

The Determining Factors of Entrepreneurial Activity in Broiler Farms

Burhanuddin*, Harianto, R. Nurmalina, & R. Pambudy

Department of Agribusiness, Faculty of Economics and Management, Bogor Agricultural University
Jln. Kamper Kampus IPB Darmaga Wing 4 Level 5, Bogor 16680, Indonesia
(Received 28-08-2013; Reviewed 18-09-2013; Accepted 29-10-2013)

ABSTRACT

Indonesia still requires approximately 4 million entrepreneurs to become a developed country. This research aimed at identifying and analyzing the factors forming the broiler farm entrepreneurial activities that contribute on generating new entrepreneurs in Indonesia. Primary data were collected through questionnaire and analyzed by Structural Equation Modeling (SEM). Independent latent variables were innovations (IN), productions (DP), competitiveness (DS), risks (PR), labors (TK), and policies (KP), and then entrepreneurial activities (AK) as dependent latent variable. The results showed that the model was built (MODEL1 as measurement model and MODEL2 as structural model) had goodness fit and good reliability measurement variables ($CR \geq 0.70$, $VE \geq 0.50$). Innovation was reflected by the level of willingness to innovate ($\lambda = 0.63$) and level of technology ($\lambda = 0.62$). Production was reflected by production efficiency ($\lambda = 0.62$) and cost control ($\lambda = 0.43$). Competitiveness was reflected by the internet ($\lambda = 0.56$), the cost of starting ($\lambda = 0.55$), and new business formation ($\lambda = 0.58$). Labor was reflected by the training and development ($\lambda = 0.57$), and motivation ($\lambda = 0.42$). Policies was reflected by access to land ($\lambda = 0.56$), technical assistance ($\lambda = 0.60$), research and technology ($\lambda = 0.66$), and copyright protection ($\lambda = 0.64$). The entrepreneurial activity of broiler farms were formed by innovation ($\gamma = 0.91$), competitiveness ($\gamma = 0.94$), and policies ($\gamma = 0.98$). Broiler farms contributed positively to generate new entrepreneurs. Production and information technology development program, facilitation of the creation of new ventures program, business expansion program, and a program of strengthening intellectual property rights on broiler farms should be a priority of the Indonesian government programs in the future.

Key words: broiler farm, competitiveness, entrepreneurial activity, innovation, policies

ABSTRAK

Indonesia membutuhkan sekitar 4 juta wirausaha untuk naik kelas menjadi negara maju. Penelitian ini bertujuan untuk mengidentifikasi dan menganalisis faktor-faktor pembentuk aktivitas kewirausahaan peternakan broiler yang berkontribusi menghasilkan wirausaha baru di Indonesia. Data primer dikumpulkan melalui kuesioner dan dianalisis dengan *Structural Equation Modelling* (SEM). Variabel laten eksogen adalah inovasi (IN), produksi (DP), daya saing (DS), resiko (PR), tenaga kerja (TK), dan kebijakan pemerintah (KP), sedangkan aktivitas kewirausahaan (AK) merupakan variabel laten endogen. Hasil penelitian menunjukkan bahwa model yang dibangun (MODEL 1 merupakan model pengukuran dan MODEL 2 merupakan model struktural) telah memenuhi kriteria *goodness fit* dan variabel pengukuran penelitian memiliki reliabilitas ($CR \geq 0,70$, $VE \geq 0,50$) yang baik. Hasil analisis SEM menunjukkan bahwa inovasi direfleksikan oleh kesediaan berinovasi ($\lambda = 0,63$) dan tingkat teknologi ($\lambda = 0,62$). Produksi direfleksikan oleh efisiensi produksi ($\lambda = 0,62$) dan pengendalian biaya ($\lambda = 0,43$). Daya saing direfleksikan oleh jaringan internet ($\lambda = 0,56$), besarnya biaya pada saat memulai usaha baru ($\lambda = 0,55$), dan pembentukan usaha baru ($\lambda = 0,58$). Tenaga kerja direfleksikan oleh pelatihan dan pengembangan ($\lambda = 0,67$), serta motivasi ($\lambda = 0,42$). Kebijakan Pemerintah direfleksikan oleh akses terhadap lahan ($\lambda = 0,56$), bantuan teknis ($\lambda = 0,60$), penelitian dan teknologi ($\lambda = 0,66$), serta perlindungan hak cipta ($\lambda = 0,64$). Aktivitas kewirausahaan peternakan broiler secara baik dibentuk oleh inovasi ($\gamma = 0,91$), daya saing ($\gamma = 0,94$), dan kebijakan pemerintah ($\gamma = 0,98$). Dengan demikian, peternakan broiler terbukti berkontribusi positif pada penumbuhan wirausaha-wirausaha baru. Program pengembangan teknologi produksi dan informasi, program fasilitasi penciptaan usaha-usaha baru, program perluasan lahan usaha, dan program penguatan hak kekayaan intelektual peternakan broiler merupakan program prioritas pemerintah Indonesia di masa depan untuk mencapai target jumlah minimal 2% wirausaha, .

