

Determinant of Organizational Innovation: Literature Review

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ABSTRACT

Organizational innovation is an important factor for companies to achieve more competitive performance. Understanding how innovation capabilities emerge, develop, and apply can make important managerial scientific contributions. This study investigates the results of the main study on the determinants of organizational innovation capability, suggests some theoretical propositions for further studies based on the literature review. This study aims to identify the determinants of organizational innovation capability and the context in which the study is conducted. We identified and analyzed 43 articles through content analysis via Google Scholar. This study presents several results of studies on innovation capability in organizations, which are divided into determinants, internal, external aspects, and a collection of propositions to guide a research project in depth in questions that will be tested in further research. This study also makes a practical contribution, as it shows in which context each study of the identified determinants of innovation capability is applied.

Key Words: Organizational Determinants, Innovation Capability, Internal Factors, Eksternal Factors

INTRODUCTION

The importance of innovation for competitiveness is recognized by various parties. On the other hand, understanding the meaning of innovation is a bit more general, especially in academia (Birkinshaw et al., 2008). Studies are mostly focused on technological innovations to the exclusion of other types of innovation. This is because innovation is not a simple act of the company and vice versa, is completely dependent on some new actions and treatments or changes so that the company improves in terms of competitiveness.

Building innovation capability is not a simple task from an operational point of view, as it requires a decision-making process as an impetus in the company's efforts to be innovative and create a culture of innovation among employees and within the organization as a whole. The innovation capability emphasizes the team within the organization to build processes, products, and services by customers and suppliers

(Henderson & Clark, 1990), proving to the company and competitive in the long run to the company (Wernerfelt, 1984; Barney, 1991).

The ability to innovate can be learned in the internal environment, understanding how capacity originates, how it is built, developed and managed (Schneckenberg et al., 2015) as well as in the external environment, directed at relationships with suppliers, building social relationships and trust, and sharing information to generate innovation. (Kulangara et al., 2016).

Crossan & Apaydin (2010) used a systematic literature review and identified the most common theories in the study of innovation capability, namely the resource-based view, organizational learning, and network theory. The authors also identified the determinants of innovation capability, grouping them into individual/group level, organizational level, and process level. The determinants of innovation capability based on a systematic review of the literature, namely transformative leadership, strategic intention to innovate, people management for innovation, customer and market knowledge, strategic technology management, organizational structure, and project management (Valladares et al., 2014). This study presents the results of several studies on innovation capability in organizations, divided into internal, external and determinants of innovation ability and proposes guidelines for future study projects.

In this study, we carried out a systematic literature review, not only to build a theoretical discussion on innovation capability in the internal and external environment of organizations and in the context of different small firms and countries, but also to identify the determinants of innovation capability aimed at obtaining subsidies. for hypotheses to be tested in future studies. Based on the results of this study, we intend to answer the question: what is the determinant of organizational innovation capability and in what context is this study?

Systematic literature review is an important methodological tool when the subject to be studied is broad. However, it must be done with criteria and based on organized and clear steps (Tranfield et al., 2003). In this study, we selected 43 articles from Google Scholar available from 2000 to 2020. This study is structured as follows: introduction; methodological procedures for the construction of a systematic literature review; The results and discussion bring about the literature's contribution to innovation

capability in the internal and external environment and the determinants of innovation capability as well as final considerations.

METHOD

To identify eligible studies, we used an electronic article search strategy via the internet with the search parameters "Capability for innovation and Determinants of innovation capability" which was not limited to organizational form in the period January 2000 to December 2020 and produced 43 articles.

The use of this simple strategy still guarantees articles that have the potential to qualify on the topic of capability of organizational innovation. However, the researcher must admit that the researcher may have missed the study on capability of organizational innovation which goes deeper into using more precise search tools.

