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Entrepreneurial parameters and performance of MSMEs in East Java province of Indonesia

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Abstract: Micro small and medium enterprises contribute enormously to the economy of East Java province of Indonesia. However, their performance always remains a concern and must be improved. A comprehensive literature review has been carried out to identify the most significant entrepreneurial factors, contributing to the performance of the MSMEs as well the factors to measure their performance. Entrepreneurial character, learning, and competency have been identified as the most important entrepreneurial factors, responsible towards the performance of MSMEs; whereas the growth in sales, profit, assets and employment have been identified as measures of performance. Research uses a mix of exploratory, descriptive and causal research design to establish a relationship of contributing factors towards the performance of MSMEs in East Java province of Indonesia. Considering all MSMEs in East Java as population, a sample of 177 MSMEs has been taken using purposive random sampling and response has been collected using a structured questionnaire. Structural equation modelling (SEM) has been carried out to analyse the relationship between the causes and measures of the performance of MSMEs. AMOS 20 programme has been used for data analysis.

Keywords: entrepreneurial characteristics; small and medium enterprises; SMEs; micro, small and medium enterprises; MSMEs; industry performance; structural equation modelling; Indonesia.

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1 Introduction

Micro, small and medium enterprises (MSMEs) (Kumar and Vidhyalakshmi, 2012) play a very vital role in the economy of a country. They create a large number of jobs and also challenge the monopolistic tendencies of the large organisations (Vidhyalakshmi and Kumar, 2016), and the same is also true for Indonesia. This has been evident from many studies that MSMEs are the main players of economic activity in Indonesia and have strong influence on gross domestic product (GDP) and employment in the country (Subagyo, 2013). The statistical data of 2016 shows that 99.99 of the total business units in Indonesia are MSMEs (Tribun News, 2017). MSMEs contribute 60.34% to the GDP and 97.22% to the employment in terms of total workforce in Indonesia (CNN, Indonesia, 2016). East Java province is the second most populated province of Indonesia and contributes enormously to the economy of the country. If we consider the East Java province of Indonesia, MSMEs contribute 54.98% to the gross regional domestic product and absorb 98% of the total workforce in East Java (Bappeda, 2016). Thus, MSMEs are the prime players in the economy of East Java province. In 2016, Indonesia's National gross domestic product of Rp 12,406.80 trillion from 36 provinces in Indonesia and East Java Province contributed substantially to the national GDP of 14.95%, or Rp 1,855.04 trillion. Similarly, industrial share of the East Java province in the national GDP has also reached a very significant value of 21.08% (Jatim.Merdeka, 2016).

Considering the importance of MSMEs, the government of East Java Province came-up with an important policy towards the development of MSMEs in the province. In 2007, the government issued a local regulation (Regulation no. 4 of 2007) on the Empowerment of Cooperatives, MSMEs. Govt also established a Cooperative Clinic to improve the performance cooperatives and SMEs. This 'Klinik Koperasi dan UMKM Jawa Timur' was established through the Decree of East Java Governor Number. 188/133/KPTS/013/2008. Main purpose of establishing this Clinic was to empower the Cooperatives and SMEs in East Java in ten types of services: business consulting, business information services, advocacy services, shortcourse services, entrepreneur centre library services, financing access services, access marketing services, mobile clinic services, IT entrepreneur services, and online SME TV. The Regional Regulation and the Governor's Decree shows the attention of the East Java Provincial Government towards this sector. However, still there are many obstacles towards the high performance of MSMEs in this province. Subagyo (2013) has identified the most important performance obstacles as:

- 1 less qualified entrepreneurial leadership
- 2 lack of planning
- 3 lack of motivation
- 4 less human resources
- 5 low entrepreneurial competence
- 6 high production cost
- 7 limited market access
- 8 low ICT skills
- 9 limited capital.

On the other hand, there are different models to measure the performance of a MSME. Rue and dan Byars (1997) defined the performance as the level of achievement of results or organisational goals. The same opinion has been raised by Fahmi (2010). Handriani (2011), measured the performance with indicators: sales, profits, business productivity, innovation ability, service and labour productivity. Hadjimanolis (2000) measures company performance based on perceptions of respondents through indicators of sales growth, employee growth, return on investment (ROA), return on assets (ROA), and market share. Sangen (2005) measured the performance of small businesses with indicators of sales growth, profit growth, and asset growth. Revenue growth, sales volume growth, profit growth, business growth and entrepreneurial satisfaction have also been indicated by Sandjoyo (2004). Nurhayati (2003) has also measured the performance of small businesses with indicators of sales, profits, business productivity and labour productivity. Whereas, Majeed (2011) identified the company's performance indicators as ROA, and sales growth.