Kata kunci: aktivitas kewirausahaan, daya saing, inovasi, kebijakan peternakan broiler

*Corresponding author:
E-mail: burhan_ipb@yahoo.com

INTRODUCTION

The world had entered the fourth civilization as the creative era that puts innovation as a driving force of economic growth. Innovation is an important element in entrepreneurship, so that entrepreneurial activity is the attribute key to the success of economic development, particularly in agriculture sector (Richards & Bulkley 2007, Goethner *et al.*, 2012). Entrepreneurial activity has been described by Schumpeter in 1911 which stated that the incorporation of technological advances generated by the innovation made by economic actors (eg. agricultural companies) to maximize profits or utility (Dinopoulos & Sener 2007; Naude, 2011). Likewise, the innovations were resulting from government policy and the results of research and educational institutions (Naude, 2008).

Davidsson (2003) argued that entrepreneurship is competitive behaviors that drive the market, not only creating a new market, but to create new innovations into the marketplace, creating change and improving competitiveness. In fact, thoughts that connects innovation with entrepreneurial driven the evolution of industrial or economic evolution (Audretsch 2007; Gries & Naude, 2011).

Among the animal farm sub-sector, broiler farms had the highest growth of population. Developed at Indonesia in the '80s, currently the population is close to 1.5 billion. This is presumably due to entrepreneurial activity, innovation that is very fast on broiler farms. For example, the fast growing poultry produced by genetic technology and technological innovations feed. Early harvest was also drawn by the processing industry demand for broiler weighing less than 1 kg of carcass, as a result of consumer preference towards processed broiler products are more innovative. Monopoly market structure requires firms to innovate to grow further in the competition, while the broiler market tends to oligopoly. Does the market structure encouraging innovation and competitive of broiler farms?

Does government policy plays a role in entrepreneurial activity of broiler farms? Pambudy (2010) and Sobel (2008) asserted that foster entrepreneurship can be achieved on good, clean and visionary governance, otherwise would be disastrous. Entrepreneurial activity fostered by government policies include policy to increase access to credit, policy of increasing access to land, employment enhancing policies, and policy to increase technical assistance and technology research (Stam *et al.*, 2007).

On the other hand, Indonesia still desperately needs entrepreneurship, which is about 4 million entrepreneurs to reach a minimum amount of 2 percent of the total population in order to support the Indonesian economy. Therefore, there is a need to support progressive policies and focus in growing new entrepreneurs. How the governments created a conducive situation to support the development of entrepreneurship accelerate the growth of entrepreneurship in Indonesia? What factors that perform entrepreneurial activity in broiler farms? Thus, this study aims to identify and analyze the factors forming the broiler farm entrepreneurial

activities that contributed generating new entrepreneurs in Indonesia.

METHODS

The research was conducted in Indonesia for six months from February to July 2013. Research population was the independent broiler farmers. Refer to the Central Bureau of Statistics (2012), 50.57% of the total broiler population in Indonesia (1,041 billion head) were concentrated in West Java. Therefore, samples were taken with the technical census in broiler production centers in West Java, which is Bogor district as much as 381 farmers.

The research data in the form of primary data collected through the questionnaires. Primary data consisted of the data respondents and entrepreneurial activity. Data were analyzed by multivariate analysis of the Structural Equation Modeling (SEM). SEM is used to examine the complex relationship among variables, where some variables can be hypothetical or unobserved (latent) and observed (measured or manifest), and also to examine the relationship between two or more latent variables.

The research variables consisted of the independent latent variables Entrepreneurship Activity (AK) broiler farms and dependent latent variable determining factors of entrepreneurial activity which consisted of: (1) Innovation (IN), (2) Production (DP), (3) Competitiveness (DS), (4) Risk (PR), (5) Labor (TK), and (6) Policies (KP). Relationship of the measured variables of each dependent latent variables forming entrepreneurial activity broiler farms, called MODEL1 (Figure 1 annex). The relationship between the sixth dependent latent variables and independent latent variables Entrepreneurship Activity (AK), called MODEL2 (Figure 2 annex).