Before we begin reviewing articles for possible inclusion in our systematic literature review, we identify six inclusion criteria, which will be discussed below:

1. Topic centrality: Capability for innovation should be the focus of the article, meaning we exclude articles where Capability for innovation is only included as a supporting variable (not subject)
2. Respondents: the subject in the article is not limited to a particular subject
3. Study design: We included empirical and theoretical studies, as we were interested in the ratio between empirical and theoretical work and the question of how concepts are defined in both types of studies. All study designs (case studies, experiments, etc.) were included in this study.
4. Year of publication: We include all studies published in all periods up to December 2020 that support this study.
5. Language: we only include studies written in English and some Indonesian.
6. Publication status: To ensure that we disclose high quality studies on Capability for innovation from Scopus indexed journals.

Researchers carefully assessed the validity of the study in terms of methods and resulting impact (Booth, Sutton, & Papaioannou, 2016). While not limiting the time of article publication, the researcher stopped the search when the articles obtained met the strict model benchmarks. We systematically filter based on the theory and views of several experts regarding Innovation and innovation capabilities. Innovation capability

emerged from the Resource-Based View (RBV) theory, which proposed that resources are strategic for competitive advantage (Barney, 1991). RBV has a theoretical framework that allows identifying internally the resources and capabilities of a company to generate competitive advantage and thus prioritizing them. Companies that successfully assess their resources and capabilities perform better in the market (Wernerfelt, 1984). Resources are very important for companies that aim to achieve long-term competitive advantage (Barney, 1991).

According to Schumpeter (1934) innovation is the introduction of new products, processes, and markets, as well as the development of new sources of supply. Organizational innovation is the development of new products, services or improvements and their success in bringing products or services to consumers (Gunday et al., 2011). Conventionally, the term innovation is defined as a breakthrough related to new products and services. Jimenez & Valle (2011) define innovation as a broader concept that addresses the application of new ideas, products or processes. Innovation is a fundamental ability to maintain competitive advantage. Companies are required to be able to create thoughts, ideas, and offer innovative new products and service improvements for customer satisfaction (Hilmi et al., 2011).

According to Jahangir et al. (2013) innovation is one of the key factors for the long-term success of companies in the business environment, especially in competitive markets. Organizations must be able to adapt to maintain competitiveness in a competitive business environment. More innovative firms can address environmental challenges and take advantage of market opportunities than less innovative firms. The ability to innovate is fundamental to being able to maintain competitive advantage, meaning that innovation is very important for the survival of the company (Iskan et al., 2014). Managers must create an organizational climate that promotes the development of the capabilities necessary to innovate.

In essence, innovation is doing something different and has added value. In addition, innovation is related to the development of new production methods and the formation of new management systems (Crossan & Apaydin, 2010). Dynamic environmental conditions require the ability of innovation to adopt new products and processes in order to increase company profits (Roger, 1995). Innovation capability is the most important determinant of company performance. This includes implementing

new ways of identifying the wants and needs of the internal and external environment.

Innovation is success in implementing creative ideas in organizations by taking into account the work environment and organizational factors (Amabile et al., 1996). According to Calantone et al. (2002) innovation as a mechanism of the organization's ability to generate new ideas, products, processes, and systems needed to adapt to changes and market competition. The opinions of some of these experts provide an understanding that innovation is a novelty of production or adoption, assimilation, and exploitation in the economic and social fields. This shows that efforts to increase innovation are needed by all types of organizations, namely service and manufacturing companies. Companies must pay attention to factors that can increase organizational innovation in order to be able to provide added value for product creation and service renewal for consumers.

Innovation contributes to competitive advantage for firms and therefore many researchers seek to understand how to improve firms' ability to innovate, as this makes firms more competitive and perform better financially (Henderson & Clark, 1990). An understanding of the ability of innovation is explained by the experts as follows.

Production, assimilation and exploration of value-added novelties in the economic and social fields; product, service and market renewal and expansion; development of new production methods; the establishment of a new management system; what is mentioned is process and result, (Crossan & Apaydin, 2010). Innovation is not only new products or better services, but also the success they can provide in the marketplace. Innovation ability can be understood as the ability to mobilize employee knowledge in combination with other new knowledge, resulting in new products or processes.

