Innovativeness, Proactiveness, and Risk-taking: Corporate Entrepreneurship of Indonesian SMEs

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Abstract. Corporate entrepreneurship (CE) consists of three dimensions, which are innovativeness, proactiveness, and risk-taking. It has an essential role in ensuring SMEs willingness to adopt technology in the 4.0 industrial era. The aim of this study is twofold. First, to discover the pattern CE (innovativeness, proactiveness, and risk-taking) intensity on four SMEs and second, to identify the likely causes of that pattern from a strategic management perspective. This research employed a case study design with four Indonesian SMEs as the subjects. The data was gathered through guided interviews and observations. Dyadic data was collected to avoid bias. The answers were then put into a scale from one to seven by the informants and combined using a simple mean. A pattern was inferred from the scale. The results suggest that all four SMEs have a similar low-medium range of CE intensity. From the strategic management standpoint, this was likely due to the fact the SMEs have not conducted proper environmental scanning in terms of looking for new technology or embraced the involvement of low-level employees in their planning process.

1. Introduction
The use of technology in the 4.0 industrial era is rampant. Businesses of all sectors and sizes were vying to utilize technology to improve their overall businesses. However, unlike large companies, SMEs in Indonesia have a very limited resource. They neither have large capital to acquire advanced technology, a pool of highly qualified human resource to create or operate the latest technology, nor unlimited access to information on the most up-to-date technology[1]. Those reasons have created considerable constraints for SMEs to adopt new technology. So, even though the tech exists and the pressure to adopt the tech was felt [2] Indonesian SMEs might not know about it or unwilling to obtain it.

One of the determinants of an SME willingness to adopt new technology was something called Corporate Entrepreneurship intensity[3–5]. The definition of corporate entrepreneurship had transformed, but the one underlying notion of it – adapt or die – hold still from the time when corporate entrepreneurship was only associated with big investments made by corporate executive [6,7] until the day when single act of an employee in finding a new way to do his or her job was considered as an entrepreneurial behavior [8,9]. Corporate entrepreneurship has three underlying dimensions, namely innovativeness, proactiveness, and risk-taking, which are essential in gaining competitive advantage. Now, corporate entrepreneurship was seen as efforts to identify and exploit
opportunities in radical or incremental ways in order to grow and survive. In the context of the 4.0 industrial era, it means exploiting technology to grow and survive in the industry.

Based on the above argument, it was important to explore the CE intensity of Indonesian SMEs and investigate the probable cause behind it from the strategic management standpoint because previous studies have proven the relationship between CE and strategic management practices [10,11]. The result of this study can be used to identify ways to boost CE intensity so that the SMEs are more proactive, innovative, and willing to take risk in adopting new technology.

There are many studies on CE or entrepreneurship as an individual trait [12,13]. However, they mainly focused on one dimension (i.e., innovativeness) such as [2,4,5] or on the technical details of CE as an enabler to technology adoption [14]. Previous studies were also mostly quantitative and did not provide in-depth insight into CE. This study aims to investigate the level of corporate entrepreneurship intensity in Indonesian SMEs and compare the strategic management practices done by an SME with the highest level of intensity and the rest of the research subjects.

2. Literature Review

2.1. Corporate Entrepreneurship
Entrepreneurship was generally associated with new venture creation [15], but when an organization grows, entrepreneurial spirit belongs not only to a single person or the founder but also to the entire corporation. Even though corporate entrepreneurship was defined as formal and informal activities related with the product, process, and marketing innovation in order to increase company’s competitive position and financial performance[16], there was no single accepted consensus on the definition of corporate entrepreneurship (CE) [17]. According to Ferreira [18], there are three ways to see CE; CE perceived as a form of new venture creation by an existing organization[6,19], as the trigger of organizational transformation and integration, and as the force changing the competition map of an industry.