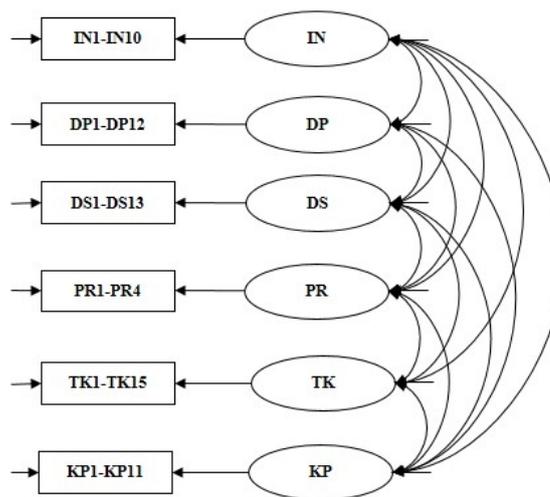


Figure 1. Path diagram of MODEL1. (1) Innovation (IN), (2) Production (DP), (3) Competitiveness (DS), (4) Risk (PR), (5) Labor (TK), (6) Government Policy (KP). Variables measuring innovation (IN1-IN10), production capacity (DP1-DP12), competitiveness (DS1-DS13), risk (PR1-PR4), labor (TK-TK15), government policy (KP1-KP11).

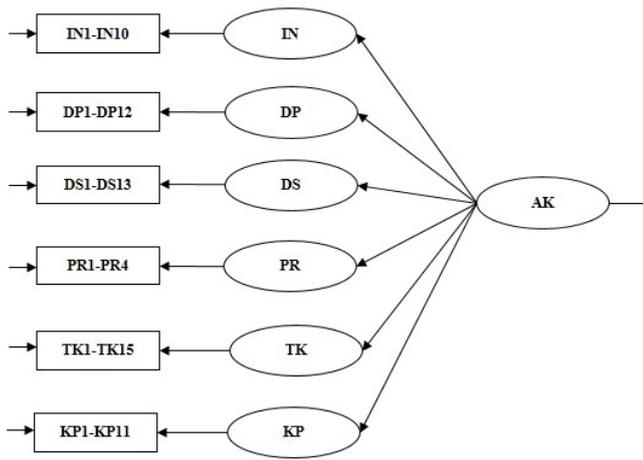


Figure 2. Path diagram of MODEL2. (1) Innovation (IN), (2) Production (DP), (3) Competitiveness (DS), (4) risk (PR), and (5) Labor (TK), (6) Government Policy (KP). Variables measuring innovation (IN1-IN10), production (DP1-DP12), competitiveness (DS1-DS13), risk (PR1-PR4), labor (TK-TK15), government policy (KP1-KP11), entrepreneurship activity (AK).

The measured variables of innovation (IN) was the intensity of innovation (IN1), willingness to innovate (IN2), the level of technology (IN3), research intensity (IN4), introduction of new products (IN5), using new methods of production (IN6), opening new markets (IN7), exploration of new economic resources (IN8), new forms of organization (IN9), new sources of supply (IN10). The measured variables of production (DP) was the business ownership (DP1), scale (DP2), diversification of production (DP3), anticipating market needs (DP4), offering quality (DP5), production efficiency (DP6), controlling costs (DP7), productivity (DP8), the division of labor (DP9), money management (DP10), tax rates (DP11), and factors of production (DP12).

The measured variables of competitiveness (DS) was the number of computers (DS1), the Internet (DS2), expenditures for research (DS3), license fees (DS4), value added (DS5), the cost of starting a new (DS6), culture company (DS7), new business formation (DS8), the bargaining power of buyers (DS9), bargaining power of suppliers (DS10), the threat of competitors (DS11), the threat of substitute products (DS12), the threat of new entrants (DS13). The measured variables of risk (PR) was take a risk in employment (PR1), take a risk in terms of finance (PR2), take a risk of production (PR3), and take a the risk in investing (PR4).

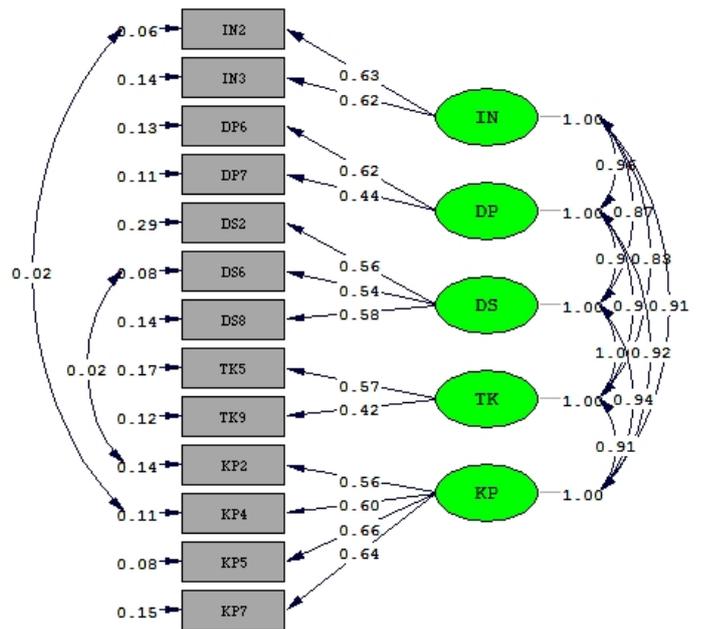
The measured variabls of labor (TK) was labor growth (TK1), incentives for education (TK2), production knowledge (TK3), total employment (TK4), training and development (TK5), skills of labor (TK6), attitude (TK7), cultural values (TK8), motivation (TK9), individual behavior (TK10), activities of workers' organizations (TK11), wages (TK12), payment systems (TK13), the effectiveness of recruitment (TK14), the level of urbanization (TK15). The measured variables of Policies (KP) was access to credit (KP1), access to land (KP2), job

