

## **Impact of Entrepreneurial Proclivity on Firm Performance: The Role of Market and Technology Turbulence**

**Yunia Wardi<sup>1</sup>, Perengki Susanto<sup>1</sup>, Abror Abror<sup>1\*</sup> and Nor Liza Abdullah<sup>2</sup>**

<sup>1</sup>*Faculty of Economics, Universitas Negeri Padang-Indonesia, Indonesia*

<sup>2</sup>*Faculty of Economy and Management, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia*

### **ABSTRACT**

This study was aimed at examining the impact of entrepreneurial proclivity on business performance of SMEs in West Sumatera, Indonesia. The moderating variables of this study were role of market and technology turbulence. Data was collected from survey of selected managers or owners of SMEs and later analysed using Moderated Regression Analysis (MRA). Findings show dimensions of entrepreneurial proclivity have significant effects on business performance. There is no significant moderating effect of the role market and technology turbulence on entrepreneurial proclivity of SMEs. Therefore, this study contributes to literature by highlighting the relationship between entrepreneurial proclivity and business performance. Managerial implications are discussed as well.

*Keywords:* Business performance, entrepreneurial proclivity, market and technology turbulence, SMEs

### **INTRODUCTION**

The small and medium enterprises (SMEs) have a strategic role to play in promoting Indonesia's economic growth. According to Central Agency for Statistics (BPS), the

SMEs are the dominant actor in national trade and industry in Indonesia. Its contribution to the nation's gross domestic product (GDP) is 55.56%. The SMEs employ almost 97.22% of the workers, across various regions and remote areas (Bank Indonesia, 2012). However, according to ASEAN Investment Report (2016), the performance of Indonesian SMEs is comparatively weaker than Malaysia, Thailand, Filipina, and Vietnam, which was confirmed by The Employers' Association of Indonesia (2012), indicating inherent problems, such as: (1) lack of innovation capabilities; and (2) lack of flexibility and competition adaptability;

#### **ARTICLE INFO**

*Article history:*

Received: 31 July 2017

Accepted: 15 February 2018

*E-mail addresses:*

yuniawardi@yahoo.co.id (Yunia Wardi)

perengki.unp@gmail.com (Perengki Susanto)

abr094@gmail.com (Abror Abror)

iza@ukm.edu.my (Nor Liza Abdullah)

\* Corresponding author

third, limited business network resulting in lack of access to information, market and input; and finally, limited capability in accessing financial resources.

These weaknesses may be related to entrepreneurial proclivity, which refers to the SMEs' strategy and how they deal with the business risks in finding new market opportunities (Covin & Slevin, 1989; Miller, 2011; Zhou, Barnes, & Lu, 2010). Previous studies have pointed to the moderating role of market and technology turbulence on the relationship between entrepreneurial proclivity and SME performance (Rauch, Wiklund, Lumpkin, & Frese, 2009; Zhu & Matsuno, 2015). Market and technology turbulence related to changes in the environment may have a moderating effect on the relationship between entrepreneurial proclivity and business performance. This study therefore, investigates the role of market and technology turbulence as moderating variable on business performance of selected SMEs in Indonesia

### **Entrepreneurial Proclivity**

Previous studies in strategic management had tended to focus on the entrepreneurial process, namely methods, practices and styles in decision making (Lumpkin & Dess, 1996). This study however, focuses on entrepreneurial proclivity on performance with the role market and technology turbulence as a moderator. According to Stevenson and Jarillo (1990), entrepreneurial proclivity is a concept of entrepreneurial management which describes the processes,

methods, and organisational style acts. Dess and Lumpkin (2005) emphasises that companies who want to improve the success of corporate entrepreneurship should be oriented towards entrepreneurship.