CE has three dimensions, which are innovativeness, proactiveness, and risk-taking[20–22]. Innovation can arise in many forms, new product development, or process improvement [23]. According to Barringer [20], a company’s innovativeness can be measured through the company’s investment in R&D or simple process improvement. This commitment can also be seen from the number of new products or services. A company that conducted dramatic changes was deemed to have high CE intensity. Proactiveness, on the other hand, refers to the willingness to pursue ideas from opportunities presented along the way. This dimension requires a company to be future-oriented and focus on formulating the next steps to face potential changes and competition. Proactiveness helps companies create a competitive advantage as a first-mover [24]. The last dimension is risk-taking. This dimension has been the part of CE literature since the Cantillon era (1734). Companies with high CE intensity would prefer being aggressive to maximize profits while companies with low-intensity CE would often ‘wait and see’ to minimize risk[25–27]. The dimensions of CE are listed in Table I.

2.2. Strategic Management Practices
CE can naturally occur in a company [28], or it can be the result of management initiative [29]. Studies show 93% of academicians argued that entrepreneurship could be taught through formal education or training [30] However, it will be better for a company to encourage entrepreneurial behaviour by providing a supportive environment [31]. Management practices are believed to have an important role in shaping corporate entrepreneurship by providing a supportive environment [26,32–34].

From previous studies on CE, it was found that strategic management practices affected CE intensity. According to Brown et al. [35], strategic management practices will influence entrepreneurial behaviour, commitment to opportunities, and company’s growth orientation. Strategic
management practices will promote entrepreneurial behaviour even though that behaviour could pose a certain risk to the company [8,36,37].

| Dimensions       | Explanations                                                                 | References       |
|------------------|------------------------------------------------------------------------------|------------------|
| Innovativeness   | a. Describes how strong companies’ encouragement towards R&D and innovation. | [21,22,38–45]   |
|                  | b. Gauges the number of new product lines or innovative process within the company. |                  |
|                  | c. The nature of product or process changes (i.e. incremental or radical)    |                  |
| pro-activeness   | a. Tendency to try being the first in initiating new business concepts or launching new products. |                  |
|                  | b. Aggressiveness in dealing with competitors                                 |                  |
| risk-taking      | a. Willingness (or unwillingness) to engage in high-risk high-return projects. |                  |
|                  | b. Explores and exploits available opportunity using numerous means.         |                  |

The components of strategic management process included formulating company’s mission and vision, analyzing internal and external environment, formulating and choosing a strategy, and implementing a strategy which also deals with the evaluation, control, and change management[37]. Barringer and Bluedorn [18,20,46] stated that environmental scanning, planning, and control are the components of strategic management practices that influence CEI. The strategic management practices explored in this study was limited to the scanning, planning, and controlling processes.

In order to keep their technology adoption relevant to the external and internal environment, SMEs need to conduct environmental scanning. It will help them recognize opportunities arose from current technology and prepare to counter a potential threat. It can also be facilitated through flexible planning with reasonable planning horizon, and deep locus of planning. Third strategic management practice related to CE intensity is the control strategy. Financial control is the simplest control available, especially for small firms, while strategic control is more complex because it takes non-financial measures into accounts, such as consumer, internal business process, and innovation improvement. It is believed that bigger emphasize on strategic control will support corporate entrepreneurship.

3. Methodology

3.1. Research Subjects

This is a case study involving four SMEs in Indonesia. The first one (A) was a drop-off laundry service in Bogor. The business has one workshop and four outlets across the city. It employed 48 workers divided into four major workgroups, which were washers, pressers, delivery and administration. The second (B) SME was an outdoor-event organizer based in Bogor. The company has a relatively small number of permanent employees which consisted of administration and marketing. The instructors for their events were mainly freelancers. The third (C) SME was a Muslim apparel company that focused on manufacturing dresses. Their employees were divided into production-line workers, delivery, and administration. The fourth subject (D) was a hand-embroidered apparel company with around twenty employees. Three subjects have two levels of hierarchy, which
were top management (i.e. business owners) and middle managers. Only company A has three levels of hierarchy (i.e., director, general manager, and middle manager).