opportunities (KP3), technical assistance (KP4), research and technology (KP5), fiscal appreciate innovation (KP6), copyright protection (KP7), the rule of law (KP8), capital (KP9), small business subsidies (KP10), growth of new businesses (KP11).

RESULTS AND DISCUSSION

Factors of Entrepreneurship

The identification on MODEL 1 showed that hat measurement variables had t-value more than 1.96 (see Figure 3 annex), meaning that the measured (manifest) variables have reflected the latent variable. However, when seen from the relationship between latent variables, the t-value of the variable risk (PR) less than 1.96 and it had loading factor lower than 0.70, so the risk variable should be excluded from the model. Figure 3 explained that the innovation variable (IN) reflected by the willingness to innovate ($\lambda=0.63$) and the level of technology ($\lambda=0.62$). The production variable (DP) reflected by the efficiency of production ($\lambda=0.62$) and controlling costs ($\lambda=0.43$). The competitiveness variable (DS) reflected by the Internet ($\lambda=0.56$), the cost of starting a new ($\lambda=0.55$), and new business formation ($\lambda=0.58$). The labor variable (TK) reflected by training and development



Chi-square= 92.14, df= 53, P-value= 0.00069, RMSEA= 0.044

Figure 3. Path diagram of respecification of MODEL1; estimation results and goodness of fit test. Innovation (IN), production (DP), competitiveness (DS), labor (TK), government policy (KP), willingness to innovate (IN2), level of technology (IN3), production efficiency (DP6), controlling costs (DP7), the internet (DS2), start up cost (DS6), new business formation (DS8), knowledge production (TK3), training and development (TK5), motivation (TK9), access to land (KP2), technical assistance (KP4), research and technology (KP5), copyright protection (KP7).

($\lambda=0.57$), and motivation ($\lambda=0.42$). The Policies variable (KP) reflected by access to land ($\lambda=0.56$), technical assistance ($\lambda=0.60$), research and technology ($\lambda=0.66$), and copyright protection ($\lambda=0.64$).

Willingness to innovate (IN2) has reflected innovation of broiler farms. Broiler farmers are very open to innovation, i.e. has always prioritizes latest DOC strain and feed, selecting vaccines, technology management, and the latest sanitation technologies. Willingness to innovate farmers affected by government policy in terms of increased technical assistance (KP4). Innovation on broiler farms also reflected by the level of technology (IN3), in terms of feeding, maintenance of engineering, good farming practices (GFP), henhouse sanitation, and use of automatic equipment.

Production efficiency (DP6) explained the least feed was wasted, lower mortality rates, and harvest on time. Production efficiency achieved, because the farmers have implemented a strict schedule management and good farming practices (GFP). Production also explained by cost control (DP7) covering input costs and social costs. Cost control conducted by performing a comprehensive production planning.

Competitiveness of broiler farms was supported by Internet network (DS2) that routinely used by farmers as well as start-up cost (DS6) and new business formation (DS8). In terms of starting a new broiler farms affected by policies on the availability of land (KP2), so the government need to regulate the land for broiler farms. Establishment of new businesses is in the form of business development from downstream to upstream.

Training and development (TK5) reflects the capacity of labor. Skill of labor henhouse should be improved continuously adjust production technology evolved. In addition to skill enhancement, strengthening of personality and motivation had a similar impact on the success of broiler farms. Knowledge labor in the given amount of feed, kind of feed, feeding intensity, the principles of hygiene and maintenance standards form the basis of labor skills in broiler farms.

Government policies that impact on the development of broiler farms was policies to improve access to land (KP2), increase technical assistance (KP4), research and technology (KP5), and copyright protection (KP7). The land needed was that allocated in the Regional Spatial Plan (RTRW) and accessible. Technical assistance to provide ease of licensing and business administration as well as the standardization of products will help farmers to expand their business. The government should facilitating research program from laboratory scale to field scale by creating full cooperation with research institutions. Government required to provide assistance in the growth and development of copyright through various media that encourage the development of broiler farms.

