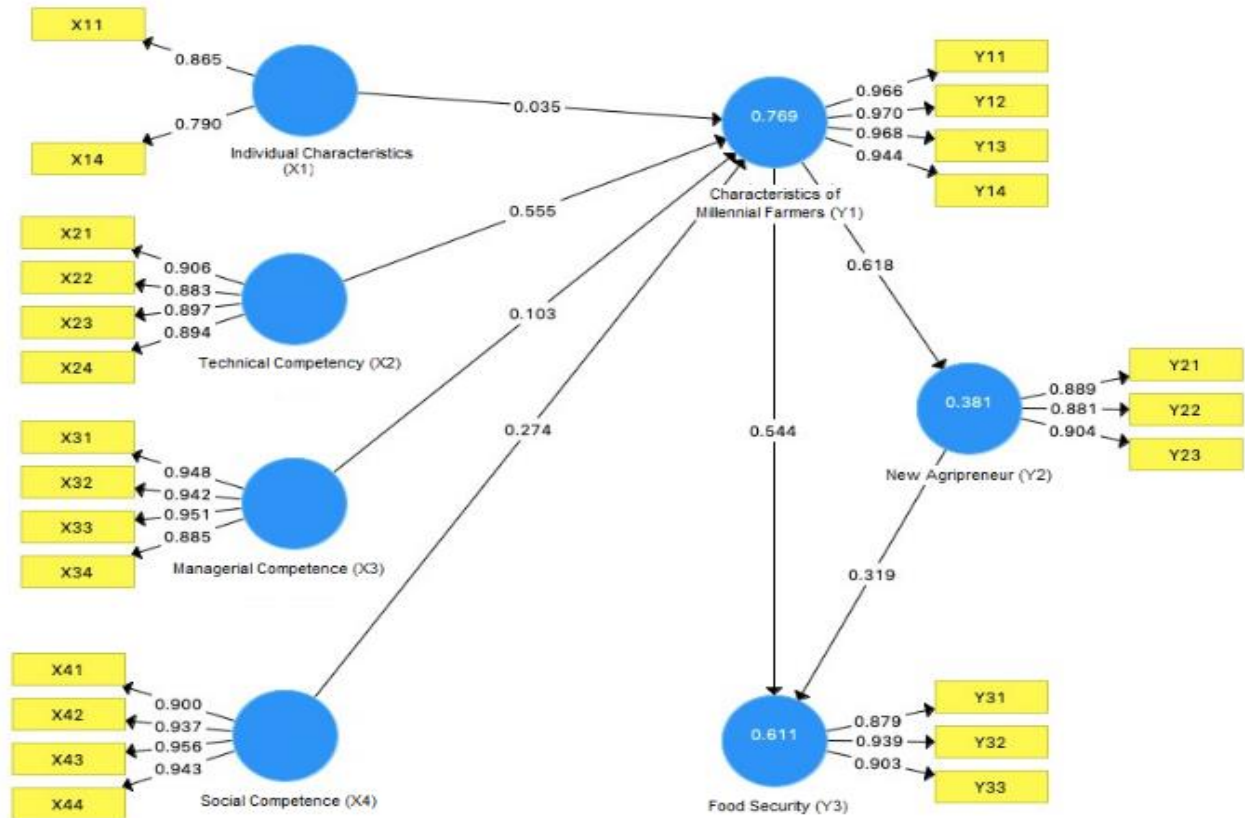


Figure 2. Factors affecting the characteristic development of millennial farmers

Figure 2 shows that all of the independent variables selected in this study determined the characteristic development of millennial farmers, which in turns will positively affect young agropreneur and food security. Based on the value of coefficient of each variable, technical competence obtained the highest coefficient of 0.555, followed by social competence of 0.274, and managerial competence of 0.103, while individual characteristics obtained the lowest coefficient of 0.035.

Technical competence was reflected by all indicators (latent variable), namely commodity selection, farming technique, the use of social media, and ability to use digital application. Social competence was also represented by all of the latent variables: the role in community organization, the role in development program, economic development, and development of community education. Managerial competence was reflected by resources management, business management, establishment of partnership networking, and conflict resolution. Moreover, there were only two latent variables that represented individual characteristics, namely age and farming experience. Characteristics of millennial farmers had a direct or positive effect to young agropreneur and food security. Similarly, the existence of young agropreneur also affected the sustainability of food security.

