



## Research Article

# Achieving the Growth of the Small-Scale Poultry Layer Enterprises: The Impact of the Relationship Between Entrepreneurship Orientation, Network and Business Strategy

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## Abstract

**Objective:** This study aimed to analyze the role of network and business strategy as mediator variables affecting the relationship between entrepreneurial orientation (EO) and enterprise growth, in small-scale poultry layer enterprises. **Materials and Methods:** This study utilized questionnaire to obtain data from 150 small-poultry layer farms in South Sulawesi Province, Indonesia and to run the path model of independent variable (entrepreneurial orientation), intervening variable (network and types of business strategies) and dependent variable (growth of small poultry layer farms). **Results:** The results of the study show that the EO has positive and significant relationship with the network and the business strategy but it is not significant with the enterprise growth. The results of the study also show that the network and business strategy as moderating variable can enhance the contributing effects of the EO on the enterprises growth. From both mediator variables, the contributing effects of the network tend to be larger than business strategy. **Conclusion:** Network plays pivotal roles in moderating the relationship between the EO and the enterprises growth.

**Key words:** Business strategy, enterprises growth, entrepreneurship orientation, networking, poultry layer enterprises, small scale enterprises

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**Competing Interest:** The authors have declared that no competing interest exists.

**Data Availability:** All relevant data are within the paper and its supporting information files.

## INTRODUCTION

Poultry layer industry plays an important role in the economics of many developing countries, such as Indonesia. This industry has become very important for a country because it does not only improve the quality of human resources through the provision of animal protein but also play a role in poverty reduction by providing a source of income. Moreover, the employment of this industry is not limited in rural areas, as it also exists in urban areas<sup>1,2</sup>. In addition, poultry layer industry has the ability to survive during the economic and monetary crises and becomes the main trigger of the agricultural sector development<sup>3</sup>. Based on the Data from FAO<sup>4</sup>, Indonesia ranks as the third in the world as layer egg producers after China and Thailand, with the egg layer production totaled 180.270 MT and valued at \$527.49 million. The poultry layer industry in Indonesia can be found in all provinces and the major provinces for layer industry are located in five provinces, including South Sulawesi with bird population reaching almost 11 million layers<sup>5</sup>. The poultry layer industries in South Sulawesi Province are operated and managed by their owners as commercial enterprises on the intensive systems of production. It is estimated that over 75% of the poultry layer enterprises in the province are small scale industry. These small-scale poultry layer enterprises are not encouraged to increase their productivity; moving from a small-scale production to a large-scale production<sup>6,7</sup>. Anatan and Ellitan<sup>8</sup> argues that the stagnation of the small-scale poultry layer enterprises are not only a problem for the individual enterprise but also a problem which impacts on the poultry industrial competitiveness, supply of consumable eggs and social inclusion of the economy.

The growth of the small-scale enterprises (SCEs) has been studied by researchers for many years and many determining factors of the enterprises growth have been identified<sup>9,10</sup>. Among those factors, entrepreneurial orientation (EO) has been acknowledged as a key determinant for SCEs' growth and profitability<sup>11,12</sup>. However, the studies on the effect of EO to the SCEs' growth have been criticized by many scholars. This is because the models are not sufficient, as the mediators or the moderator variables have to be introduced in model<sup>12</sup>. Even so, the previous research has suggested the importance of business strategy and network in determining the SCEs's growth but much of the previous research is addressed more extensively in manufacture and service industries; and even less in agricultural industry<sup>13,14</sup>. On the other hand, little consideration has been given in literature to examine how the EO, business strategy, network and SCEs' growth are

combined and how network and business strategy are interacted with EO to influence the SCEs' growth within the context of agriculture industry. Therefore, this study aimed to fill this research gap by offering the integrated social capital, strategic management and entrepreneurship approach to the SCEs' growth. Thus, the specific aim of this study was to examine how EO variables have impacts through network and business strategy variables on the growth of the small-scale poultry layer enterprise.