Performance of any organisation however depends heavily on the strategic decisions. Due to small levels of decisional hierarchy, most of the strategic decisions are dependent only on the individual entrepreneur in case of MSMEs. Correspondingly, the performance of MSME is highly influenced by the character, learning, and competence of entrepreneurs. Previous research by Indarti (2007), argues that performance is influenced



by entrepreneurial character, characteristic of SME and type of strategy. Results of the study by Rakib (2009), indicate that the performance of small-scale enterprises is influenced by the ability of the entrepreneur to communicate effectively with customers, entrepreneurial learning owned by small business owners through education and training, experience in managing business and mentoring and entrepreneurial attitude. Similarly, Larso (2011) also stated that the entrepreneurial character affects the performance of MSMEs. Another variable, which is believed to affect the performance of SMEs is the competence of entrepreneurs. June and Mahmood (2011) concluded that there is a significant influence on the competence of entrepreneurs to performance. A comprehensive review of the research has been conducted to identity the entrepreneurial factors influencing the performance of MSME. Three most important factors, identified from the review have been presented in Table 1. Considering the importance of these factors, it becomes necessary to examine the influence of entrepreneurial character, learning and competence on the performance of MSMEs in the East Java province of Indonesia.

Table 1	Entrepreneurial	factors	influencing	the	MSME	performance
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S. no.	Factor	Reference
1	Entrepreneurial character	Indarti (2007), Larso (2011), Martin and Staines (1994), Man et al. (2002) and Sajilan et al. (2016)
2	Entrepreneurial learning	Sandjoyo (2004), Levinthal and March (2003), Rakib (2009), Schutjens and Wever (2000), Yusuf (1995), Box et al. (1993), Brush and Hisrich (1991) and Danneels (2008)
3	Entrepreneurial competence	Sandjoyo (2004), Man et al. (2002), June and Mahmood (2011) and Casson (1982)

2 Literature review and hypothesis development

Many researchers have worked in the area of entrepreneurial characteristics and analysed the characteristics by different means. A comprehensive and relevant review has been presented for the three identified factors and correspondingly, the research framework and hypothesis has been developed.

2.1 Entrepreneurial character

Sandjoyo (2004), views the entrepreneurial character as the attributes associated with the business success itself. Success or failure of an entrepreneur in managing a business is not only influenced by the amount of capital owned and the facility or connection/proximity to the power axis can be enjoyed, more important is that the business is managed by an entrepreneurial person and knows exactly what, why and how the business must be run and managed (Sunarya and Sudaryono, 2011). Zimmerer and Norman (2002) identified the entrepreneurial character as:

- a responsibility
- b preference for moderate risk
- c confidence in ability to succeed

- d desire to achieve immediate return
- e high-level energy
- f forward orientation
- g building a company from a zero point, as if composing a puzzle-rich picture

h putting more emphasis on achievement than earning money.

However, for Schermerhorn (1999), there are six entrepreneurial characters:

- a locus of internal control
- b high energy level
- c high need for achievement
- d tolerance to ambigius
- e confidence
- f action-oriented.

Sandjoyo (2004) have identified the factors that shape the entrepreneurial character as:

- a internal locus of control
- b innovation power
- c social preference.

Rakib (2009) argues that entrepreneurial character includes high discipline, high commitment, honest in acting and being, taking risks, being proactive and good at socialising. Similarly, Nitisusastro (2011) identified the character of entrepreneurs as: willingness and self-confidence, taking risks, hardworking, focusing on goals, taking responsibility, and innovation. Thus, there are different characteristics identified by the different researchers. However, there significance may be different for the different organisations.