Entrepreneurial proclivity is a characteristic of a corporate strategy which reflects the behaviour of firms (Matsuno, Mentzer, & Özsomer, 2002). Orientation or entrepreneurial proclivity are used interchangeably in the literature. In this study, the term entrepreneurial proclivity is used to explain the phenomenon of managerial behaviour in the context of SME. Miller (1983), and Covin and Slevin (1989), categorise entrepreneurial proclivity into three dimensions: innovativeness, proactiveness, and risk-taking. Innovativeness is a willingness to introduce a new idea or novelty through a process of experimentation and creativity in the development of new products and services or new processes. Proactiveness is a forward-looking characteristic on opportunities and demand. Risk-taking on the other hand is willingness of companies to decide and act without exact knowledge of the potential revenue and possible personal, financial and business risks (Dess & Lumpkin, 2005). Studies on SMEs use these three dimensions of entrepreneurial proclivity, namely innovativeness, proactiveness and risk-taking when discussing firm behaviour (Covin & Miller, 2014; Covin & Slevin, 1989; Kreiser, Marino, & Weaver, 2002; Slevin & Terjesen, 2011; Wiklund & Shepherd, 2011).

### Entrepreneurial Proclivity and Performance

Previous studies indicate firms with entrepreneurship orientation show better performance (e.g., financial performance) (Rauch et al., 2009; Slevin & Terjesen, 2011). In addition, non-financial performance indicators, such as increasing owner satisfaction is not directly related to entrepreneurial proclivity (Rauch et al., 2009). In the context of SMEs, entrepreneurial proclivity has a strong relationship with the former's performance (Li, Zhao, Tan, & Liu, 2008) and this enables them to respond quickly to threats and market opportunities (Chen & Hambrick, 1995). This capability allows SMEs to maintain and improve its performance. Therefore, SMEs are able to win the competition, have a better entrepreneurial orientation, such as an ability to respond threats and opportunities in the market. In fact, entrepreneurial proclivity is an important consideration for managers in improving their business performance (Pehrsson, 2016). This study suggests the dimensions of entrepreneurial proclivity have significant impacts on company performance:

*H1a: Proactiveness has a significant impact on SMEs' Performance.*

*H1b: Innovativeness has a significant relationship with SMEs' Performance.*

*H1c: Risk-taking is a significant influence factor in SMEs' Performance.*

### The Role Market and Technology Turbulence as a Moderator

Jaworski and Kohli (1993) refer to technological turbulence as technological development rate, and market turbulence as dealing with the rate of change in the composition between customers and their preferences in the product demand. The relationship between entrepreneurial proclivity and performance was assumed to be strengthened or weakened by market and technology turbulence (Rauch et al., 2009). Several studies have employed this variable as a moderator. For instance, Tsai and Yang (2014) studied 452 manufacturing firms in Taiwan and found the link between innovativeness and performance was stronger when they had a higher market and technological turbulence. Sundqvist, Kylaheiko and Kuivalainen (2012) found the role of market and technology turbulence as moderator of the relationship entrepreneurial proclivity and performance. The environmental factors may become significant in moderating the relationship between entrepreneurial proclivity and performance. Thus, the market and technology turbulence has a moderating effect on the link between entrepreneurial proclivity dimensions and business performance (H2):

*H2a: Market and technology turbulence has a significant moderating effect on SME proactiveness.*

*H2b: Market and technology turbulence has a significant moderating effect on SME innovativeness.*

*H2c: Market and technology turbulence has a significant moderating effect on SME risk taking.*

**METHODS**

This was a quantitative research and data was collected through a survey method using closed-ended questionnaire, in addition to observations. Each variable obtained the power of research 0.8 with alpha 0.05 (Hair, William, Babin, & Anderson, 2014). The population of this study was all 296 small and medium enterprise (SME) owners or managers in West Sumatra. Purposive sampling technique was used and data analysed using Moderated Regression Analysis (MRA). The SME measurement instruments for variables, and market and technology turbulence were derived from Covin and Slevin (1989), and Jaworski and Kohli (1993) and Wiklund and Shepherd (2003) respectively. Furthermore, respondents' perception of their performance was used to compare with their major competitors in the last three years. Likert scale ranging from

strongly disagree, 2) disagree, 3 neutral, 4) agree and 5) strongly agree were used to measure the response.