## THEORETICAL FRAMEWORK AND HYPOTHESES

Entrepreneurial orientation (EO) is generally considered as a key determinant for the SCEs' growth<sup>15</sup> and hence, increasing the entrepreneurial orientation is positively and significantly associated with enhanced firm performance<sup>16,17</sup>. However, entrepreneurial orientation cannot stand alone. Highly entrepreneurial-orientated firms are limited in achieving better performance if there is no adequate number of internal resources for them to utilize<sup>18</sup>. Gathungu *et al.*<sup>19</sup> mentions that the SCEs needs to develop networks in their business to obtain resources (input production, information, knowledge, technologies and capital) and provide access to market. In addition, some research has found that networks have influences on the growth of a small business<sup>20,21</sup>. On the other hand, network is also closely related to strategic management and strategic decision making processes<sup>22</sup>. Ritter *et al.*<sup>23</sup> and Mazzarol and Reboud<sup>24</sup>, network ties can lead to strengthening the SCEs' ability to develop and implement their business strategies. Wang<sup>25</sup> states that entrepreneurship is a key dimension of Miles and Snow's strateg typology and hence, all four-type strategies of firms must deal with the entrepreneurial orientation. In addition, past research has also found the relationships between business strategy and SCEs' growth. Oyedijo and Akewusola<sup>26</sup> and Mustikowati<sup>27</sup> finds that the growth of the small-scale businesses positively associated with the typology of business strategies adopted. Based on the extensive literature reviews related to enterprise growth, entrepreneurial orientation, network and business strategy above, we proposed some hypothesis:

- **Hypothesis 1:** EO has a positive and significant relationship with network, business strategy and growth of the small-scale poultry layer enterprises
- **Hypothesis 2:** Network has a positive and significant relationship with the business strategy and growth of the small-scale poultry layer enterprises
- **Hypothesis 3:** Business strategy has a positive and significant relationship with the growth of the small-scale poultry layer enterprises

- **Hypothesis 4:** Network and business strategy have larger contributing effects in mediating the relationship between the EO and growth of the small-scale poultry layer enterprises

## **MATERIALS AND METHODS**

**Research design:** Research design is a framework for data collection and analysis to answer the research questions<sup>28</sup>. Based on the research questions of this study, the design of the study used quantitative method. Quantitative method is an approach that emphasizes the testing of theories or concepts through the measurement of variables and performs data analysis procedures with statistical tools to test the hypothesis

**Population and sample:** The population was small-scale layer enterprises in which the number of scale production was less than 5000 birds per-cycle production. The enterprises were located in Sidrap Regency of the South Sulawesi Province. The regency is a center for the development of poultry layer industry in South Sulawesi Province and has the largest bird-population of the Eastern part of Indonesia. Thus, the enterprises have been operating for at least five years and they are independent enterprises. The sample size was 150 small-scale poultry layer enterprises which were chosen randomly from the list coming from Animal Husbandry and Animal Health Agency of Sidrap Regency in 2016.

**Data sources:** The data for this study were derived from survey using the combination of direct observation and face-to-face interviews. The face-to-face interviews were conducted using structured questionnaires. The items in the questionnaires were based on the relevant literature dealing with the EO, network, business strategy, SC and enterprises growth. To measure entrepreneurial orientation, three dimensions of entrepreneurial orientations were adopted from Covin and Wales<sup>29</sup>: innovativeness, proactiveness and risk-taking. Respondents/owners were asked about the propensity of their enterprises to be innovative, risk-taking and proactive. To measure network, a dimension of the network was employed: the ability of the enterprises to gain input production from their backward as well as forward network ties. Respondents were asked to which extents their enterprises are able to gain input productions, such as feed and day-old chick from their business colleagues (e.g poultry and intermediary), more easily and cheaply for achieving their enterprise growth. To measure business strategy, four

dimensions of business strategies based on the strategy typology developed by Miles and Snow (Prospector-Analyzer-Defender-Reactor) were used. Respondents/owners were asked about one type of the business that was adopted by their enterprise for achieving their enterprises growth. The EO, network and business strategy variables were gathered using 5-point Likert scale that ranges from 1 (strongly disagree) to 5 (strongly agree). Because most of the data were ordinal data, these data were transferred into intervals data using Successive Interval Method. The growth of the small-scale poultry layer enterprise was measured based on Anang *et al.*<sup>2</sup> who uses the growth number of birds per-cycle production which was reared by the enterprises since 5 years ago. The formula used was  $t$  year's number of birds such minus the  $t-5$  year's number of birds. Before being used, the questionnaires were tested for its validity and reliability. For that purpose, the questionnaires were firstly tried out to 20 respondents. After the items on the questionnaires were valid and reliable, then, the questioners were distributed to all respondents.