2.2 Entrepreneurial learning

Learning is a basic process of human life development (Kumar and Sharma, 2016), with human learning to make qualitative changes of the individual so that his behaviour develops. The same is pointed out by Sugandi (2004) is a form of growth or self-change that is expressed in new ways of behaving thanks to experience and practice. According to Rae (2000) and Minniti and Bygrave (2001), entrepreneurial learning main contributors are education and training, mentoring and learning from experience. Charney and Libecap (2000) found that entrepreneurship education produces enough individuals with knowledge about the company and the wirasuaha. It further found that entrepreneurship education of new companies, self employment, new product development, and self-employed and owning high technology-based businesses. Indarti (2007) states that the background of entrepreneurship education affect the success of entrepreneurship. Sinha reveals that 72% of successful entrepreneurs have minimal technical qualifications, while some (67%) of unsuccessful entrepreneurs do not

have technical education qualifications. Sandjoyo (2004), identifies the learning process through three things: learning through education and training, mentoring and experience.

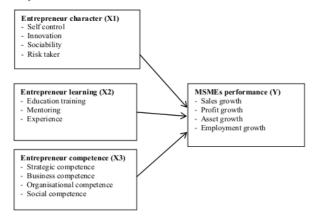
2.3 Entrepreneurial competence

Sandjoyo (2004) argues that competence is a measurable individual character by significantly differentiating between those perform well and ordinary, or those who perform effectively and ineffectively. Hoohiemstra (1992) defines competence as an individual character associated with the cause of a person being effective and superior in the work. Competence distinguishes people who perform well with mediocrity. Competencies can be motives, talents or traits, self-concepts, attitudes or values or foundations, self-knowledge, or cognitive skills in behaviour. According to Baum et al. (2001) there are at least some entrepreneurial competencies that are indispensable: knowledge, cognitive ability, self management, administration, human resources, skills, decision making, leadership, opportunity recognition and opportunity development, while human relations and administration can be incorporated into leadership, While opportunity capability can be incorporated into opportunity skills. Man et al. (2002) states that the competence of entrepreneurs with knowledge indicators, skills and abilities have a significant relationship to performance. Baum et al. (2001) compiled a number of variables that explain the competence of entrepreneurs, namely knowledge, cognitive ability, self management, administration, human resources, decision skill, leadership, opportunity recognition, and opportunity development. Sandjoyo (2004) sees competence as the ability of more than one individual, when compared with other individuals, whether viewed from strategic competence, business opportunity competence, oragnisasi competence and social competence.

2.4 Conceptual research framework

The conceptual framework of the study has been proposed on the basis of literature review and the purpose of the study. The framework has been presented in Figure 1. Variable indicators have been used in accordance with the problem under study.

Figure 1 Conceptual research framework



2.5 Research hypothesis

Based on conceptual framework, following hypothesis are proposed:

- 1 self-control, innovation, sociability and risk-taking make a significant contribution to entrepreneurial character
- 2 education and training, mentoring and experience contribute significantly to entrepreneurial learning
- 3 strategic, business, organisational and social competencies contribute significantly to the entrepreneur's competence
- 4 growth in sales, profits, investment and employment contribute significantly to the performance of MSMEs
- 5 character, learning, and entrepreneurial competence have a significant effect on the performance of MSMEs in East Java Province.

3 Research methodology

Present research has used a combination of exploratory, descriptive and causal research designs. Quantitative methods are primarily used to have an empirical investigation and the hypothesis testing.

3.1 Population under study

Population in this research is all MSMEs in East Java Province. Based on data from the Department of Cooperatives and MSMEs of East Java Province there are 6,825,931 MSMEs (Diskopukm, 2016)

3.2 Research instrument

A structured questionnaire has been designed on the basis of the conceptual research framework. This instrument has been used to collect primary data for research.

3.3 Sample size

Determination of the number of samples is based on the opinion of Byrne (2016), that for one structural equation modelling (SEM), the sample quantity is at least 100 if the model contains five or less constructs, each of which more than three indicators. This research has four collisions and each has more than three indicators, so sample size of 200 considered. However, after validating the responses, 177 valid responses are considered and hence the sample size is 177.

3.4 Sampling technique

The sampling technique used is purposive random sampling. The distribution of questionnaires is done in a random manner with criteria:

- a MSMEs have been operating for at least three years in the same field
- b MSMEs participants have attended training/business management or production techniques at least once.

4 Data analysis and results

In order to analyse the responses, data analysis was done using the IBMS SPSS AMOS 20 after data cleaning. Standard procedures has been followed for the statistical testing and analysis.

4.1 Validity and reliability test results

Cronbach's alpha test has been used as a test of reliability and correlation coefficient has been used for the validity. The results show that all the variables of study, i.e. entrepreneurial character, entrepreneurial learning, entrepreneurial competence, and performance are valid, as the correlation coefficient value for each of them are greater than r table value of 0.361. Similarly, all the variables show reliability as Cronbach's alpha value is greater than 0.6.

