THE ROLE OF STATE-OWNED ENTERPRISES IN GLOBAL ENVIRONMENTAL ENGAGEMENT*

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Abstract

The purpose of this study is to conduct an investigation concerning the role of state-owned enterprises in global environmental engagement over the period of 1993 to 2018. To meet that aim and o be able to identify which studies have been discussed and whatever the classification of research is the topic of research, a systematic study was conducted. Systematics of data processing uses mapping/mapping methods obtained from the Scopus database. The mapping findings indicate that 143 articles discuss the strategies of state-owned enterprises to create a sustainable competitive advantage. The novelty of this research is the benefit of information for the first academics, who are aware of the strategies of state-owned enterprises that have developed so far. Secondly, for practitioners, benchmarking the strategies of their state-owned enterprises or making predictions on strategies so that sustainable competitive advantage can be maintained. And finally, we attempt to evaluate if the state is able to use its more visible hand, through stakes in public corporations, to lunch its environmental policies. Based on the results, it can be concluded that modern State-Owned Enterprises (SOEs) may have emerged to play an essential role in coping with environmental externalities.

Keywords: global environmental engagement, Indonesia, state-owned enterprises, sustainable competitive advantage

1. Introduction

Policymakers have devoted substantial attention to companies’ exposure to climate change and other environmental issues. However, the traditional means and green industrial strategies possible to governments, such as forcing carbon taxes or granting research subsidies to promote green technology, are vital in theory, vague in practice (Vorobev et al., 2020).

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The industrial era 4.0 requires digitalization in company operations (the future of manufacturing industry: a strategic roadmap toward Industry 4.0, auctions and supply chain supply (Procurement 4.0: factors influencing the realization of procurement and supply chains, Florian Bienhaus). On the other hand, it is also necessary for the company to carry out a strategy for business development and environmental preservation to create a competitive advantage for the company (Porter, 2006; Sitdikova et al., 2020). So far, empirical studies of strategies in state-owned enterprises related to the development of knowledge management capacity and environmental preservation, intellectual capital, market sensing, environmental issues, and innovation involving entrepreneurial behavior are still few. Exploring the company's internal and external capacity so that opportunities for increasing company profits are still underestimated. Likewise, the exploitation of the capacity and capabilities possessed by the company is very little researched (Luke and Verreyne, 2006; Luke et al. 2011).

State-owned enterprise companies should conduct strategic entrepreneurship as stated (Hitt et al. 2001) because entrepreneurship in organizational order can improve company performance. The need to change the mindset of individuals and organizations is expected to be able to repeat organizational culture through the process of strategic resource management for the company and through the application of creativity and development of innovation whose results lead to prosperity for the company (Hitt et al., 2001). With the application of creativity and development of said development, the company will have sufficient resources to create the value that is different from other competitors, and that added value will create a competitive advantage (Njuguna et al., 2015). Sustainable Competitive Advantage is different from Competitive Advantage. Because sustained competitive advantage could only be achieved if other competitors are unable to replicate the benefits of competitive advantage (Lippman and Rumelt, 1982).

The RBV perspective suggests that valuable resources, scarce resources, and resources that cannot be replicated can have a lasting relative advantage over competitors. RBV broadly defines resources as assets, capabilities, knowledge, and organizational processes (Bharadwaj and Menon, 2000), identified by core competencies. RBV also recognizes the potential for value formation as the sum of organizational capital, knowledge, and capabilities.

Intellectual capital and global environmental engagement are considered as key drivers of competitive advantage, based on the resource-based view of the firm. A business firm that operates in this modern economy should value intellectual capital as the most important asset over its other assets. Therefore organizations are suggested to integrate the management of intellectual capital into their strategic efforts. Nowadays Knowledge is considered crucial for an organizational asset. knowledge can be interpreted as information, skill, experience, and expertise. However, the information in an organization alone cannot guarantee the organizational success and sustained competitive advantage unless the knowledge itself is managed with a proper system (Shahzad et al., 2016).

Knowledge management can be defined as A management tool that is characterized by a set of principles along with series of techniques and practices through which the principle is introduced, the aim is to create, convert, disseminate and utilize the said knowledge (Vorobev et al., 2020). The results of this study are expected to enrich the concept of strategies carried out by state-owned enterprises so that they are aligned to maintain a sustainable competitive advantage and proper environmental engagement. This writing consideration refers to the need for communication for academics and the world of practitioners to understand each other comprehensively approaches in the company's strategic needs. Variations in research locus, type of industry, type of research, and research methods of each article were examined through graphical exposure to facilitate discussion of the problem.
The role of state-owned enterprises in global environmental engagement

2. Systematic mapping study research method

To investigate the company's strategy in state-owned enterprises, a literature study was conducted that could systematically map the topic. Systematics and procedures for systematic mapping study refer to the opinion of (Kitchenham, 2004), and (Petersen et al., 2008).