**Data analysis:** The data in this study were analyzed using path analysis. Path analysis is multivariate technique that is used to describe both direct effects and indirect effects of independent variables on the dependent variable<sup>30</sup>. Therefore, in this study, the model includes independent, intervening and dependent variables, so that the variables in the model can be tested using the path analysis.

## **RESULTS AND DISCUSSION**

**Test for reliability and validity of questionnaire:** Cronbach's Alpha method was used to determine the internal consistency of the manifest indicators for each variable scale in the questionnaire. The Cronbach's alphas for all variable scales were in the range of 0.65-0.85 which was above the minimum accepted reliability of 0.60. Since the Pearson's Product Moment Correlation was used to determine the degree to which these indicators represent the variables, they purport to measure the questionnaire. The correlation of the coefficients for all indicator for variables scales was in range of 0.210-0.793 ( $p < 0.01$ ), which indicated that the validity of all indicators of each variable was adequate.

**Test for path analysis assumption:** Test of normality assumption used Jarque-Bera's Test and the result was the normal data distribution due to having the value of Jarque Bera (JB) which was  $< 133,26$  ( $\chi^2$  Kritis). Test outliers

Table 1: Result of path analysis: relationship among EO, network, business strategy and enterprises growth

Independent variables	Dependent variables	Path coefficient	p-value	Description
Entrepreneurship orientation (X1)	Enterprise growth (X4)	0.023	0.764	Non significant
Entrepreneurship orientation (X1)	Business strategy (X3)	0.142	0,014	Significant
Entrepreneurship (orientation X1)	Network (X2)	0.242	0.003	Significant
Network (X2)	Enterprise growth (X4)	0.414	0.000	Significant
Network (X2)	Business strategy (X3)	0.051	0.047	Significant
Business strategy (X3)	Enterprise growth (X4)	0.202	0.007	Significant

Author data analysis, 2017

multivariate assumption was assigned by using Jark Mahalanobis criteria on level  $<0.001$  and the result was that the minimum distance of mahalanobis accounted to 1.782 and the maximum distance accounted to 12.295. In other words, there was no relationship between variables categorized as multivariate outliers. Test of goodness of fit model used the Test of Overall Model Fits ( $\chi^2 = 5.282$ ; CFI = 0.982 and RMSE = 0.082) or in the other words, the overall research models have met the criteria of goodness of fit. Coefficient of determination ( $R^2$ ) and F ratio were also assigned as the criteria in testing the goodness-of-fit of the model. Adjusted R Square value was 0.591 and the F-ratio was 115,736 (significant at the 0.005 margin of error). It can be stated that the independent variables are good fit to the dependent variable in path model.

The results of hypothesis testing used path analysis through LISREL 8.51. The test results are shown in Table 1.

#### **Entrepreneurial orientation, network, business strategy and enterprise growth:**

The results of hypothesis testing using path analysis in Table 1 shows that there is a positive relationship but not significant between EO (X1) and the growth of the small-scale poultry layer enterprise (X4) with significance level of 0.764 which is larger than 0.05 ( $p > 0.05$ ). Therefore, the hypothesis was rejected. This result illustrates that the strong EO is insufficient for growth creation by the enterprises. This finding is supported by the previous research. Pratono and Mahmood<sup>31</sup> found that there is no direct effect of EO on small firm performance. Chen *et al.*<sup>18</sup> argued that the EO cannot stand alone in influencing firm performance but it needs adequate amount of internal resources.

The results of hypothesis testing using path analysis in Table 1 shows that there is a positive and significant relationship between the EO (X1) and Business Strategy (X3) with significance level of 0.014 which is smaller than 0.05 ( $p < 0.05$ ). Therefore, the hypothesis was accepted. This result illustrates that the strong EO tends to improve the enterprise ability to adopt the appropriate business strategy from the four types of business strategies. This finding supports the

view of Wiklund and Shepherd<sup>32</sup> that the EO would be helpful for the enterprise in identifying business opportunities, obtaining resources and alleviating strategic-management challenges. Additionally, Lumpkin and Dess<sup>13</sup> confirmed that the EO can improve the competitive strategic position of an organization in the marketplace by taking the advantage of the available business opportunities. This finding is also supported by the previous research. Nur and Salim<sup>33</sup> found that the EO plays an important role to improve the business strategy of the SCEs.