4.2 Structural equation modelling

SEM analysis begins by conducting confirmatory analysis followed by assumption test.

a Confirmatory factor analysis

Results of the confirmatory factor analysis has shown consistency for the variables: Entrepreneurial character, learning, competence and performance of MSMEs. Goodness of fit index is in the good category. Similarly all the indicators that make up the variables studied have met construct reliability, because the value of construct reliability > 0.7. This is evident from AMOS output, construct reliability for variables: entrepreneurial character of 0.737, entrepreneurial learning of 0.718, entrepreneurial competence of 0.763 and MSME performance of 0.744.

b SEM test assumption

The assumption test consists of an outlier evaluation and a normality test. The result of outlier variate evaluation shows the Z score values as: $-3.00 \le Z$ -score ≤ 3.00 , which means there is no univariate outlier. The highest Mahalanobis-distance value is 40,545 < 42.312 which means there is no multivariate outlier. Based on the results of data processing known CR value of multivariate of 2.516 located in the hose -2.58 to 2.58, so it can be concluded multivariate normality assu

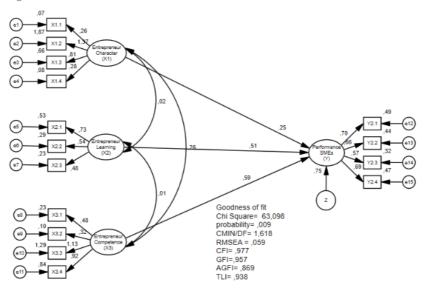
c Modified structural model analysis results

The results of SEM have been presented in the Table 1 and the relationships paths between the variables have been shown in the Figure 2. Based on Table 1, it appears that most of the goodness of fit criteria are good and marginal, so the model is acceptable and hypothesis testing can be carried out.

Table 2	Goodness of fit	with modified	structural	equation model

Goodness of fit index	Cut-off value	Model result	Information
Chi-square	Small	63.098	Good
Probability chi-square	≥ 0.05	0.009	Significant
Cmin/DF	≤ 2.00	1.618	Good
RMSEA	≤ 0.08	0.059	Good
GFI	≥ 0.90	0.957	Good
AGFI	≥ 0.90	0.869	Marginal
CFI	≥ 0.95	0.977	Good
TLI	≥ 0.95	0.938	Marginal

Figure 2 Results of SEM



4.3 Hypothesis testing

The standardised regression weights have been presented in the Table 2. Based on the data in Table 2, it can be concluded:

a Results of testing of Hypothesis 1 proved that self-control, social preference and risk taker of giving positive and significant contribution to entrepreneur characteristic, this can be seen from standardised estimate positive and p-value less than 0.05. While the innovation power contributes positively, but not significantly to the characteristics of the entrepreneur. This can be seen from standardised estimate positive and p-value more than 0.05.

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- b Hypothesis 2 shows that education and training, mentoring and experience contribute positively and significantly to entrepreneurial learning, it can be seen from standardised estimate positive and p-value less than 0.05.
- c Hypothesis 3 test proved that strategic competence, business opportunity competence, organisational competence and social competence contribute positively and significantly to entrepreneurial competence, this can be seen from standardised estimate positive and p-value less than 0.05.
- d From the result of Hypothesis 4 test, it is evident that sales growth, profit, investment growth and workforce contribute positively and significantly to performance, it can be seen from standardised estimate positive and p-value less than 0.05.
- e Results of Hypothesis 5 test proved that the characteristics of entrepreneur, learning and entrepreneurial competence have a positive and significant effect on performance, this can be seen from standardised estimate positive and p-value less than 0.05.

