AN OVERVIEW OF INNOVATION CAPABILITY FOR SUSTAINABLE BUSINESS FUTURE

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Abstract

Small and medium enterprises contribute significantly towards Indonesia's economy, since they are scattered widely throughout rural areas, the create substantial employment opportunity for local people as well as create many various products. While many large businesses had to lose their operation during the pandemic, small and medium enterprises were able to survive in order to create more innovation for the product and their business. The pandemic hit the economy very strongly and SMEs can survive if they can manage the innovation capability. The development of innovation capability started in 2000 and it has been growing until today. Innovation capability innovation capability will be more focused and stronger if it has digital adaptability. The primary goals of this paper are to present the model for development of innovation capability by systematic literature review, to collect the differences and similarities of methods that used in innovation capability research, understand deeply the dimensions of innovation capability, and know the future research in innovation capability. This research uses a systematic literature review method, that used more than 35 journals from Scopus access and another reputation access in 2020. The research funding that an area implementation of innovation capability varies widely with the research methodology the most researcher used is quantitative research. The dimension that construct the variable varies from internal and external dimension and innovation capability can improve and develop by finding the relationship with variables which still observed, cooperation and network is one of interest field to research. The limitation of the research is that the systematic literature review only focuses on journals published in Scopus and only in 2020, although researchers also review some of the best non-Scopus journals in the field of innovation capability.

Keywords: innovation capability, systematic literature review, performance, SME

1. Introduction

Scopus data shows that the topic of innovation capability has been attracting the attention of researchers since 2000. However, the number of published manuscripts is still very low. In 2008, the number of research on innovation capability reached 100 manuscripts and the highest number was in 2019 with 350 documents. This fact shows that innovation capability is an interesting topic in the latest year, and it's still growing with the differences of knowledge and scope.

Some researchers have the impact of innovation capability development, they are (1) Saunila, M., (2) Fan, P., (3) Xu, Q., (4) Chen, J., (5) Figueiredo, P.N., (6) Ukko, J., (7) Aramburu, N., (8) Borjesson, S., (9) Chen, L., (10) Hu, M.C. They share their paradigm that has differences and similarities, that explained with different dimensions and indicators. Innovation capability is a critical variable in achieving business value, performance, and competitive advantage. Its effect and influence with many variables. The ability of a company to innovate using ideas and expertise is known as innovation capability (LAWSON & SAMSON, 2001). The driver of innovation capability can come from inside of the firm like employee or manager, or from outside of the firm like supplier or consumer. As a variable, innovation capability is connected with innovation and performance. Numerous studies demonstrate how innovation capability can enhance firm performance (Saunila & Ukko, 2012). The performance of the company is positively impacted by innovation capability. (Calantone, Cavusgil, & Zhao, 2002), (Raghuvanshi & Ghosh, P.K. and Agrawal, 2019), (Gunday, Ulusoy, Kilic, & Alpkan, 2011). We discovered that, in addition to scopus

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data, innovation capability refers to the capacity to consistently convert ideas and information into new systems, processes, and products that benefit the business and its stakeholders (Minna, Pekkola and Ukko, 2014). Small and medium-sized enterprise have historically lacked the tools necessary to assess their performance or identify issues with their capacity for innovation. Prior studies conducted by Saunila et.al. (2011) have demonstrated that Finland's SMEs have inadequate measurement of innovation capability-related concerns. The findings of a study by Forsman and Annala (2011) that indicate that most SMEs have a propensity toward creating innovation support this. Innovation capacity and its factors can be measured and implemented in small and medium-sized enterprise as well as another big

The research question based on the literature review are:

1. Which area and what kind of method research of innovation capability had been done?
2. What dimension of innovation capability?
3. What is the potential future research across firms in innovation capability?