The Entrepreneurial Activity of Broiler Farm

Respecification of MODEL 2 showed that all the t-value above 1.96 and a factor loading ≥ 0.70 (see Figure 4 annex). Its means that all variables had valid, while based on the results of goodness of fit tests (see Table

1 annex) and the model had good reliability test (see Table 2 annex). Figure 4 showed that the entrepreneurial activity of broiler farms are well described by the innovation ($\gamma=0.91$), competitiveness ($\gamma =0.94$), and policies ($\gamma =0.98$). Production ($\beta=0.50$) and labor ($\beta =0.99$) formed competitiveness, while innovation was also formed by the production ($\beta =0.52$).

The measurement equation of respecification MODEL 2 is as follows:

$$IN2 = 0.63*IN, \text{ Errorvar.} = 0.060, R^2 = 0.87$$

(0.0092)
6.55

$$IN3 = 0.62*IN, \text{ Errorvar.} = 0.14, R^2 = 0.73$$

(0.025) (0.013)
24.70 10.83

$$DP6 = 0.62*DP, \text{ Errorvar.} = 0.13, R^2 = 0.75$$

(0.014)
9.51

$$DP7 = 0.43*DP, \text{ Errorvar.} = 0.11, R^2 = 0.64$$

(0.022) (0.0093)
19.73 11.70

$$DS2 = 0.56*DS, \text{ Errorvar.} = 0.28, R^2 = 0.52$$

(0.022)
12.82

$$DS6 = 0.55*DS, \text{ Errorvar.} = 0.081, R^2 = 0.79$$

(0.032) (0.0077)
17.29 10.45

$$DS8 = 0.58*DS, \text{ Errorvar.} = 0.13, R^2 = 0.72$$

(0.035) (0.012)
16.47 11.52

$$TK5 = 0.57*TK, \text{ Errorvar.} = 0.17, R^2 = 0.65$$

(0.017)
10.01

$$TK9 = 0.42*TK, \text{ Errorvar.} = 0.12, R^2 = 0.58$$

(0.025) (0.011)
16.65 11.27

$$KP2 = 0.56*KP, \text{ Errorvar.} = 0.14, R^2 = 0.69$$

(0.012)
12.10

$$KP4 = 0.60*KP, \text{ Errorvar.} = 0.11, R^2 = 0.77$$

(0.028) (0.0096)
21.74 11.20

$$KP5 = 0.66*KP, \text{ Errorvar.} = 0.087, R^2 = 0.83$$

(0.028) (0.0087)
23.23 9.93

$$KP7 = 0.64*KP, \text{ Errorvar.} = 0.15, R^2 = 0.73$$

(0.031) (0.013)
20.75 11.75

The structural equation of respecification MODEL 2 is as follows:

$$IN = 0.91*AK, \text{ Errorvar.} = 0.17, R^2 = 0.83$$

(0.045) (0.028)
20.33 6.00

$$DP = 0.52*IN + 0.50*DS, \text{ Errorvar.} = 0.020, R^2 = 0.98$$

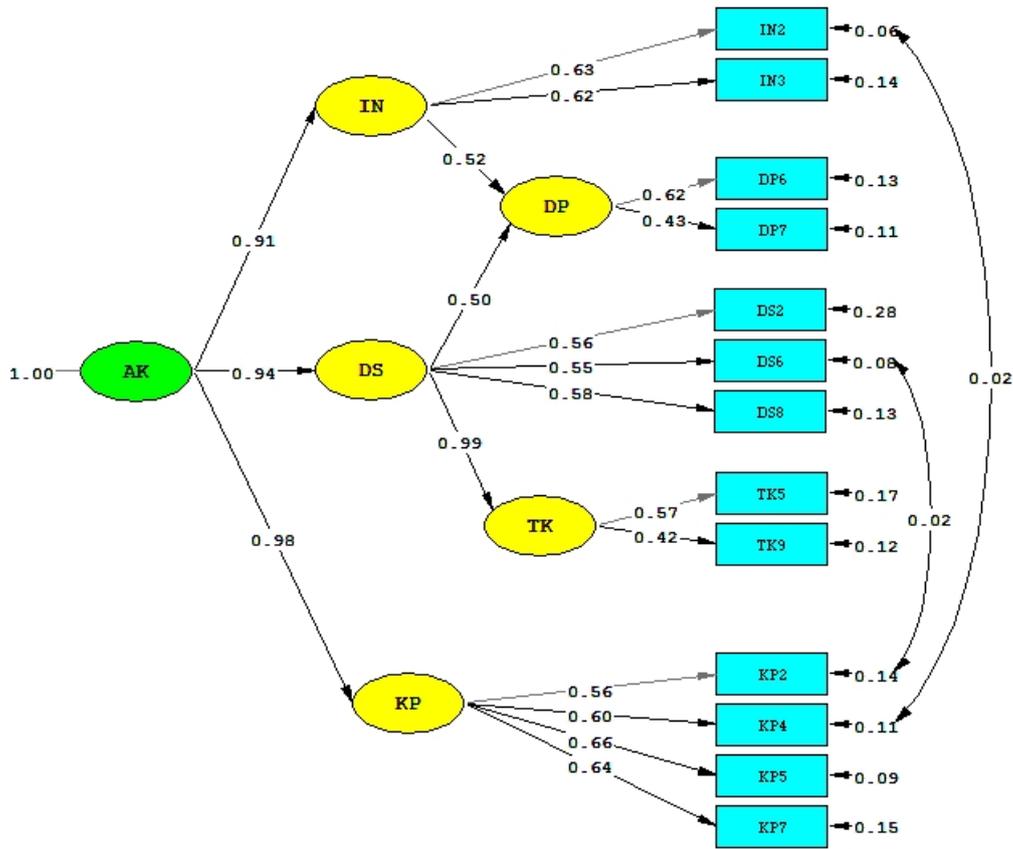
(0.074) (0.076) (0.026)
7.08 6.61 0.74

$$DS = 0.94*AK, \text{ Errorvar.} = 0.12, R^2 = 0.88$$

(0.062) (0.026)
15.19 4.51

$$TK = 0.99*DS, \text{ Errorvar.} = 0.022, R^2 = 0.98$$

(0.064) (0.037)
15.47 0.59



Chi-square= 100.03, df= 57, P-value= 0.00037, RMSEA= 0.045

Figure 4. Path diagram of respecification MODEL2; estimation results and goodness of fit test. Innovation (IN), production (DP), competitiveness (DS), labor (TK), government policy (KP), willingness to innovate (IN2), level of technology (IN3), production efficiency (DP6), controlling costs (DP7), the internet (DS2), Start up cost (DS6), new business formation (DS8), knowledge production (TK3), training and development (TK5), motivation (TK9), access to land (KP2), technical assistance (KP4), research and technology (KP5), copyright protection (KP7), entrepreneurship activity (AK).

$$\begin{aligned}
 &KP = 0.98*AK, \text{ Errorvar.} = 0.030, R^2 = 0.97 \\
 &\quad (0.052) \quad (0.019) \\
 &\quad 19.10 \quad 1.56
 \end{aligned}$$

Based on structural equation above, all R2 values are above 0.80. Its means that the entrepreneurial activity of broiler farms, 83% was explained by innovations, 88% by competitiveness, and 97% by government policies.

Thereby, MODEL 2 explained that entrepreneurial activity described by innovation, both at level on-farm and off-farm. The research conducted by Hussain *et al.* (2011) in Pakistan found a positive correlation between innovation and entrepreneurship. Salgado-Banda (2007) and Okpara (2007) stated that innovation will trigger and encourage entrepreneurship in the enterprise level. The role of entrepreneurial moving gradually, starting from factor-driven stage of production, efficiency, and last driven by innovation.

Then, Audretsch *et al.* (2008) concluded that innovation efforts have an indirect effect on economic performance via entrepreneurship. Even the research of Anokhin & Schulze (2009) that examines the control of corruption associated with rising levels of innovation

and entrepreneurship, showed that monitoring and other transactions cost should restrict the scale and scope of trade and thus, hamper productivity and investment in innovation and entrepreneurship. Thus, helping unpack the puzzling relationship between entrepreneurship, innovation, and corruption.

Capacity of competing broiler farms also explained entrepreneurial activity. The research conducted by Musai *et al.* (2011) and Leeson & Boettke (2009) had concluded that the allocating budget start new business and develop a productive enterprise are the core of entrepreneurial activity. The competitiveness of broiler farms also reflected by labor who educated and have an external network. Minniti (2005) concluded that initially similar economic characteristics may end up with different levels of entrepreneurial activity.

Hall & Sobel (2008) stated that the understanding of policy makers towards entrepreneurial activity could be actualized through policies that increased business growth. Government policies have provided a major contribution to entrepreneurial activity of broiler farms. Government policies that could improve the quality of entrepreneurship was also confirmed by Naude (2008),

Table 1. Results of goodness of fit test for MODEL 2

GOF (Goodness of Fit)	Values	GOF level
Root Mean Square Error of Approximation (RMSEA): RMSEA \leq 0.05 close fit, 0.05 < RMSEA < 0.08 good fit	0.045	close fit
Non-Centrality Parameter (NCP): Low, closer to lower value 90 Percent Confidence Interval for NCP	43.03 (19.06 ; 74.85)	good fit
Expected Cross-Validation Index (ECVI): Closer to ECVI Saturated Model	0.44 Strd 0.48, Ind 34.82	good fit
Akaike Information Criterion (AIC): Closer to Saturated AIC	168.03 Strd 182.00, Ind 13229.83	good fit
Consistent AIC (CAIC) Closer to Saturated CAIC	336.08 Strd 631.79, Ind 13294.09	good fit
Normed Fit Index (NFI): NFI \geq 0.90 good fit	0.99	good fit
Non-Normed Fit Index (NNFI) NNFI \geq 0.90 good fit	1	close fit
Comparative Fit Index (CFI). CFI CFI \geq 0.90 good fit	1	close fit
Incremental Fit Index (IFI): IFI \geq 0.90 good fit	1	close fit
Relative Fit Index (RFI): RFI \geq 0.90 good fit	0.99	good fit
Critical N (CN)	319.49	good fit
Root Mean Square Residual (RMR): RMR \leq 0.05 good fit	0.009	good fit
Goodness of Fit Index (GFI): GFI \geq 0.90 good fit	0.96	good fit
Adjusted Goodness Fit Of Index (AGFI): AGFI \geq 0.90 good fit	0.94	good fit