The subjects were chosen based on the purpose of the study, which were to investigate the level of CE intensity. One fundamental prerequisite must be met, the research subjects must show basic entrepreneurial behaviours (innovative, proactive, and willing to take risks). They should also be willing to be tailed by the research team for at least a year. To select the research subjects, the research team conducted a workshop and offered technical guidance to implement an organizational development intervention namely ISO 9001:2015. This intervention was deemed as risky, time- and resource-consuming, but if it was executed correctly, would generate a significant result for an organization [47,48]. The research subjects were then selected based on who were willing to join this ‘risky program’. Companies A, B, C, and D were the ones who proactively sought the opportunity to join. Thus, they were considered as research subjects that could best inform the research question [49].

3.2. Research Design
This is qualitative research. This research design was chosen because the study on CE intensity of Indonesian SMEs was limited and qualitative research is needed to provide an in-depth understanding [40]. The research process was divided into several stages. First, a literature review was done to identify the dimensions of CE and strategic management practices that relate to the intensity of CE. Literature were gathered from scientific databases (e.g., Emerald, JSTOR, and ScienceDirect). This process resulted in three CE dimensions and three categories of strategic management practices. Second, this study created an instrument to help with the interviews. The instrument has three parts. The first part assessed the CE intensity of companies, the second part explored the strategic management practices, and the third one asked about the number of employees and annual revenue. The part of the instrument can be seen in Table II. The third was data collection. The data were gathered through interviews and observation. To avoid bias, two measures were taken. First, data were collected from two informants in each SMEs. The answers from two informants were synthesized and this study ensured their convergence. Second, the answers were put into one to seven scale and further validated by the informants. The fourth step was data analysis. After all informants validated the CE intensity of their business, their answers were combined using a simple arithmetic mean and presented in Figure 1.

| Table 2. Corporate entrepreneurship intensity scale |
|---------------------------------------------------|
| **Low Innovativeness**                           |
| Selling products that were readily available; have been tested before | Conducting research, innovating, and being the pioneer in technology adoption |
| There was no new product or services               | There are many new products or services |
| Changes were usually small                         | Changes were usually dramatic |
| **Low Proactiveness**                             |
| Usually reacting to competitors’ moves            | Usually making the first moves which then being responded by competitors |
| Very seldom becoming the first small business that introduced new product, service, or technology | Very often becoming the first small business that introduced new product, service, or technology |
| Usually avoid competition                         | Usually positioning the business to compete |
| **Mild risk-taker**                               |
| Taking low-risk project with certain and low-expected-results | Taking high-risk project with unpredictable, but potentially high results |
| In uncertain condition, the business tended to be careful, wait-and-see in order to minimize costs | In uncertain condition, the business tended to be aggressive to maximize profit |
| In terms of changes in business environment, the best action was to be careful in exploring the situation | In terms of changes in business environment, the best action was to engage in various action to achieve the target. |

| **Highly Innovative**                             |
|---------------------------------------------------|
| **Highly proactive**                             |
| **Avid risk-taker**                               |
4. Results and Discussions

4.1. The General Level of Corporate Entrepreneurship Intensity Among Four SMEs

The CE intensity of SMEs in Indonesia is in medium-low range (see Fig 1). According to Barringer and Bluedorn [20] innovativeness of a company can be measured through the size of investment provided by the company to conduct the research, development, and creation of new products even though it might not be applicable for gaining commercial interests. This commitment can also be seen from the quantity of new products or services issued by the company within a certain timeframe. Companies that make dramatic changes are considered to have a higher intensity than the one with minor changes. In terms of innovativeness, SME B, C, and D often introduced new products or services. However, the new products or services offered by them were not radically different with their previous products or services. They relied on products that have been tested before. Put in the context of technology adoption, they did not want to adopt a technology that drastically changed their operation.