In order to test the moderating effect, the Moderated Regression Analysis (MRA) was used. Two stages were applied: testing the main and interaction effect. The main and interaction effect can be formulated in three models/equations as follows:

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 \tag{1}$$

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 \tag{2}$$

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_6(x_1.x_4) + b_7(x_2.x_4) + b_8(x_3.x_4) \tag{3}$$

In model 1, Y indicates the SMEs' performance, X1 = proactiveness, X2 = risk-taking, and X3 = Innovativeness. Model 2 was the model 1 plus market and technology turbulence variable (X<sub>4</sub>) as an additional variable. Model 3 shows the interaction effect of market and technology turbulence as a moderating variable. Figure 1 shows the research model.

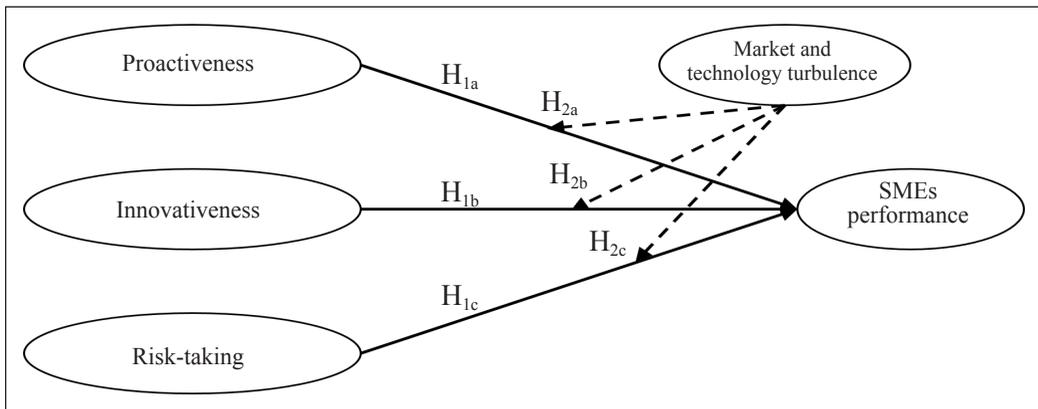


Figure 1. Research model

**RESULTS AND DISCUSSION**

Most of the respondents are owners or managers of companies which have been established for more than 5 years (65.88%) and. A total of 50.34% of the respondents were from the food industry (cake and snacks). The largest respondents were from the craft industry, such as applique and embroidery business (19.93%). About 72.27% of the respondents were focused on producing local products of West Sumatra.

Table 1 is the description of variables, including means, standard deviation, and their correlations. Proactiveness and risk-taking have high scores, 4.08 and 4.0 respectively. It means the respondents perceived that their SMEs are proactive and do not shy away from risk taking. The variables are also significantly correlated, although there is no indication of multicollinearity problem (correlation  $\geq$  0.9) (Hair et. al., 2014).

Before using MRA, preliminary tests, such as normality, homogeneity and multicollinearity were conducted (Wardi, Abror, & Trinanda, 2018). Based on the normality test, it was found that the kurtosis

values for all variables were still in the range between -3 and +3, which means the data is normal (DeCarlo, 1997). In homogeneity of variance test using Glejser, it was found that the significant value of variables is greater than 0.05 (Glejser, 1969; Hair et al., 2014). Multicollinearity test was conducted using Variance Inflation Factor (VIF) value. Table 2 shows that the VIF values were less than 10. There was no multicollinearity problem consistent with the findings of Hair et al. (2014). This study examined the moderating effect of market and technology turbulence. Though it was free from multicollinearity problem, the standardised variables in the MRA was used to anticipate multicollinearity problem due to the moderating variable effect, in line with Li, Lu, Mittoo and Zhang (2015).