Tabel 2. Reliability test for MODEL 2

	$(\sum \text{std Load})^2$	$\sum e_j$	Construct reliability	$(\sum \text{std Load})^2$	Variance extracted	Conclusion
IN	3.2	0.4	0.89 \geq 0.70	1.6	0.80 \geq 0.50	Good
DP	2.76	0.61	0.82 \geq 0.70	1.38	0.69 \geq 0.50	Good
DS	6.05	0.98	0.86 \geq 0.70	2.03	0.67 \geq 0.50	Good
TK	2.46	0.77	0.76 \geq 0.70	1.23	0.62 \geq 0.50	Good
KP	12.04	0.97	0.93 \geq 0.70	3.01	0.76 \geq 0.50	Good

Note: Innovation (IN), production (DP), competitiveness (DS), labor (TK), government policy (KP).

through a program to raise awareness of entrepreneurship as an employment option. Acs & Szerb (2007) concluded that the regional policies play an important role in entrepreneurship pursuing policies to push the unemployed into necessity entrepreneurship has any overall positive social benefits. Dutz *et al.* (2000) showed that there are two sets of policies in particular essential for furthering economic development through the promotion of entrepreneurship preserving rewards from productive innovation, and fostering opportunities for grass-roots entrepreneurship.

Innovation and competitiveness are the main elements of broiler farmers to be entrepreneurial, while policy is an important element on government side.

This means that the broiler farms have been driven by entrepreneurial capital. Ferrante (2005) emphasized that entrepreneurship capital is a major factor that maintain the competitiveness of small firms in the global economy. Entrepreneurial had the intuition to allocate more time on more productive activities. In the end, entrepreneurial activity of broiler farms needed new entrepreneurs that have real contribution on Indonesia's economic activity.

The research conducted by García-Penalosa & Wen (2008) had shown that entrepreneurial activity is influenced by the business type and number of workers. The number of new business corresponds to a small share of general entrepreneurship. The local large

business are important for the training and breeding of future entrepreneurs to enhance regional knowledge development and learning processes (Dahlstrand, 2007). Therefore, the high growth of broiler farms able to be a source of entrepreneurs supply for Indonesia. High (2009) who tested the theory of institutional strengthening concludes that entrepreneurial activity of a country can be explained from entrepreneurial activity at the firm level. This means that the entrepreneurial activity of broiler farms, which was formed by innovation, competitiveness, and government policies, may explain the Indonesian entrepreneurial activity.

CONCLUSION

The determining factors of entrepreneurial activity of broiler farms are innovation, competitiveness, and policies. Broiler farms contribute positively to the growth of new entrepreneurs. To achieve the minimum target of at least 2 percent of entrepreneur, the government should implement a program of production and information technology development, facilitating program of the creation of new ventures, business expansion program, and a program of strengthening intellectual property rights (IPR), for example feed formula, strain, and breed line (parent stock, great parent stock, and pure line).