The definition of innovation capability in administrative science has always been a challenge, because organizations, researchers and fields of study (marketing, production engineering, strategy) have different perceptions of the subject. In a broad definition, Lawson & Samson (2001) proposed that innovation capability refers to the ability to continuously transform ideas and knowledge into new processes, products and organizational systems into utility to customers. For Lawson & Samson (2001), innovation capability concerns how companies can extract knowledge from routine exploration activities and innovative exploration activities. This means that the concept is related to the company's ability to properly manage the company's internal resources

for innovation and at the same time seek knowledge and skills in the external environment.

Developing a routine of activities that contribute to organizational innovation is not simple, as it requires planning to introduce a culture of innovation into the company. To innovate, companies need personnel who are able to analyze, interpret, and relate internally and with stakeholders who identify opportunities for information sharing and innovation (Henderson & Clark, 1990).

RESULT

Internal Factors of Innovation Capability

Internal factors of innovation capability are presented in the table below:

Table 1. Internal Factors of Innovation Capability

Internal Factors (Authors)	Short description
Intellectual capital (Subramaniam & Youndt, 2005)	Ability for additional innovation
Guidance for learning (Calantone et al., 2002)	Innovation capability and organizational performance are influenced by learning
Sharing knowledge (Lin, 2007)	Organizational innovation capability seen from the aspect of human resources
Human and technological aspects (Prajogo & Ahmed, 2006)	Human Resources on technology aspects to encourage innovation
Total Quality Management (Perdomo-Ortiz et al., 2006)	Organizational innovation capability is influenced by Total Quality Management System
Standardized systems (Mir et al., 2016)	organizational innovation ability is influenced by Standard Une 16600
Forecast Capability (Rohrbeck & Gemünden, 2011)	forecasting capabilities that drive organizations at the process stage
Microfoundations (Schneckenberg et al., 2015)	Organizational structures and processes, managerial improve organizational innovation capabilities
Exploration orientation (Wang & Dass, 2017)	Managers have a strong impact when the firm has more resources and when the environment within the firm is less competitive

Source: Elaborated by the authors, 2023

Most of the internal factors are related to human factors in the organization, meaning that companies that have a strategic orientation that focuses on training personnel for innovation can build innovation capabilities more easily. Thus, Proposition 1 emerges: companies that invest in the human factor, seeking to implement an environment conducive to learning, sharing information, seeking intellectual capital and exploratory orientation successfully establish companies by enhancing their innovative capabilities.

In the analysis of internal factors, the ability to innovate, strategic organizational structure and management model that focuses on innovation allows companies that have an organizational management model that is directed at innovation to have better conditions to compete. This leads to Proposition 2: organizations with an innovation-focused internal organizational environment with well-defined structures, standardized systems, organizational/managerial processes and procedures, and well-designed forecasting capabilities can more easily acquire and maintain their capacity for innovation.

External Factors to Innovation Capability

External factors of innovation capability are presented in the table below:

Table 2. External Capability for Innovation

External Factors (Authors)	Brief description
Strategic alliances (Hagedoorn & Duysters, 2002; Sen & Egelhoff, 2000)	Improvement of organizational innovation capabilities in the form of new products and services using strategic alliances to seek competence in the external environment
Clustering of companies (Sher & Yang, 2005)	The ability of innovation will have a positive effect if it is grouped properly
Technology parks (Lai & Shyu, 2005)	The ability to innovate in technology cannot be separated from human resources, infrastructure, the level of customer demand and a more organized local context
Social responsibility (Lai et al., 2015)	The company's innovation ability is influenced by social responsibility that leads to company sustainability
Forecasting capability (Rohrbeck & Gemünden, 2011)	A vision for innovation, providing a portfolio and identifying competitors' new business models are contained in the strategic plan. followed by an initiative plan that triggers innovation initiatives by identifying new customers and technological developments
Suppliers (Kulangara et al., 2016; Liu et al., 2015; Swink, 2006)	Suppliers can enhance a company's innovation capabilities, resulting in greater development flexibility, better product quality, shorter product development times, and lower costs.
Social networks (Palacios-Marqués et al., 2016)	Social networks positively affect the transfer of knowledge in organizations. This knowledge helps companies to achieve greater development competencies
Communities of practice (Pattinson et al., 2016)	Internal community enhances knowledge transfer and enhances innovation capability
Relationship with customers (Foroudi et al., 2016)	The company achieves customer loyalty and improves its reputation if the company manages to improve its relationship with customers to develop technical and non-technical innovation capabilities