Table 3 shows the findings of the study using MRA. It was found that in the equation 1, all independent variables were significantly related to SMEs' performance. Hence, H1a, H1b and H1c were accepted. The R<sup>2</sup> value estimated was 0.162, means that 16.2% of SMEs' performance was explained by three independent variables.

Table 1  
*Description of statistics and correlation among variables*

No	Variables	Mean	S.D	1	2	3	4
1.	SMEs performance	3,62	,216				
2.	Proactiveness	4,08	,453	.326**			
3.	Innovativeness	3,94	,419	.188**	.188**		
4.	Risk-taking	4,00	,464	.275**	.261**	.121*	
5.	Market and technology turbulence	3,80	,504	.211**	.113	.442**	.160**

*S.D is standard deviation*

\* *Correlation is significant at the 0.05 level (two-tailed)*

\*\* *Correlation is significant at the 0.01 level (two-tailed)*

Table 2  
*Multicollinearity diagnostic*

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Proactiveness	.124	.027	.260	4.640	.000	.907	1.102
Risk-taking	.044	.029	.085	1.515	.131	.914	1.094
Innovativeness	.082	.028	.176	2.918	.004	.785	1.274
Market & technology turbulence	.039	.026	.090	1.503	.134	.793	1.261

a. Dependent Variable: Performance

Table 3  
*Summary of hypothesis testing*

Variables	Model 1	Model 2	Model 3
Proactiveness	0.261*	0.260*	0.263*
Innovativeness	0.215*	0.176*	0.173*
Risk-taking	0.094**	0.085	0.089
Market and technology turbulence		0.090	0.086
Proactiveness x market and technology turbulence			0.071
Innovativeness x market and technology turbulence			0,019
Risk-taking x market and technology turbulence			-0,004
R <sup>2</sup>	0.162	0.168	0.174
R <sup>2</sup> (Adjusted)	0.153	0.157	0.154
F	18.795	14.722	8.693
Sig F Change	.000	.134	.545

\* Significant at the 0.05 level

\*\* Significant at the 0.1 level

Moreover, the model 1 statistically has a high goodness of fit with F value of 18.795 on significance level at  $\alpha = 0.05$ . Model 2 added market and technology turbulence. The findings in model 2 showed that only two independent variables were significant: proactiveness and innovativeness. The R<sup>2</sup> was increased to 0.168. However, the increase of R<sup>2</sup> was not significant. Model 3 shows the effect of market and technology turbulence as the moderating variable. It was

found the moderating effect of market and technology turbulence was not significant for all entrepreneurial proclivity dimensions with R<sup>2</sup> = 0.174. Therefore, H2a, H2b and H2c are rejected. The R<sup>2</sup> had been increased from model1 to model 3; however, the R<sup>2</sup> changes were not significant.

Based on the findings, it is clear the SMEs' performance in West Sumatra was influenced by proactiveness, innovativeness and risk-taking. There is a positive and

significant influence of proactiveness on SMEs' performance. It can be seen from the ability of SMEs in seeking and exploiting existing business opportunities. According to Brouthers, Nakos and Dimitratos (2015), proactiveness is one of the most important dimensions in entrepreneurial proclivity. It determines the performance of SMEs in many respects. Therefore, SMEs have to boost their ability in proactively capturing business opportunities (both local and international market).

Furthermore, the performance of SMEs is significantly influenced by innovativeness. This finding is in line with Terziovski (2010), who finds that innovation is a key driver of SME performance. Research on the food industry sector found that innovation has a strong relationship with SME performance (Jenatabadi, 2014). In other words, a SME should be able to create good atmosphere and innovative actions in achieving a better business performance.

Moreover, the SMEs' performance is also affected by their risk-taking. Managers who dare to take risks have a chance to get better results. Kraiczy, Hack and Kellermanns (2014) suggest the SME performance is largely determined by risk-taking, especially in uncertain situations. They opine that SMEs should not adopt the 'wait-and-see' attitude but rather develop a risk-taking attitude. Therefore, the SMEs managers/owners have to take risk if they want to survive in their business competition. The finding is also consistent with that of earlier studies that risk-taking can expand the scope of business or market

(Dai, Maksimov, Anitra, & Fernhaber, 2014).