5. Discussions

Result of *PLS* analysis (Figure 2) showed that all independent variables affected the character building of millennial farmers and positively influenced young agropreneur and food security. This finding interpreted that individual characteristics, technical competence, managerial competence, and social competence determined the character building of millennial farmers in East Priangan, West Java. Furthermore, a more detailed explanation concerning the partial effect of each variable is provided below:

5.1. Effect of individual characteristics

The effect of individual characteristics on the characteristics of millennial farmers was represented by age and farming experience (Figure 2), indicating that the formation of millennial farmer characteristics was determined by age and experience. Result of descriptive analysis related to individual characteristics showed that the majority of respondents (60.7%) were between 31 – 40 years old or belonged to the millennial group, even though they were still less experienced in farming (60.7%). This finding was in line with the general concept about millennial which defined millennial as a group of people or youth at age between 19 – 39 years old, or in other words, group of productive age. Similarly with [8] mentioned several characteristics which determined the quality of extension workers, namely physical characteristics, educational qualification, skill, and experience. This result was supported by Effendy and Rusmono [9] that individual characteristics in term of age and experience determined the tendency of a person to behave. Moreover, Effendy [10] concluded that the factor of individual demography determined farmer participation in the climate field school activity (Sekolah Lapangan Iklim, SL-Iklim) in Pandeglang Regency, Banten.

5.2. Effect of technical competence

The result of *PLS* analysis also found that technical competence which was reflected by the ability to select commodity, technical competence of farming, the use of social media, and ability to use digital application affected the characteristic formation of millennial farmers. In line with the result of descriptive analysis, all latent variables obtained a high score, indicating that technical competence was considered to be greatly important for millennial farmers. This finding was also confirmed by Vijayaragavan and Singh [8] who reported that the important attributes for extension workers are practical experience and knowledge about farming practice that continues to develop (modern). Moreover, result of study conducted by Effendy and Rusmono [9] also found that technical competence, such as planning, implementation, and evaluation will determine the capacity of farmer in performing business.

5.3. Effect of managerial competence

Result of *PLS* analysis on managerial competence found that managerial competence influenced the characteristic formation of millennial farmers which was reflected by the ability to manage business, competence related to establish and manage partnership networking, ability to manage resources, and ability to solve conflicts. In accordance with the descriptive analysis result, all latent variables obtained such a high score, reflecting that respondents had a great ability in business management, establishment and management of partnership networking, and resource management, yet the ability regarding conflict resolution is still need improvement. Therefore, managerial competence or leadership for millennial farmers hugely determined their success. As mentioned by [11], a future extension worker should be more capable, more independent, more client-oriented, and have quality in term of vertical and horizontal interaction. Moreover, Swanson [12] mentioned that improvement of the role of manager related to the role in research, education, and farmers, is necessary.

5.4. Effect of social competence

Social competence showed an effect on the formation of characteristics of millennial farmers which was represented by the latent variable of: ability in community education development, economic

development, involvement in development program, and development of community organization. This outcome was in line with the result of descriptive analysis that all latent variables obtained a high score, except for development of community organization. This finding was in accordance with [13] who mentioned that the ability to adapt to local socio-culture will determine the success of extension activity or rural development [14], Jens, U.N. also suggested that extension success might be determined by the ability of extension workers to organize the community concerning human resource development.

5.5. Impact of characteristics of millennial farmers

The characteristics formed as a result of competence owned by millennial farmers positively affected young agropreneur and sustainability of food security. This result interpreted that the competence of millennial farmer also played role in motivating young people around them to involve in agricultural business, which in turn will have a positive effect to ensure and maintain food security of the community. This finding also interpreted that young agropreneur is possibly done through millennial farmers, as mentioned in the *Future of Jobs Report, World Economic Forum* [15] mentioned that millennials had various skills, hence they could be a model or example for the community in the surrounding environment. This result was also in line with [16] who suggested that millennial farmers can also play role as self-help extension workers.

6. Conclusion

This study concludes, namely: (1) millennial farmers in the East Priangan region have relatively different characters from the general millennial generation; Millennial farmers in the East Priangan region have the following characteristics: (a) belong to the productive age group with a range of 31-40 years, have secondary education to tertiary education with 10-16 years of schooling, have a fairly large farm area (> 5000 m²), but relatively new in farming (<5 years); (b) have high technical competence including: the ability to choose commodities, technical cultivation skills, the ability to utilize social media, and the ability to use digital applications; (c) have adequate managerial competence, including: ability in business management, building cooperative networks, ability to manage resources, but relatively incapable of resolving conflicts; (d) has high social competence such as in the development of community education, community economy, and development of development programs, but is relatively lacking in managing community organizations; (2) the character of millennial farmers in the East Priangan region of West Java is determined by technical competence, managerial competence, and social competence, as well as individual characteristics, especially age, education level, land area and farming experience; (3) the character of millennial farmers has a positive impact on the growth of young agropreneurs and food security.

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