The results of hypothesis testing using path analysis in Table 1 shows that there is a positive and significant relationship between the EO (X1) and network (X2) with significance level of 0.003 which is smaller than 0.05 ( $p < 0.005$ ). Therefore, the hypothesis was accepted. This result illustrates that the strong EO tends to improve the ability of the small-scale poultry layer enterprises in developing and actively managing their networks with poultry shops and traders. This finding is supported by the previous research. Nishantha and Kawamura<sup>34</sup> reported that the EO is related positively and directly to the network ties. A firm with a high EO is therefore able to actively pursue resources, knowledge and information available through its existing network ties.

#### **Network, business strategy and enterprise growth:**

The results of hypothesis testing using path analysis in Table 1 shows that there is a positive and significant relationship between network (X2) and enterprise growth (X4) with significance level of 0.000 which is smaller than 0.05 ( $p < 0.05$ ). Therefore, the hypothesis was accepted. This result illustrates that the small-scale poultry layer enterprises can achieve their growth if they have ability to build and actively manage their network with poultry shops and traders. This finding is supported by the previous research. Nishantha<sup>21</sup> found that networking has significant and positive effects on the SME growth. Bell *et al.*<sup>35</sup> found that the ability of SCEs to actively manage the networks is viewed as something important in their competitive success.

The results of hypothesis testing using path analysis in Table 1 shows that there is a positive and significant relationship between network (X2) and business strategy (X3) with significance level of 0.047 which is smaller than 0.05. ( $p < 0.055$ ). Therefore, the hypothesis was accepted. This result illustrates that the network has important roles to strengthen the capability of the small-scale poultry layer to adopt the proper business strategy from the four types of business strategies. This finding is supported by the previous research. Moore<sup>36</sup> found that the relationship between the business strategy and network is significantly positive for firm performance.

**Business strategy and enterprises growth:** The results of hypothesis testing using path analysis in Table 1 shows that there is a positive and significant relationship between business strategy (X3) and enterprise growth (X4) with significance level of 0.007 which is smaller than 0.05 ( $p < 0.05$ ). Therefore, the hypothesis was accepted. This result illustrates that the small-scale poultry layer enterprises to achieve their growth depends on their abilities to adopt the right business strategy from the four types of business strategy. This finding is supported by the previous research. Oyedijo and Akewusola<sup>26</sup> found that business strategy is a key determinant for the small and medium scale business performance. Moreover, Asa and Prasad<sup>37</sup> found that business strategy is related positively to the growth of the small firm. A firm which implements business strategy achieves 2.3 times of growth compared to firm which does not. Nur and Salim<sup>33</sup> also found that business strategy has significant effect on the performance of SME, in which the firms with good business strategy will improve their performance.

**Moderating effect:** Moderating variables in relationship between the EO and growth of the small-scale poultry layer enterprise scan be seen in the path model presented in Fig. 1. From Fig. 1, it can be seen that the EO is the antecedent of both network and business strategy, so the network and business strategy are considered to as moderating variables. The contributing effects of the moderating variables are presented in Table 2.

Table 2, shows that the contribution of the direct effect of the EO on the enterprises growth is smaller with direct path amounted to 0.023. However, after entering network and business strategy as moderating variables into the model, the contributing effects of the EO on the enterprises growth increases to 0.152 (direct and indirect path). Thereby, the

Table 2: The contributing effects of the EO and moderating variables on the growth of the small-scale poultry layer enterprises

EO variables	Contributing effect			Total
	Direct	Via X <sub>2</sub>	Via X <sub>3</sub>	
X <sub>1</sub>	0.023	0.1	0.029	0.152
X1	0.023	0.1	-	0.123
X1	0.023	-	0.029	0.052