![Fig. 1. Type systematic mapping process](image)

The question that was tried in this research was (RQ1) how research related to the strategy used by State-Owned Enterprises (RQ2) research approach was carried out in strategy research on State-Owned Enterprises (RQ3) locus and industry whether strategic research State-Owned Enterprises (RQ4) companies do how to challenge strategic research in state-owned enterprises. Information from research data is obtained from Scopus with the keyword "state-owned enterprises" AND ("sustainable competitive advantage" OR "strategic entrepreneurship" OR "intellectual capital" OR "knowledge management") with DOCTYPE exclusion criteria, "ar" AND LANGUAGE, " English "AND SRCTYPE, " j " on November 25th, 2018. Automatic results from data search there are 143 accessible research articles. Information from the textual articles obtained was then collected, categorized, and modified for further analysis.

3. Results

3.1. Research related to strategies for state-owned enterprises

3.1.1. Type of paper and year of publication

Articles based on paper types are grouped into 5 (five) categories, namely validation research, evaluation research, solution proposals, philosophical papers, and experience papers (Petersen et al., 2008). The following information based on the paper type refers to the opinion of (Petersen et al., 2008):

a) Validation research: i.e. articles that are experiential, investigate, test, diagnose, and identify areas for improvement.

b) Evaluation Research: i.e. articles that have the character of providing assessment and collecting relevant information to provide feedback or feedback.

c) Solution proposal: i.e. articles that contain ideas and solutions proposed to overcome certain problems. Solutions can be new and not yet practiced or solutions that already exist and have been practiced.

d) Philosophical paper: an article that seeks to provide a discussion of new ideas or concepts that have not been practiced.

e) Experience paper: i.e articles made based on the author's personal experience.

The grouping of articles based on the year of publication and the paper type shows that the trend of increasing scientific publications took place at the intervals of 2014-2018, namely as many as 87 articles. Where the dominance of paper type is validation research as many as 50 articles.
These conditions indicate that the theme of the research was mostly carried out to support the practice of State-Owned Enterprises.

![Type of paper and year of publication](image)

**Fig. 2.** Type of paper and year of publication

### 3.1.2. Country of publisher

The grouping of articles by publishing country is dominated by China with 46%, followed by USA with 7%, then Russia with 5%, and England with 5% of all articles. China is the largest contributor to research because the state shares control about a third of the total shares of listed companies in China (Rong et al., 2017).

![Country of Publisher](image)

**Fig. 3.** Country of publisher

### 3.2. Research approach

Figure 3 shows that the most widely used research approach is a case study of 55 articles (38.46%) and Correlation and Regression Analysis of 49 articles (34.27%).
3.3. Locus and industry

Grouping articles based on locus research shows that previous research on Sustainable Competitive Advantage was conducted on State-Owned Enterprises (SOE), Private Owned Enterprises (POE), Foreign Owned Enterprises (FOE), and Firms. Figure 4 shows that most locus research was found in articles with a locus of research on SOE as much as 52.4%.

3.4. Research challenges

This research covers several business models, such as SOE, FOE, POE and Firm. In order to understand the research challenge, we need to elaborate the said abbreviation. SOE State-Owned enterprise, SOE are known by many terms such as government corporations, government business enterprise, government-linked companies, prastatals, public enterprises, public sector units or enterprises and so on. To put it simple, SOE is a business enterprise where the government has a significant control either in full, majority, or significantly (Sitdikova et al., 2020). FOE or Foreign
owned enterprise, is defined by European commission as “a foreign company setting-up subsidiaries or branches to provide services in another country”.

A private enterprise is one that private citizens own or control. This can be anything from sole ownership to large publicly traded corporations. Rather than the government, the owners choose the board of directors of a private enterprise, and profits distributed among the owners or shareholders. The government has no direct say in the running of the enterprise. This type of enterprise is also known as free enterprise. A firm is a for-profit business organization - such as a corporation, limited liability company (LLC), or partnership - that provides professional services (Samad et al., 2016). Most firms have just one location. However, a business firm consists of one or more physical establishments, in which all fall under the same ownership and use the same employer identification number (EIN). Within this studies there were many point of view based on where the said research are conducted, state-owned enterprises (SOEs) have many forms shape and sizes however most of them encounter more or less a same pattern of problem.

SOEs (State Owned Company) is widely understood as a homogenous group that fallen behind from non-state enterprises. The failure of state-owned enterprises (SOE) has been so severe that it caused serious delays in national economic, social and technological progress and incurring significant financial losses (McKinnon, 1994). SOE also hamper the growth of private companies by seeking government protection. Government officials often respond by providing generous loans, which further protect SOEs from free market discipline (Snowden 2007). Previous research has shown that managers of Chinese SOEs have found that they have the same concern for security and are more likely to avoid risky decisions when faced with an uncertain environment (Adler et al., 1992; Justin Tan and Litschert 1994) Since SOE managers are often politically appointed people, they tend to be “extra conservative” and place security as priority above innovation. It also documents that SOE managers are more risk-averse and less innovative than their fellow POE entrepreneurs (Bharadwaj and Menon, 2000; Goksoy et al., 2013).

