

Social Networking: Strategies for Exploring Innovation in the Indonesian Manufacturing Industry

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Abstract

In Indonesia, SMEs in the manufacturing sector are around 16.65 percent of the existing SMEs. The processing industry is a variety of production activities that change the form of raw materials into finished or semifinished goods. At this time, the Covid-19 pandemic has resulted in SMEs in the processing industry being unable to survive only by exploiting existing businesses. Changes in demand and supply chains, require the industry to explore new things while continuing to develop the business that is currently owned. This will be difficult for SMEs in Indonesia, because in general, SMEs are family companies, with limited resources. To overcome the shortage of resources, SMEs need to collaborate with external partners and form social networks. This study uses a survey method to analyze the influence of networks on the competence of exploration in SMEs in the processing industry. From 100 respondents, it was found that social networking has a positive effect on the competence of exploring innovation. This happens because from social networks, SMEs can obtain additional resources, information, and new knowledge so that they can strengthen exploration competencies.

Keywords

Social networking, exploration, SMEs, Covid-19 pandemic.

1. Introduction

COVID-19 has caused problems for SMEs. The first problem is about supply chain (Kuckertz et al., 2020; Lu et al., 2020; Papadopoulos et al., 2020). The distribution of goods and factory production, which has been hampered due to the COVID-19 pandemic, has resulted in the SMEs experiencing shortages in the supply of materials. The second problem is regarding the existence of social restrictions to prevent transmission of the COVID-19 virus. This change results in a change in the pattern of demand in the market (Lu et al., 2020). Current conditions require SMEs to survive not only by exploiting their existing businesses, but also by trying to explore new opportunities and ways of doing business.

Demands for exploration are difficult for SMEs with limited resources (Hughes et al., 2017). To overcome the lack of internal resources and capabilities, SMEs need to collaborate with external parties and form social networks to get

additional resources (Majid et al., 2020; Tehseen & Sajilan, 2016). Ioanid et al. (2018) stated that social networks can improve the performance of SMEs because social networks can provide opportunities for SMEs to gain new customers, new resources, and new market opportunities.

The literature on a social networking perspective focuses more on large companies. However, Bengtsson & Johansson (2014) and Gnyawali (2016) argue that the need for social networks is greater in the context of SMEs. SMEs can create value and strengthen their position of power through collaboration (Gnyawali & Park, 2009, 2011). Further, partners in social networks can help SMEs to access, obtain, and increase important resources for innovation (Ahuja, 2000). Therefore, this article discusses the characteristics of social networks that can influence the exploration competences of SMEs.

2. Literature Review and Hypothesis

2.1 Literature Review

2.1.1 Social Networking

The current COVID-19 pandemic situation has resulted in the demands of SMEs to be able to adapt to new conditions with limited resources (Papadopoulos et al., 2020). SMEs face the challenge of exploring new opportunities and creating new strategies in order to survive (Lu et al., 2020). One way to overcome the shortage of resources and increase capacity in terms of building supply chains during the COVID-19 pandemic is to build social networks with business partners (Kuckertz et al., 2020; Priyono & Moin, 2020). The support and cooperation of partners in the network will be able to help SMEs to overcome the challenges and pressures of the current pandemic (Kuckertz et al., 2020; Papadopoulos et al., 2020).

The relationship created between actors in social networks is a flow of resources, both material and non-material (Bengtsson & Johansson, 2014; Datta, 2001). Resources that exist in social networks are social support, friendship, time, information, expertise, money, business transactions, activities, and so on (Gnyawali et al., 2016; Gnyawali & Park, 2009, 2011). SMEs that have social networks will have the opportunity to access, obtain, and improve important resources from external parties so that they can overcome the problem of lack of resources to implement exploration in SMEs. In social networks, there are companies that can make strong ties or weak ties with partners. In addition, companies can engage in a variety of engagements with partners (Borgatti & Halgin, 2011; Granovetter, 2005; Indarti & Postma, 2013; Rothaermel & Deeds, 2004). Tie intensity and multiplexity of ties can provide a flow of resources for SMEs thereby increasing the ability of SMEs to perform exploration (Expósito-Langa & Molina-Morales, 2010; Indarti & Postma, 2013; Tuli et al., 2010). When the exploration of SMEs increases, SMEs will be able to innovate so that the performance of SMEs will increase (Dunlap et al., 2016).