Author data analysis, 2017

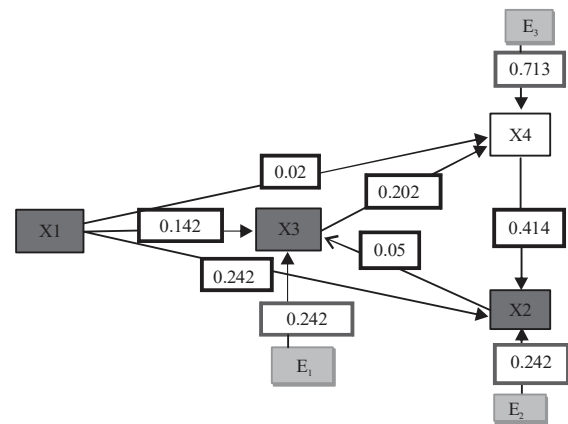


Fig. 1: Path model: The relationship between EO, network, business strategy and growth of the small-scale poultry layer enterprises

network ties and the business strategy variables are the moderating variables that have larger contributing effects on the relationship between the EO and the enterprise growth. However, when the total effect of each moderating variable is calculated, it shows that the contributing effects of network to the relationship between the EO and enterprises growth tends to be larger than the contributing effects of the business strategy (0,153 vs 0,052). This suggests that network is more effective than business strategy in mediating the relationship between the EO and enterprises growth. Therefore, network can be viewed as an important way in which the small-scale poultry layer enterprise can achieve their growth. Gulati *et al.*<sup>38</sup> argued that network is considered as an important variable for small enterprises with regard to economic environment that becomes more competitive. Network will make small enterprises access the information and resources. This result is consistent with the previous studies. Chin *et al.*<sup>39</sup> found that network has significantly moderated the effect of relationship between the EO and SMEs' performance. Meanwhile, Walter *et al.*<sup>40</sup>, found that the effect of the EO on the small-enterprise performance is influenced by network capability. In addition, Lukiastuti<sup>41</sup>

found that SME's entrepreneurial orientation has higher influence on the SME's performance through networking capabilities. Finally, Muthu velayutham and Jeyakodeeswari<sup>42</sup> found that the only strategic-business orientations could not improve the SMEs' performance, because the role of available resources, infrastructure, facilities and information is found to be very important.

## **CONCLUSION AND FUTURE RECOMMENDATION**

This study found that the EO has a positive and significant relationship with the network and the business strategy but it is not significant with the enterprise growth. The result of the study showed that the network and business strategy as moderating variables can enhance the contributing effects of the EO on the enterprises growth. From both of mediator variables, the contributing effect of the network tends to be larger than business strategy. This study has several implications for the body of knowledge, policy makers and owners of the small-scale poultry layer enterprise. The findings of this study will contribute to the existing body of knowledge by providing a better understanding of the role of network and business strategy in mediating the relationship between the EO and enterprise growth, in the context of small-scale poultry layer enterprises. For policy makers, if the policy makers aim to develop their poultry layer industries through transforming small-scale enterprises into larger enterprises, they have to design policy and programs that emphasize on the importance of EO, networking and business strategy. For the owner of the enterprises, if they want their enterprises to be able to achieve high growth and able to respond to the competitive threats, they have to strengthen their EO and use it to enhance their abilities for developing the backward and forward networks, as well as for adopting the suitable business strategy.

Beside findings, there are also some limitations of this study. Firstly, this study did not involve enterprises with different age that may have different ability in the EO, networking, business strategy and growth aspects. Further research is suggested to involve the enterprises with different age in the model. Secondly, the dimension of network in this study was only measured from the ability of enterprises in developing and managing their network. Future research may also involve trust, network status and satisfaction with the network in measuring of the network. Thirdly, sample size of this study is limited. The sample of the small-scale poultry layer enterprise in this study was only located in South Sulawesi Province and hence the ability to generate the

issues of this study is still limited. The next stages of the study will further investigate the other provinces of Indonesia and other countries. Fourthly, this study used cross sectional design which can only provides a snapshot of one point in a time. Future research can conduct a longitudinal study to interpret the key issues more comprehensively and precisely.

## **SIGNIFICANCE STATEMENT**

This study suggests that the strong EO is insufficient for creating growth on the enterprises but the EO tends to improve the enterprises' abilities in networking and adopting business strategy. This means that networking is more effective than business strategy in mediating the relationship between the EO and enterprises growth.

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