Under these conditions, SOEs need to develop in various ways. Privatization is a popular strategy for restructuring the national economies of developed and developing countries. This strategy is focused on promoting the power of the free market system by converting state-owned companies into private companies and changing their systems of ownership and management. These changes can and will change organizational culture and encourage risk-taking, innovation, and entrepreneurship (Snowden, 2007).
Entrepreneurship involves finding and taking advantage of opportunities. According to Schumpeter, this means introducing new products and processes, designing new organizational structures, and winning new markets. In existing companies, entrepreneurship is not limited to introducing and exploiting product and process innovations and creating new businesses. Entrepreneurship also requires periodic adaptation to restructure and re-strategize, which could lead to relieving some businesses or redefining domains.

Knowledge, in a corporate context, can be described as 'justified right belief' that enhances its capacity for effective action. Knowledge is also described as a flowing mixture of framed experiences, values, contextual information, and expert insights that allows companies to structure the same to include new experiences and information (Basu, 2013). On the basis of the knowledge-based view of the firm (KBV), Knowledge-related resources have continuously been recognized as an important strategic asset and further contribute to superior organizational performance (OP) and sustainable competitive advantage in a dynamic and challenging environment (Donate and Guadamillas, 2015).

KM processes are generally defined as activities related to knowledge acquisition, creation, sharing, and utilization or applications that enhance organizational competitiveness. On the other hand, KM enabler refers to all factors such as organizational structure, leadership, culture, and incentives that facilitate KM processes or activities (Al-Hakim and Hassan, 2016; Ho, 2009). KM is necessary for successful change implementation (Imran et al., 2017) and the accomplishment of organizational goals (Al-Kurdi et al., 2018). First, in the KM arena, a major challenge posed to management researchers and practitioners is how to effectively manage organizational knowledge.
Previous research conducted in the commercial environment suggests that an integrated and methodical KM strategy that incorporates KM enablers and KM processes is crucial to ensure effective KM that leads to increased innovation and Organizational Performance (Ho, 2009; Zack et al., 2009).

The research is located in the state-owned enterprises dominated by qualitative research with 27 types of research validation research and 31 studies. Whereas research compares research on Foreign Owned Enterprises and state-owned enterprises, Private Owned Enterprises and state-owned enterprises and the combination of the three is still small. Research conducted at State-Owned Enterprises is dominated by quantitative research with 35 types of validation research and manufacturing industries.

![Fig. 8. Type of research and research method of Locus Industries related to sustainable competitive advantage in the state-owned enterprises](image)

4. Conclusions

Consider that this is an experimental study that focuses on identifying areas of research that are covered by researchers who are different in the company's strategy on state-owned enterprises. The study's findings illustrate the social outlook that SOEs have more substantial incentives to address environmental externalities, in addition to the well-documented agency view that concentrates on SOE managers’ deficiency of decent incentives. The economic theory proposes that the private sector seeks profit maximization, while the public sector may fix market failures, such as environmental pollution.

Knowledge is the main resource that shapes organizational capabilities or knowledge-based capital. However, knowledge remains isolated and stored in the minds of individuals or at certain levels of administrative units. It is difficult for organizations to take full advantage of the available knowledge and to accumulate or develop intellectual capital from it. Whereas, the effective application of Knowledge Management Processes strengthens organizational learning at all levels by promoting human resources and personal experiences to formulate new ideas for developing and marketing new products.

Knowledge management aim is to create, convert, disseminate, and utilize the knowledge to create innovation. Product innovation is a must, but not a sufficient condition for companies to become entrepreneurs. To become entrepreneurs, companies must be proactive, Strategic entrepreneurship is the integration of entrepreneurial behavior or opportunity seeking and a strategic profit-seeking perspective in developing and taking actions designed to create innovations to build market or technology leadership.
Innovation enables businesses to bring new or better products to the market before their competitors and thereby increase their market share. Some organizations have succeeded and thrived because of innovation, which created a competitive advantage for them. Innovation is a strategy that companies use to create competitive advantage, produce things others can't, do things better than others, or introduce superior, cheaper, and faster services. This strategy enables organizations to create long-term competition by accumulating knowledge, skills in technology, and experience in creativity and development and introducing new ideas in the form of product innovation, process innovation, or business model innovation.

Competitive advantage can be generated from goods and services that show extraordinary differences from typical products in their respective domains or which have lower costs than competitors, the component of competitive advantage stems from a business's ability to maximize the efficiency of its production processes, to develop high-quality goods and services, and to develop services to which customers respond with high levels of satisfaction.

The results showed that State-Owned Enterprises need to implement Strategic entrepreneurship to create innovation so that sustainable competitive advantage can occur. The resource-based view is defined as resources that are assets, capabilities, knowledge, and organizational process.

So to achieved SCA intellectual capital is carried out in conjunction with knowledge management because KM is a tool for using these intellectual assets.

The existing literature places greater emphasis on validation research in general and manufacturing subjects. In this subject, general subjects are biased towards Quantitative methods, then manufacture subject areas are biased towards Quantitative methods and Qualitative methods. In addition, In this study, financial performance factors and those related to tangible factors were not included in the research. Intangible factors are more prominent in these studies because RBV is the background of this study. Furthermore, future investigations must focus on applying more complex methodologies that lead to conclusions of relationships or conclusions between variables, as can be seen in the covariance structure model.

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