Causality			Standardised estimate	<i>S.E.</i>	C.R.	Р
Performance	<	Competence	0,591	0.248	5.304	0.000
Performance	<	Character	0,253	0.142	3.215	0.001
Performance	<	Learning	0,506	0.128	4.860	0.000
X1.1	<	Character	0,263			
X1.2	<	Character	1,369	1.527	1.720	0.085
X1.3	<	Character	0,810	1.100	1.719	0.0086
X1.4	<	Character	0,282	0.170	4.594	0.000
X2.1	<	Learning	0,729			
X2.2	<	Learning	0,541	0.202	5.046	0.000
X2.3	<	Learning	0,484	0.186	5.324	0.000
X3.1	<	Competence	0,479			
X3.2	<	Competence	0,317	0.130	5.359	0.000
X3.3	<	Competence	1,134	0.836	4.619	0.000
X3.4	<	Competence	0,917	0.594	4.207	0.000
Y2.1	<	Performance	0,700			
Y2.2	<	Performance	0,662	0.090	8.583	0.000
Y2.3	<	Performance	0,569	0.121	6.891	0.000
Y2.4	<	Performance	0,689	0.151	8.175	0.000

Table 3 Standardised regression weights structural model

5 Discussion

The discussion is directed to identify the influence of character, learning and entrepreneurial competence on the performance of MSMEs in East Java as well as the

variables which contribute to these factors. Existing literature has been used to justify the results.

5.1 Factors contributing to entrepreneurial character

The results of the analysis show that self-contr³² nnovativeness, sociability and risk taking contribute significantly to entrepreneurial character. Indicators that make a dominant contribution to entrepreneurial character are innovation, followed by easy association, self-control and courage to assume risk. This finding is in accordance with the opinion of Lee and Tsang (2001), that the need for achievement, internal locus of control, self reliance and extroversion form the nature of entrepreneurial personality. Similarly, Nitisusastro (2011) identified the character of entrepreneurs including: willingness and self-confidence, taking risks, hardworking, focusing on goals, taking responsibility, and innovation. While Barret et al. (2000) argued that the character of entrepreneurship is formed through the dimensions of the ability to innovate, dare to take risks, proactive behaviour in various levels and areas within the company. Other findings in this study that the perpetrators of MSMEs in East Java provide more high perceptions of innovation power indicators, followed by easy mingling, self-control and courage to bear the risk. This can be understood, because the key to success of a business is if the entrepreneur has the power of innovation and high creativity. Given the low perceptions of entrepreneurs on self-control indicators and bravery to bear the risk, entrepreneurs in East Java need to be more confident with their own potential, in addition it needs to increase courage in developing and opening new ventures according to existing opportunities, but taking into account the risks that will occur.

5.2 Factors contributing to entrepreneurial learning

Analysis indicates that education and training, mentoring and experience contribute significantly to the learning of entrepreneurs. The dominant contribution to entrepreneurial learning is education and training, followed by experience and mentoring. This suggests that the entrepreneurial learning will increase with formal education and frequency of training along with the increased mentoring. This study supports the opinions of Rae (2000) and Minniti and Bygrave (2001) that the formation of entrepreneurial learning is education and training, mentoring and learning from experience. The highest perception of entrepreneurial learning variables is mentoring, followed by education and training and last experience. This shows the importance of mentoring in the formation of entrepreneurial learning. This is in accordance with the opinion of Chaueke and Amstrong (1988), that mentoring or guidance is needed by an entrepreneur to help interpret the events experienced during the learning process that can be used for business development. Besides mentoring, education and training also received a high enough response from entrepreneurs.

5.3 Factors contributing to entrepreneurial competence

The analysis shows that the dominant contribution is organisational competence, followed by strategic competence, business opportunity and social competence. This shows that the improvement of organisational, strategic, business and social competence will increase the competence of entrepreneurs. Social competence gained high perception

from entrepreneurs, showing that entrepreneurs of MSMES in East Java realise the need for communication and interaction with customers and business partners as well as the establishment of business relationship of mutual trust and mutual respect. Lee and Tsang (2001) revealed that by establishing many relationships, more entrepreneurs get business information that will help in making business decisions. Entrepreneurs have shown a least perception for entrepreneurial competence as a strategic competency. This shows that entrepreneurs in East Java are still unclear in determining business goals, not maximally in considering the environmental factors that affect the business and not yet have specific strategies in running a business to be able to compete. In order for entrepreneurial competence to increase, the perpetrators of SMEs in East Java need to improve the competence of both strategic competence, business opportunities, organisation and social. Strategic competence needs to get special attention from MSMEs actors, since so far MSMEs have very little business plan, and devise a specific strategy to be able to remind the competitive advantage and performance. This is in accordance with the opinion of Sakur (2011), that the weakness of MSMEs in Indonesia is not having a business plan, quickly satisfied, not focused and low competence.