2.1.2 Tie Intensity

Tie intensity indicates the amount of interaction time (frequency), emotional intensity or level of intimacy, and mutually beneficial relationships (Expósito-Langa & Molina-Morales, 2010; Indarti & Postma, 2013). The more interaction time between partners, the more possibilities for sharing and accessing knowledge from others (Granovetter, 2005; Indarti & Postma, 2013). When it becomes more intensive, the quality of knowledge exchange increases, so that it becomes stronger (Granovetter, 2005). SMEs can establish relationships with various partners, namely competitors, suppliers, consumers, consultants, associations, religious associations, and government agencies (De Leeuw et al., 2013; Indarti & Postma, 2013; Van Beers & Zand, 2013).

2.1.3 Multiplexity

The second component in social networks is the multiplexity of ties (Brown & Konrad, 2001; Kenis & Knoke, 2002; Rowley et al., 2000). Multiplexity shows the complexity of relationships, variations in knowledge exchange, various types of ties between partners in the network, and the diversity of knowledge absorbed by the organization from various external parties (Indarti & Postma, 2013; Kapucu & Hu, 2014; Sosa, 2011). In networks, multiplexity causes relationships between partners to become interdependent and influence each other (Rank et al., 2010). More multiplexity relationships between companies in a network result in more knowledge (Ross & Robertson, 2007; Tuli et al., 2010). This happens because collaboration with different partners affects the amount and variety of knowledge

and increases exploration (Ross & Robertson, 2007). When the multiplexity increases, the benefits for the parties involved in the collaboration also increase because it creates opportunities to identify and develop new things needed (Tuli et al., 2010).

Multiplexity is the various types of ties that occur between SMEs and external partners, both transaction ties, friendship bonds, and advise (Claro et al., 2012; Kapucu & Hu, 2014; Lee & Lee, 2014). Multiplexity results in various kinds of messages simultaneously in a bond between the company and external partners, this happens because in the complexity of the bond there are various roles performed by SMEs (Claro et al., 2012; Kapucu & Hu, 2014). For example, the relationship between an SME and a supplier will be called a multiplex if apart from being a buyer from a supplier, the company is also good friends with the supplier, resulting in a transactional relationship and friendship relationship, thus creating a sense of mutual trust and support (Claro et al., 2012).

2.1.4 Exploration

Exploration is a process of searching, variety, experimentation, risk taking, flexibility, discovery, and innovation (Lin et al., 2012; Lin & McDonough III, 2014; Lubatkin et al., 2006). Other literature states that exploration is the act of discovering something new (Bengtsson & Johansson, 2014). In addition to this definition, exploration is also defined as an act of experimentation with new alternatives, providing returns that are difficult to predict, and not necessarily generating profits for the company. Several other literatures discuss exploration as an act of adding new partners and relationships in the network (Beckman et al., 2004; Indarti & Postma, 2013; Shiri et al., 2015). Adding new partners and relationships in the network will provide new knowledge and opportunities that will increase the company's exploration capabilities (Indarti & Postma, 2013; Shiri et al., 2015).

2.2 Hypothesis

2.2.1 Tie Intensity

In networks, there are strong ties and weak ties (Kenis & Knoke, 2002; Rowley et al., 2000). A strong ties will involve a lot of interaction and a lot of time is spent in the bond. In a strong ties, companies and partners will learn the same thing from the same partner, thereby limiting the potential for exploring new knowledge but strengthening existing knowledge or information (Rothaermel & Deeds, 2004; Shiri et al., 2015). On the other hand, a weak ties in the interaction will not involve much interaction and time in the relationship (Kenis & Knoke, 2002; Rowley et al., 2000). In weak ties, usually the company and partners do not often interact, learn different things, and from different partners, so that it will increase the potential to explore new knowledge (Borgatti & Halgin, 2011; Ruef, 2002; Schilling & Phelps, 2007).