The link of entrepreneurial proclivity to business performance of SMEs was not significantly moderated by market and technology turbulence. This is in contrast with the direct effect of entrepreneurship proclivity on performance. The SMEs surveyed in this study are labour intensive and thus, the production process relies less on new technology adoption. The rapid technological change has no significant impact on the performance of SMEs in West Sumatra. Even though this finding does not support that of previous studies, it is in line with Scott's (2006), who reported that industries with low technology have a strong relationship to economic development, especially in the context of job creation. Therefore, SMEs play a role as a provider of job opportunities to increase the national growth of economy. Hence, this can explain why market and technology turbulence has no significant moderating effect on the entrepreneurial proclivity-performance relationship.

## CONCLUSION

Based on the findings and discussion, it can be concluded the performance of SMEs performance in West Sumatra is significantly affected by their entrepreneurial proclivity such as innovativeness, proactiveness and risk-taking. However, the role of market and technology turbulence has no significant moderating effect on the relationship between entrepreneurial proclivity and SME

performance in West Sumatra. Therefore, the SMEs may be concerned about the use of new technology in the future. Most of the products sold by the SMEs in West Sumatra are local products which have a lower adaptability to technological change. However, to compete in the global arena, the SMEs should be innovative. Their managers have to improve on their innovation and they have to be more proactive in seeking market opportunities for the new business and taking a variety of business risks that may occur as a consequence of innovative and proactive activities. As a result, they can increase their company performance.

However, this study has some limitations. Since data was obtained via purposive sampling method, findings of the study cannot be generalised. Furthermore, as this was a cross-sectional study, it cannot portray the phenomena comprehensively. This study only focused on entrepreneurial proclivity, and role market and technological turbulence as the antecedents of SME performance. However, there are some other factors that can influence business performance, such as the business environment. For further research, a probability sampling method and a longitudinal study are suggested so that the results can be generalised. This study also recommends a consideration of other factors, such as business environment.

## REFERENCES

- ASEAN Investment Report. (2016). *Foreign direct investment and MSME linkages*. ASEAN: The ASEAN Secretariat and United Nations Conference on Trade and Development (UNCTAD).
- Bank-Indonesia. (2012). *Penelitian komoditi/produk/ jenis usaha unggulan UMKM di Sumatera Barat tahun 2011*. Jakarta: Bank Indonesia.
- Brouthers, K. D., Nakos, G., & Dimitratos, P. (2015). SME entrepreneurial orientation, international performance, and the moderating role of strategic alliances. *Entrepreneurship: Theory and Practice*, 39(5), 1161–1187.
- Chen, M. J., & Hambrick, D. C. (1995). Speed, stealth, and selective attack: How small firms differ from large firms in competitive behavior. *Academy of Management Journal*, 38(2), 453–482.
- Covin, J. G., & Miller, D. (2014). International entrepreneurial orientation: conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship: Theory and Practice*, 38(1), 11–44.
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10(1), 75–87.
- Dai, L., Maksimov, V., Anita, B., & Fernhaber, S. A. (2014). Entrepreneurial orientation and international scope: The differential roles of innovativeness, proactiveness, and risk-taking. *Journal of Business Venturing*, 29(4), 511–524.
- DeCarlo, L. T. (1997). On the meaning and use of kurtosis. *Psychological Methods*, 2(3), 292–307.
- Dess, G. G., & Lumpkin, G. T. (2005). Research briefs. *Academy of Management Executive*, 19(1), 147–156.
- Glejser, H. (1969). A new test for heteroskedasticity. *Journal of the American Statistical Association*, 64(325), 316–323.
- Hair, J. F., William, C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7<sup>th</sup> ed.). Upper Saddle River: Pearson New International Edition.

- Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57(3), 53–70.
- Jenatabadi, H. S. (2014). Situation of innovation in the linkage between culture and performance : A mediation analysis of asian food production industry. *Contemporary Engineering Sciences*, 7(7), 323–331.
- Kraiczy, N. D., Hack, A., & Kellermanns, F. W. (2014). Propensity and the organizational context of family firms. *Journal of Product Innovation Management*, 32, 334–348.
- Kreiser, P. M., Marino, L. D., & Weaver, K. M. (2002). Assessing the psychometric properties of the entrepreneurial orientation scale: A multi-country analysis. *Entrepreneurship: Theory & Practice*, 26(4), 71.
- Li, K., Lu, L., Mittoo, U. R., & Zhang, Z. (2015). Board independence, ownership concentration and corporate performance-Chinese evidence. *International Review of Financial Analysis*, 41, 162-175. doi: 10.1016/j.irfa.2015.05.024.
- Li, Y., Zhao, Y., Tan, J., & Liu, Y. (2008). Moderating effect of entrepreneurial orientation on market orientation-performance linkage: Evidence from Chinese small firms. *Journal of Small Business Management*, 46(1), 113–133.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172.
- Matsuno, K., Mentzer, J. T., & Özsomer, A. (2002). The effects of entrepreneurial proclivity and market orientation on business performance. *The Journal of Marketing*, 66(3), 18–32.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Sciences*, 29(7), 770-791.
- Miller, D. (2011). Miller (1983) revisited: A reflection on EO research and some suggestions for the future. *Entrepreneurship: Theory and Practice*, 35(5), 873–894.
- Pehrsson, A. (2016). Firm’s strategic orientation, market context, and performance: Literature review and opportunities for international strategy research. *European Business Review*, 28(4), 378–404.
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship: Theory and Practice*, 33(3), 761–787.
- Scott, A. J. (2006). Entrepreneurship, innovation and industrial development: geography and the creative field revisited. *Small Business Economics*, 26(1), 1–24.
- Slevin, D. P., & Terjesen, S. A. (2011). Entrepreneurial orientation: Reviewing three papers and implications for further theoretical and methodological development. *Entrepreneurship: Theory and Practice*, 35(5), 973–987.
- Stevenson, H. H. & Jarillo, J. C. (1990). A paradigm of entrepreneurship: entrepreneurial management. *Strategic Management Journal, Summer Special Issue*(11), 17–27.
- Sundqvist, S., Kylaheiko, K., & Kuivalainen, O. (2012). Kirznerian and Schumpeterian behavior in turbulent export markets. *International Marketing Review*, 29(2), 203–219.
- Terziowski, M. (2010). Innovation practice and its performance implications in small and medium enterprises (SMEs) in the manufacturing sector: a resource-based view. *Strategic Management Journal*, 31(8), 892–902.
- The Employers’ Association of Indonesia. (2012). *APINDO Annual Report 2012*. Jakarta, Indonesia: Author.

- Tsai, K., & Yang, S. (2014). The contingent value of firm innovativeness for business performance under environmental turbulence. *International Entrepreneurship and Management Journal*, 10(2), 343–366.
- Wardi, Y., Abror, A., & Trinanda, O. (2018). Halal tourism: antecedent of tourist's satisfaction and word of mouth (WOM). *Asia Pacific Journal of Tourism Research*, 1-10. doi: 10.1080/10941665.2018.1466816
- Wiklund, J., & Shepherd, D. A. (2011). Where to from here? EO-as-experimentation, failure, and distribution of outcomes. *Entrepreneurship: Theory and Practice*, 35(5), 925–946.
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, EO, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24(13), 1307–1314.
- Zhou, L., Barnes, B. R., & Lu, Y. (2010). Entrepreneurial proclivity, capability upgrading and performance advantage of newness among international new ventures. *Journal of International Business Studies*, 41(5), 882–905.
- Zhu, Z., & Matsuno, K. (2015). Entrepreneurial proclivity: its environmental conditions and growth consequences. *Journal of Strategic Marketing*, 4488(July), 1–14.