5.4 Factors contributing for performance of MSMEs

The results indicate that sales growth, profits, assets and employment contribute significantly to the performance of MSMEs in East Java. This finding is consistent with the statement of Jennings and Beaver (1997), which states that the measurement of ROA, the growth of sales volume, profits and labour in the company is generally done to determine the performance of the company. The dominant contribution to MSMEs performance is profit growth, followed by asset growth, sales growth and labour growth. Profit growth gives a dominant contribution to performance means that changes in profits will result in higher performance changes compared to changes in asset, sales and labour growth. Another finding in this research that the biggest entrepreneur perception on the performance of MSMEs is sales growth, followed by growth of assets, profit and labour. This shows that sales growth is more perceived by entrepreneurs as a key determinant of corporate performance. Labour growth gains the lowest perception of performance, this is understandable, because the size of a company does not depend on the amount of labour, but the sales turnover and the amount of assets owned by the company as regulated in Law no. 20 in 2008. To increase MSME performance, MSMEs should be able to increase sales volume, because if the volume of sales and profits increase, then the company's assets also increased.

5.5 Analysis of causal relations on performance of MSMEs

a Effect of entrepreneurial character

Results show that the entrepreneurial character variables have a significant effect on the performance of SMEs in East Java. This means that with the high level of character, entrepreneur can improve performance of MSMEs. This study is in accordance with the results of Slater and Narver (1995), who found that entrepreneurial character greatly affect the growth of business positively. The nature of a person such as a hardness in the face of problems, proactive attitude and passion

in work, general competencies such as organisational skills and ability to see opportunities, special competencies such as industry expertise and engineering skills and motivation as seen in vision and goals have a significant effect on business growth. Similarly, the results of this study in accordance with the opinion of Bann (2009), which states that the journey of entrepreneurship into a very personal journey, where the values, beliefs, assumptions, attitudes and personal strengths of entrepreneurs is a critical success factor.

b Effect of entrepreneur learning

Based on the results, entrepreneurial learning variables show a significant influence on the performance of SMEs in East Java. This means that the higher the entrepreneur's learning, the better the business performance in terms of sales growth, profits, assets and labour. This study shows that entrepreneurial learning conducted and experienced by SMEs in East Java can be applied well. The technical guidance that followed can be well practiced, mentoring/motivation process can solve the problems experienced, as well as the daily events that make a meaningful experience in the development and improvement of business performance. Results of this study support the theory of Levinthal and March (1918) which states that the learning process of SMEs is very important to improve company performance. Rakib (2009) has also proved that entrepreneurial learning has a significant effect on the performance of MSMEs.

Effect of the entrepreneurial competence

Based on the results of results and testing using SEM analysis shows that entrepreneurial competence has a significant effect on the performance of MSMES in East Java. That is, the higher the competence of the entrepreneur, it will be able to improve the performance of SMEs. This shows that the perpetrators of MSMEs in East Java understand that entrepreneurial competence is an important factor that can improve business performance. Strategic competence enables entrepreneurs to define the vision, mission and goals of the organisation, the competence of business opportunity to enable entrepreneurs to capture the existing business opportunities, by having organisational competence to enable entrepreneurs to plan, implement and evaluate, and by having social competence will be able to establish relationships with Partners and customers. The results of this study are in line with the theory put forward by Spencer cited by Moeheriono (2012), that competence is the character that underlies a person related to the effectiveness of individual performance in the work or 13 basic character that has a causal relationship with criteria that can be a reference, Effective, or performing, superior in the workplace opin certain situations. Boyatzis (1982) states that "A competency can be defined as an underlying characteristic of a person which results in effective and superior performance in a job". The results of this study are consistent with the research of Ju16 and Mahmood (2011), which states that there is a significant influence of the entrepreneur's competence on performance.

6 Conclusions

The result of this research shows that

- a self-control, innovation, sociability and risk-taking make a significant contribution to the entrepreneur's character
- b education and training, mentoring and experience contribute significantly to entrepreneurial learning
- c strategic, business, organisational and social competencies contribute significantly to the competence of the entrepreneur
- d growth of sales, profits, assets, and labour contribute significantly to the performance
- e character of entrepreneurs, learning and entrepreneurial competence have a significant effect on the performance of MSMEs in East Java.

This means the better the entrepreneurial character, the higher the level of entrepreneurial learning and the more competent the entrepreneur in running the business, the better the business performance. Both the theoretical framework and the empirical findings are in close agreement to each other. Most importantly, the arguments for MSME performance are supported by a number of established findings.

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