REFERENCES

- Acs, Z. J. & L. Szerb. 2007. Entrepreneurship, economic growth and public policy. *Small Bus. Econ.* 28:109-122. <http://dx.doi.org/10.1007/s11187-006-9012-3>
- Anokhin, S. & W. S. Schulze. 2009. Entrepreneurship, innovation, and corruption. *J. Bus. Venturing* 24:465-476. <http://dx.doi.org/10.1016/j.jbusvent.2008.06.001>
- Audretsch, D. B., W. Bönte, & M. Keilbach. 2008. Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *J. Bus. Venturing* 23:687-698. <http://dx.doi.org/10.1016/j.jbusvent.2008.01.006>
- Audretsch, D. B. 2007. Entrepreneurship capital and economic growth. *Oxford Rev. Econ. Pol.* 23:63-78. <http://dx.doi.org/10.1093/oxrep/grm001>
- Central Beureu Statistics. 2012. Statistical Year Book of Indonesia 2012. Katalog BPS 1101001, Statistics Indonesia, Jakarta.
- Dahlstrand, Å. L. 2007. Technology-based entrepreneurship and regional development: the case of Sweden. *European Business Review* 19:373-386. <http://dx.doi.org/10.1108/09555340710818969>
- Davidsson, P. 2003. The domain of entrepreneurship research: some suggestions. In Katz, J. & Shepherd, S. (Eds.). *Advances in Entrepreneurship, Firm Emergence and Growth*, Vol. 6. Elsevier: JAI Press, Amsterdam, London.
- Dutz, M. A., J. A. Ordovery, & R. D. Willig. 2000. Competition policy and development entrepreneurship, access policy, and economic development: Lessons from industrial organization. *Eur. Econ. Rev.* 44:739-747. [http://dx.doi.org/10.1016/S0014-2921\(00\)00030-1](http://dx.doi.org/10.1016/S0014-2921(00)00030-1)
- Dinopoulos, E. & F. Sener. 2007. New Directions in Schumpeterian Growth Theory. JEL Classification. Department of Economics, University of Florida Gainesville, FL 32611.
- Ferrante, F. 2005. Revealing entrepreneurial talent. *Small Bus. Econ.* 25: 159-174. <http://dx.doi.org/10.1007/s11187-003-6448-6>
- García-Peñalosa, C. & J-F. Wen. 2008. Redistribution and entrepreneurship with Schumpeterian growth. *Journal Economic Growth* 13:57-80. <http://dx.doi.org/10.1007/s10887-008-9027-5>
- Goethner, M., M. Obschonka, R. K. Silbereisen, & U. Cantner. 2012. Scientists' transition to academic entrepreneurship: Economic and psychological determinants. *J. Econ. Psychol.* 33:628-641. <http://dx.doi.org/10.1016/j.joep.2011.12.002>
- Gries, T. & W. Naudé. 2011. Entrepreneurship and human development: a capability approach. *J. Public Econ.* 95:216-224. <http://dx.doi.org/10.1016/j.jpubeco.2010.11.008>
- Hall, J. C. & R. S. Sobel. 2008. Institutions, entrepreneurship, and regional differences in economic growth. *Southern Journal of Entrepreneurship* 1:69-96.
- High, J. 2009. Entrepreneurship and economic growth: the theory of emergent institutions. *The Quarterly Journal of Austrian Economics* 12:3-36.
- Hussain, M. F., A. Afzal, M. Asif, N. Ahmad, & R. M. Bilal. 2011. Impact of innovation, technology and economic growth on entrepreneurship. *American International Journal of Contemporary Research* 1:45-51.
- Leeson, P. T. & P. J. Boettke. 2009. Two-tiered entrepreneurship and economic development. *Int. Rev. Law. Econ.* 29:252-259. <http://dx.doi.org/10.1016/j.irle.2009.02.005>
- Minniti, M. 2005. Entrepreneurship and network externalities. *J. Econ. Behav. Organ.* 57:1-27. <http://dx.doi.org/10.1016/j.jebo.2004.10.002>
- Musai, M., S. G. Fakhr, & M. F. Abhari. 2011. The effects of entrepreneurship & innovation on economic growth. *American Journal of Scientific Research* 20:114-121.
- Naudé, W. 2011. Entrepreneurship is not a binding constraint on growth and development in the poorest countries. *World Dev.* 39:33-44. <http://dx.doi.org/10.1016/j.worlddev.2010.05.005>
- Naudé, W. 2008. Entrepreneurship in economic development. Research Paper No. 2008/20. UNU-WIDER, Helsinki.
- Okpara, F. O. 2007. The value of creativity and innovation in entrepreneurship. *Journal of Asia Entrepreneurship and Sustainability* 3:64-92.
- Pambudy, R. 2010. Membangun entrepreneur agribisnis yang berdayasaing. Orange Book 2: Kewirausahaan dan Daya-saing Agribisnis. LM Baga, A Fariyanti, dan S Jahroh (editor). FEM IPB, PT Penerbit IPB Press, Bogor.
- Richards, S. T. & S. L. Bulkley. 2007. Agricultural Entrepreneurs: The First and the Forgotten? Entrepreneur Series 4/26/2007. The Hudson Institute, Center for Employment Policy. New York.
- Salgado-Banda, H. 2007. Entrepreneurship and economic growth: an empirical analysis. *J. Dev. Entrepreneurship* 12:3-29. <http://dx.doi.org/10.1142/S1084946707000538>
- Sobel, R. S. 2008. Testing Baumol: Institutional quality and the productivity of entrepreneurship. *J. Bus. Venturing* 23:641-655. <http://dx.doi.org/10.1016/j.jbusvent.2008.01.004>
- Stam, E., K. Suddle, S. J. A. Hessels, & A. van Stel. 2007. High growth entrepreneurs, public policies and economic growth. Jena Economic Research Paper 2007-019, Hudson Institute Research Paper No. 08-02. <http://dx.doi.org/10.2139/ssrn.1019429>