The more interaction time between partners, the more possibilities for sharing and accessing knowledge from other parties (Granovetter, 1977, 1983; Indarti & Postma, 2013; Molina-Morales & Martínez-Fernández, 2010). As the ties become more intensive, the quality of knowledge exchange increases, so they become stronger ties (Granovetter, 1983, 2005). Strong ties between individuals facilitate the flow of information and knowledge, but will lead to redundant information and knowledge (Gedajlovic et al., 2013; Ibidunni et al., 2020). This will just increase the accumulation of existing knowledge, and not to rise exploration competence. Conversely, a weak ties will provide more diverse information, giving rise to exploration for the discovery of new ideas (Granovetter, 1985, 2005). The weaker the relationship between SMEs and partners, the greater the opportunities for exploratory learning and acquiring new knowledge (Burt, 1992; Gedajlovic et al., 2013). Based on the previous literature, this paper formulated the following proposition:

P₁: Tie Intensity has an effect on exploration.

2.2.2 Multiplexity

High multiplexity creates diverse knowledge and information for partners in the bond, because it creates opportunities to explore various areas of knowledge from partners in depth. High bond multiplexity also leads to a more stable and long-term relationship (Tuli et al., 2010). Companies will find it more difficult to break a bond if the bond is a multiplex ties.

Multiplex ties are usually mutually beneficial, have high commitment, and are reciprocal (Kenis & Knoke, 2002; Tuli et al., 2010). When there are multiplex relationships between companies in a network, more knowledge will emerge (Ross & Robertson, 2007). Collaboration with different partners will increase the amount and variety of SME knowledge so that it will increase exploration competence. The sample research model is depicted in below figure 1 Based on the previous literature, this paper formulated the following proposition:

P2: Multiplexity has an effect on exploration.

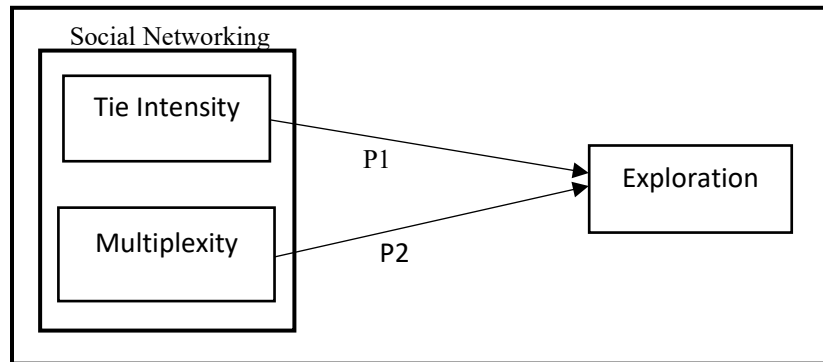


Figure 1. Research Model

3. Methodology

The population in this study were SMEs in manufacturing industry, Java, Indonesia. Technique to determine the sample size using total sampling. The questionnaire technique is used to obtain data related to the research variables. The questionnaire is arranged in the form of a closed statement with 5 (five) alternative answers using Likert scale and data analysis technique used is SPSS.

3.1 Variable Indicator

3.1.1 Tie Intensity

The intensity of the bond with an external partner indicates the amount of interaction time (frequency), the intensity of the emotion or intimacy of the relationship, and the reciprocal relationship (Expósito-Langa & Molina-Morales, 2010). Frequency is measured by how often SMEs make contact with external parties (Indarti & Postma, 2013; Rowley et al., 2000). The more frequent contacts are made, the more opportunities for companies to access and share knowledge with external parties (Molina-Morales & Martínez-Fernández, 2010).

Brown & Konrad (2001), Expósito-Langa & Molina-Morales (2010), and Yli-Renko et al. (2001) defines emotional intensity as emotional closeness between the company and its external partners. Strong emotional relationships will lead to a tendency to work together based on the same trust and business values (Rowley et al., 2000). A strong emotional relationship will also make the company support the relationship that occurs both between individuals and external partners and between companies and external partners. This is indicated by the company's commitment to conducting transactions with external partners and participating in social activities involving external partners in the network (Molina-Morales & Martínez-Fernández, 2010). This study uses indicators developed by Expósito-Langa & Molina-Morales (2010) and Rowley et al. (2000) to measure the intensity of emotion.