Source: Elaborated by the authors, 2023

The results of the study of external factors of innovation capability show that when companies interact strategically and in a planned manner with the most diverse stakeholders, it is possible to acquire innovation knowledge to improve business processes and thus be recognized/legitimized by the parties involved. This enables

Proposition 3: companies that strategically engage with their stakeholders to acquire knowledge and improve business processes can achieve and sustain their innovation capabilities.

In an integrative perspective between innovation capability in the internal environment (presented in the previous section) and innovation capability in the external environment, we identify nine dimensions for evaluating internal innovation capability (Table 3) and nine dimensions for innovation capability externally. environment (Table 4). Thus, 18 different dimensions can be tested in future studies to identify the factors that determine an organization's innovation capability.

Determinants of Innovation Capability

Identifying the determinants of innovation capability is an important managerial tool, as it provides a means for organizations to measure their innovation capabilities and assists in strategies for implementing and improving innovation capabilities in companies. In Table 3, six publications are presented, based on the criteria presented in the systematic literature review methodology, which propose the determinants for the evaluation of innovation capability:

Table 3. International Literature on Determinants of Innovation Capability

Authors	Factors
(Saunila, 2016).	Leadership, environment and well-being, organizational structure, capacity building, regeneration and individual activities
(Vicente et al., 2015)	Ability for product development, organizational culture on innovation, strategic and technological capabilities
(Slater et al., 2014)	Leadership, organizational culture, organizational structure, product innovation development, and marketing strategy
(Frishammar et al., 2012)	Strategy, collaboration and organizational culture
(Fan, 2006)	Research and development, and employee empowerment, government support, partnerships with research institutions and collaboration with other companies
(Romijn & Albaladejo, 2002)	Professional experience of owner/manager; workforce skills; and internal efforts to improve technology, and the intensity of the relationship, proximity to the network; and government support
(Calantone et al. 2002)	New ideas, creative processes, new products and services, new ways or methods
(Jimenez dan Valle., 2005)	Administrative innovation, technology innovation, product innovation, process innovation
(Lin., 2007)	New ideas, new methods, creative, leading product and service marketing, risk management, product introduction
(Crossan & Apaydin., 2010)	Product innovation, process innovation, business model innovation
(Ho., 2010)	Technical innovation, marketing innovation, administrative innovation
(Huang & Li., 2009)	Administrative and technical innovation

Authors	Factors
(Ar & Baki., 2011)	Process and product innovation
(Slavkovic & Babic., 2013)	Administrative and process innovation
(Wang & Tsai., 2013)	Technical and administrative innovation
(Setyanti et al., 2013)	Product, process and managerial innovation
Source: Elaborated by the authors, 2023	

Table 3 shows important contributions to the study of innovation capability. In column 1, we synthesize the factors selected by the authors to study innovation capability in organizations. In column 3, we can visualize the particular sector or type of application that is best suited for each study being evaluated. Each of these studies is then presented.