Proactiveness refers to the willingness to develop ideas from the opportunities found through research and trend analysis. This dimension requires companies to have future orientation; focus in formulating what to do to deal with change and competition in the future [32,50]. Proactiveness assists companies in creating competitive advantage by putting competitors in the position of ‘must respond to first-mover initiatives’. As we know, a first-mover advantage refers to the gains for being the first company to introduce a new product or service, establish brand identity, enter new markets, or adopt a new operation [24,51]. The level of proactiveness can be seen from the behaviour of firms in the face of future competition. Companies that initiate the first action and being the first to introduce new products or to adopt new ways are considered to have a higher entrepreneurial intensity than companies that only provide a response to competitor actions, very rarely be the first to introduce products or new ways, and prefer a posture of live and let-live [22].

In terms of proactiveness, all SMEs were engaged in a push and pull with their competitors. They did not always become the first-mover but were not totally reliant on competitors’ moves in deciding...
their next step. They adopted the stance of live and let live instead of trying to kill their competitors. Put into a technology adoption context, except for SME C, the rest of the subject did not proactively seek new technology to boost their performance. Technology adoption was considered only when the owners have previous experience with the technology or when there was a problem in the company (i.e. adopting ICT-based financial system to curtail fraud in the workplace).

How a company deals with risks that would occur is also a dimension that describes the intensity of corporate entrepreneurship. Courage to take risk has become an integral part in the entrepreneurship literature. In a business environment that is unstable and dynamic as today, risk management is a vital component in the strategic management and entrepreneurship consideration [52]. The risks which are well managed will create opportunities for the company. Organizations that do not take risks in a dynamic environment will lose their market share and unable to maintain position in the industry when faced with a more aggressive competitor [53]. Companies with high CEI will have a clear understanding of business and financial risks associated with entrepreneurial activity. Companies that prefer to do small projects with definitive results, taking the posture 'wait and see' to minimize risk, and too careful in dealing with the environment has a lower CEI than the companies that behave aggressively in the face of uncertainty with the objective to maximize potential. Companies with high CEI are generally willing to carry out high-risk projects with chances of getting a greater return [21,22,25,26,54].

Risk-taking is the dimension with lowest range point in this study. SMEs tended to choose low-risk projects with low and stable return. When they were faced with uncertainty, they tried to be careful, wait and see to minimize the risk of losing money. When there were changes in the business environment, they chose to be careful in examining the situation. Putting the technology adoption in context, SMEs saw a technology adoption as a big investment and the failure to fully utilize it will cripple their business since they did not have a large capital. That was why they tend to avoid adopting new technology. The subsections below elaborate the result of each company.

4.1.1. Company A
The informants form Company A were the Director and the General Manager. As mentioned before, to generate the final score, the arithmetic mean was used. For example, to obtain the result for Innovativeness, the answers for each indicator were summed and divided with the number of indicators as seen in equation 1. The subsequent results for Company B, C, and D were generated using the same equation.

\[ \bar{x}_1 = \frac{\sum x_i}{n} = \frac{2.5 + 2.7 + 2.8}{3} = 2.7 \]  

Table 3 shows the summary result for Company A. Company A was the least entrepreneurial compared to the other three companies especially in terms of Innovativeness. They relied on minuscule operational improvement based on the emergence of problems in the company. The owner and the managers were highly proactive when it came to knowledge improvement, but they tended to be extremely careful in a turbulent environment. They emphasized more on avoiding the risk of large cost rather than focusing on a potential high return from high-risk opportunity.

| Table 3. Summary result of company A |
|--------------------------------------|
| Low Innovativeness (1) | \( \bar{x}_1 = 2.5 \) | (7) Highly Innovative |
| Low Proactiveness (1) | \( \bar{x}_2 = 2.7 \) | (7) Highly proactive |
| Mild risk-taker (1) | \( \bar{x}_3 = 2.8 \) | (7) Avid risk-taker |
| CE Intensity | 2.7 | |
4.1.2. Company B
The informants for Company B were one of the owners and one of the staffs. Company B was the most entrepreneurial company among four SMEs (see Table 4). Company B focused on growth and expansion. They pride themselves on creating a variety of new services to cover several target markets. When this study was conducted, Company B was just an event-organizer of outdoor activities. They catered, mostly, to the needs of other organizations. However, they have a vision to develop their own outdoor activities venue, which can be enjoyed by people of all ages and to realize this vision, they continuously expanded their services. For example, they constructed a customized rooftop arena in malls to target children and test their business concepts. The profits were retained to build their equity.