3.1.2 Tie Multiplexity

Multiplexity ties cause companies to absorb various kinds of information and knowledge (Claro et al., 2012; Indarti & Postma, 2013). This study measures multiplexity using a measurement developed by Claro et al. (2012), Indarti & Postma (2013), Lee & Lee (2014), and Ferrari et al. (2012). Multiplexity is stated to be measured by the existence of economic ties which also lead to bonds of friendship, ties that give rise to advice or suggestions, and ties that can lead to knowledge for the company (Claro et al., 2012; Ferriani et al., 2012; Indarti & Postma, 2013; Lee & Lee, 2014).

3.1.3 Exploration

Exploration indicators are the company's tendency to seek new knowledge, new processes, new skills, make variations, conduct experiments, risk-taking courage, flexibility, discovery, and innovation (Atuahene-Gima, 2005; Ikhsan et al., 2017; Molina-Morales & Martínez-Fernández, 2010; Wang & Rafiq, 2014).

4. Finding and Result

4.1 Discriminant Validity

Table 1. Average Variant Extracted (AVE)

Variable	AVE
Tie Intensity	0.594
Multiplexity	0.594
Exploration	0.687

Based on the data presented in table 1 above, it is known that the AVE value of organizational communication, organizational commitment, and knowledge sharing variables is > 0.5 . Thus, it can be stated that each variable has good discriminant validity (Hair et al., 2014).

4.2 Reliability

Composite Reliability is the part used to test the reliability value of indicators on a variable. A variable can be declared to meet composite reliability if it has a composite reliability value > 0.6 (Hair et al., 2014). The following is the composite reliability value of each variable used in this study:

Table 2. Reliability

Variabel	Cronbach's Alpha	Reliability
Tie Intensity	0.854	reliabel
Tie Multiplexity	0.851	reliabel
Exploration	0.825	reliabel

Based on the data presentation above in table 2, it can be seen that the Cronbach alpha value of each research variable is > 0.7 . Thus, these results indicate that each research variable has met the requirements for the Cronbach alpha value, so it can be concluded that all variables have a high level of reliability.

4.3 Hypothesis Testing

Table 3 shows the result of hypothesis testing. Based on the data processing that has been done, the results can be used to answer the hypothesis in this study. Hypothesis testing in this study was carried out by looking at the T-Statistics value and the P-Values value. The research hypothesis can be stated as accepted if the P-Values value < 0.05 (Hair et al., 2014).

Table 3. Coefficient

Variable	Coefficient	t	Sig
Constant	1.234	4.078	0.000
Tie Intensity	0.333	2.424	0.017
Multiplexity	0.335	2.871	0.005

5. Conclusion

The results showed that tie intensity affects exploration. This is based on the results of the hypothesis test where the P value of tie intensity to exploration is smaller than 0.05 which means that tie intensity has a significant effect on exploration. The results also showed that multiplexity affects exploration. This is based on the results of the hypothesis test where the P value of multiplexity to exploration is smaller than 0.05 which means that multiplexity has a significant effect on exploration.

The ties intensity and the ties multiplexity of the company with external partners in the network had an effect on the exploration competence of the company. The intensity of a strong ties will provide additional resources so as to strengthen the organization's ability to explore new things (Granovetter, 2005; Indarti & Postma, 2013). The higher the multiplexity of ties with external partners, the more diverse information, knowledge, and experience will be, which will also increase exploration capabilities (Atuahene-Gima, 2005; Ikhsan et al., 2017).

This shows that SMEs' exploration capabilities will be better if SMEs are willing to be open and cooperate with external parties to obtain additional information, knowledge, and resources (Ahuja, 2000). In order for SMEs to access resources from external partners, SMEs need to establish social networks and establish good relationships with partners.

Acknowledgement

This research was supported by Universitas Gadjah Mada under the Directorate of Research Program, Final Project Recognition Program (Rekognisi Tugas Akhir).

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