Several studies have focused on the innovative potential of small businesses. Identifying ways to measure innovation performance in small businesses can be an important managerial and academic tool. A study based on a literature review identified seven determinants for assessing innovation capability in small firms: leadership culture; environment and well-being in the workplace; structural organization; skills development; external knowledge exploration; regeneration; and individual activities (Saunila, 2016). Product innovation is the lifeblood of companies that compete in a dynamic environment. The ability to radically innovate in products is a complex configuration in organizations, which requires adequate linkage of components: senior leadership, organizational culture, organizational architecture, radical processes of product innovation development and product launch strategies (Slater et al., 2014).

Process innovation can be an important competitive difference in organizations. From an extensive literature review, Frishammar et al. (2012) obtained three factors that contribute to the innovation process: strategy (strategic alignment, portfolio management); collaboration (collaboration between business units, collaboration with external partners); and culture (innovative environment, commitment and attitude of top management) (Frishammar et al., 2012). Similarly, Romijn & Albaladejo (2002) conducted an extensive literature review on the determinants of innovation ability and found internal and external factors that can affect innovation ability in companies. Internal factors are the owner/manager's professional experience, workforce skills, and internal efforts to improve technology. External factors are the intensity of relationships within the network, the advantages of closeness associated with the network, and government support (Romijn & Albaladejo, 2002).

Determinants of innovation capability in the telecommunications industry sector in China can also be divided into internal factors and external factors. Internal factors can be in the form of R&D and high employee empowerment. External factors that encourage innovation capabilities are government support, partnerships with study institutions and collaboration with other national and international companies (Fan, 2006).

Understanding the multidimensional nature of innovation capability is useful for identifying key elements that represent exporting firms in their overall ability to generate innovation outcomes and achieve superior performance. To fill this scale gap, Innovscale was created. The scale was tested in a Portuguese company through confirmatory factorial analysis (structural equation modeling with Lisrel software) (Vicente et al., 2015). Innovscale shows that innovation capability is a high-level construct consisting of four dimensions: product development capabilities, organizational culture, strategic capabilities and technology. The results of the study also show that the four dimensions of the innovation capability scale are positively and significantly related to export and export performance (Vicente et al., 2015).

CONCLUSION

This literature review identified the main contributions to innovation capability, selecting 43 articles from the Google Scholar database with clear criteria from different journals. This publication is carefully analyzed to contribute to innovation capability in internal and external aspects of the organization as well as to the determinants of innovation capability that can be applied to different contexts.

Regarding the internal aspects that contribute to high innovation capability in organizations, three factors stand out in the literature: human resources, technological resources and culture for innovation. Thus, the results obtained indicate that the combination of motivated human talent, with an internal culture focused on innovation, combined with technology, drives organizations in their innovation capabilities.

Regarding external factors that contribute to innovation capability, strategic alliances are highlighted as a tactic for importing knowledge, although firms have more facilities for making strategic alliances for product innovation than process. The literature also shows that the ability to interact with suppliers and customers contributes

to the acquisition of knowledge from outside the organization, increasing the company's ability to innovate. In addition, social networks, technology parks and practice communities can be managed to gain expertise.

In six articles, the identified determinants of innovation capability are organizational culture and climate, leadership, structural organization, internal knowledge development, external knowledge exploration strategy (suppliers, clients, partner companies, technology parks, study institutions), regeneration, and networking. These determinants can be applied to the context of small companies (Saunila, 2016), industrial sectors for product innovation (Fan, 2006), companies aiming to identify the most important determinants in the context of exports (Vicente et al., 2015), for process innovation (Romijn & Albaladejo, 2002; Frishammar et al., 2012) and innovation in products (Saunila, 2016; Slater et al., 2014; Romijn & Albaladejo, 2002; Vicente et al., 2015; Fan, 2006).

Although Google Scholar is one of the most commonly used databases, the fact that this database is only used to search for publications is a limitation of this study. Therefore, further studies are suggested to extend the study of innovation capability to other databases, such as Scopus or Emerald. In addition, there is clearly a need for further study, with the dimensions found in this study, and even studies in the context of business in Indonesia. The proposed propositions are based on theoretical arguments, which allows analysis of theoretical content and more empirical tests to better understand innovation capabilities.

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