Table 4. Summary result of company B

| Low Innovativeness (1) | $X_1 = 4.0$ | (7) Highly Innovative |
|------------------------|-------------|----------------------|
| Low Proactiveness (1)  | $X_2 = 5.5$ | (7) Highly proactive |
| Mild risk-taker (1)    | $X_3 = 4.3$ | (7) Avid risk-taker  |
| CE Intensity           | 4.6         |                      |

4.1.3. Company C
The informants for Company C were the owners of the company. The highlight of their answers was their tendency to avoid risk (see Table 5). Minimizing potential cost in the future was one of their most important concerns. This might be because they operated under a slim profit margin and they were almost crippled by previous defect-related costs. It was essential for them to avoid higher cost, so that they could still enjoy a healthy cash-flow. In terms of proactiveness, Company C projected their production and price based on their big competitors in the market. Nevertheless, they were passionate to learn about new production technology and marketing strategy even though they did not necessarily implement them.

Table 5. Summary result of company C

| Low Innovativeness (1) | $X_1 = 3.7$ | (7) Highly Innovative |
|------------------------|-------------|----------------------|
| Low Proactiveness (1)  | $X_2 = 3.7$ | (7) Highly proactive |
| Mild risk-taker (1)    | $X_3 = 1.8$ | (7) Avid risk-taker  |
| CE Intensity           | 3.2         |                      |

4.1.4. Company D
The informants for Company D were the owner and one of the production staffs. Company D’s CE intensity was slightly below Company B (see Table 6). They were not as proactive or willing to take risk as Company B, but they invested in R&D activities. They invested on equipment to design new clothing patterns and models and they also realized the importance of analysing feedback from their distributors, resellers, and consumers. In addition, they also routinely assess their production and storage log to find ways to reduce production and distribution time. However, similar to the three other companies, they also tended to shy away from risk and chose to minimize cost in a turbulent condition.

Table 6. Summary result of company C

| Low Innovativeness (1) | $X_1 = 5.0$ | (7) Highly Innovative |
|------------------------|-------------|----------------------|
| Low Proactiveness (1)  | $X_2 = 4.2$ | (7) Highly proactive |
| Mild risk-taker (1)    | $X_3 = 4.0$ | (7) Avid risk-taker  |
| CE Intensity           | 4.4         |                      |
4.2. Strategic Management Practices: Lessons from Company B

In terms of strategic management practices, it was not about whether a practice was adopted, but about the emphasize the SMEs given to each practice. As mentioned in the literature review, this study limited the type of strategic management practices to three, which are environmental scanning (method and frequency), planning (locus), and control (strategic and financial).

4.2.1. Environmental Scanning: Barringer and Bluedorn [20] suggested that environmental scanning refers to the managerial activity in learning events and trends within the organization. Hambrick also mentioned that environmental scanning is the basic unit of analysis that can facilitate the ability to recognize external environment. Organization's external environment includes knowledge and information about competitors, consumers, government regulations, changes in the macro economy, and issues, new trends [55] and new technology.

This study found that Company A, C, and D did not proactively scan their environment especially on the emergence of new technology that can boost their performance and the latest regulations regarding their business. They mostly concerned themselves with competitors and market, but not new technology to manufacture their products or deliver their services or regulations that might hamper their businesses. Company B, on the other hand, constantly tried to find an ‘easier way’ to do business. They adopted e-marketing and proactively collected information on the latest regulations, so that they could win tenders from government institutions.

4.2.2. Planning. Action plan is desired by companies and without a plan, the company will be swayed by environmental influences. Planning helps ensure that all work done by members of the organization is coordinated, not leading to different directions, and includes future predictions as a factor to consider. With a plan, the work will be coordinated, the employee will be facilitated to conduct long-term thinking, the company will have better control, and employees tend to give commitments to keep the business going according to plan. However, planning also has several drawbacks, among others: the uncertainty of forecasting, the use of assumptions which are prone to changes, stiffness, and sometimes, plans tend to inhibit change.

Ideally, to get a proactive, innovative, and realistic plan, companies should have deep locus of planning. Deep locus of planning indicates that all employees of every level of hierarchy within a company involved in the planning process. Deep locus of planning is demonstrated in the form of top-level managers desire to facilitate and support the entrepreneurial behaviour in firms; in line with the commitment of top-level managers to tolerate failure, provide freedom from excessive monitoring, and delegate authority and responsibility to middle and lower-level managers [7,10].

Comparing Company B with the rest of the subjects, this study found that Company A, C, and D rarely encouraged the involvement of employees in their planning process. This probably because their employees were not highly educated. However, the non-involvement of employees means that SMEs are losing valuable insights that might be relevant in terms of technology adoption. There was always a probability that the low-level employees were exposed to a low-level or a simple technology that can be useful for the SMEs.

4.2.3. Control. Controlling employees influences what they actually do [56,57]. Purpose of the control system is to ensure that business strategy really brings the organization to the right paths in achieving predetermined goals and targets. In the context of this study, if the company wants to stimulate the entrepreneurial intensity of firms, then it should use a control system that supports innovativeness, proactiveness, and risk-taking.

There are two types of controls that are relevant to the issue of entrepreneurship, namely financial control and strategic control. In most companies, both controls are generally used together. Financial control is based on financial criteria such as net income, sales, and ROE [58,59]. Financial control is a concept that is clear and unambiguous because of the discipline in the implementation process. Financial control is an easier instrument to use than strategic control. It is often used as a means of
controlling tools and corporate performance measurement. However, financial control does not trigger entrepreneurial behaviour in the company because the standard used in the financial controls are very stiff and has been determined from the start so often do not provide room for companies to innovate. In contrast, strategic control could pay tribute to the creativity and the use of the opportunity through innovation.

This study found that Company A, C, and D preferred to measure their performance using a financial control rather than strategic control because it was easy to conduct. For them, the financial bottom line was the most important thing. However, this might be the reason why their CE intensity and consequently, their willingness to adopt new technology was low. They think that adopting technology is a big investment and for a short period, it would hurt their balance; making their financial performance looks poor. Company B, on the other hand, focused on growth. They were inclined to sacrifice short-term profit to expand.

5. Conclusion
For SMEs to be willing to adopt new technology in the 4.0 industrial era, they need to have a high CE intensity which existence can flourish under the support of strategic management practices. This research tried to capture the CE intensity of Indonesian SMEs and the underlying strategic management practices (i.e., scanning, planning, and control). This study found that (i) the CE intensity of SMEs in Indonesia is in the medium-low range. They were not proactive, innovative, and brave enough to adopt new technology and (ii) There are strategic management practices that can be learned from a company with high level of CE intensity.

The first implication was that managers or owners need to do a more intensive environmental scanning to identify new technology, involve their employees in planning process to capture more insights, and rely on both financial and strategic control in order to foster a more entrepreneurial thinking. The second implication is related to government support. Indonesian SMEs have a very limited resource in terms of R&D and it would be too risky for them to invest on R&D activities heavily. The government should invest in risk-sharing schemes with SMEs in terms of R&D like what have been done by Ireland [60] and Malaysia [61].

This study has limitations. First, this is qualitative research to explore CE intensity in four Indonesian SMEs. The results could not be generalized to other SMEs. Future research should aim to validate this CE and Strategic Management Practices pattern using a quantitative study specifically for Indonesian SMEs. Second, this study only considered the CE intensity as the impact of strategic management practices. Likely, there are other variables that might affect the CE intensity. Future research should explore other frameworks that can complement strategic management practices so that CE intensity can be better explained.

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