2. Literature Review

Innovation capability is positively correlated with the four dimensions of innovation, there are product, process, market and organizational innovations, as well as characteristics of innovation and business performance. (Kong Yu sheng, 2020). Internal organizational variables such as leadership, workers, technology capabilities, and organizational culture are the focus of innovation. The development of innovation capability is dependent on the accumulation of information and tacit knowledge, both of which are challenging to replicate. Capability is embedded in organizational norms and practices. (Teece, 2007). Innovation capability as a variable can act as an independent variable, dependent variable, and mediator or intervening variable. As an independent variable, innovation capability affects performance, superior firm performance, and competitive advantage. Regarding interfering, TQM practices and innovation performance are linked by innovation capability. (Yusr, Mokhtar, Othman, & Sulaiman, 2017), and as a dependent variable its influenced by knowledge sharing, collaboration. Innovation capability drivers consist of internal and external drivers. Innovation capability is dependent on outside information sources, yet external knowledge keys are frequently difficult to obtain (Argote, 2013; Baum, Lööf, & Nabavi, 2019). Furthermore, the demand to create internal knowledge is increased by external knowledge (Nonaka, 1994; and Grigoriou, & Rothaermel, 2017).

According to Chen, Li, and Yi (2020), innovation capability can be divided into four categories: firm, company level, industrial, regional, and national. The remaining groupings are categorized as individual and organizational innovation capabilities (Lei, Ha, & Le, 2019). Both small and medium-sized businesses and large corporations can benefit from innovation capabilities. While innovation capabilities are seen to be essential to small and medium-sized organizations' (SMEs) long-term success (Paul et al., 2017), Oura et al. (2016) contended that while innovation capabilities improve SME performance.

The scale created by Tsai et al. (2001), which assesses management (seven items), process (five items), and product (six items) innovations, serves as the foundation for the investigation of innovation capability. According to Jain (2013), innovation capability is the capacity to generate and use fresh concepts that lead to innovations that grow and benefit the business. Collaboration, particularly between small and large enterprises and even between those belonging to different sectors, allows for the complementary utilization of resources, which has an impact on innovative activities (Ciliberti et al., 2016).

In order to generate fresh concepts for product innovation, collaboration with consumers and lead users is crucial (Von Hippel, 2005). Collaboration with public science organizations such as universities is also necessary due to the necessity for basic research (Van Beers et al., 2008). Accordingly, businesses that create and engage in networks are crucial for innovation (Rampersad et al., 2010). Furthermore, partnering with other businesses using a "open innovation" strategy

centered on resource and information sharing might help them develop their capacity for innovation and reduce the time to market (Tepic et al., 2014).

There are several ways in which businesses might work together: (a) with clients; (b) with rivals; (c) with suppliers; (d) with government research agencies; and (e) as a partner in an EU research initiative. In the case of agri-food SMEs, where the cost of innovation is more important than in other sectors due to their limited labor, financial, and material resources, collaboration with external partners has proven essential (Laforet, 2013).

Large companies manage knowledge effectively through a formal strategy that enables more methodical development; among SMEs, informal approaches and a less systematic approach are common (Adam and Reid, 2001; Fernandes and Panjaitan, 2019). SMES can't take large-scale enterprises' processes and turn them into "smaller-scale" endeavors. SMEs differ from large-sized enterprises in that they possess unique attributes that set them apart from the latter. SMEs are more adaptable due to their multi-skilled workforce, spontaneous organizational structures, and less formal work environments (Ajayi et al., 2017).

There are several ways to define innovation capability. Innovation capability is recognized as the essential ability of a firm to allocate resources, combining a fresh approach to value creation (Yang et al. 2009). In addition, innovation capability also refers to the abilities and know-how required to efficiently assimilate, enhance, and produce new technologies (Lall 1992). However, innovation capability is defined by Cavusgil et al. (2003) as one of the essential preconditions for attaining exceptional innovation performance, which offers the possibility of successful innovation performance.

Additionally, Adler and Shenbar (1990) define innovation skills as having the ability to do the following:

1) Using the proper technology processes for new items.
2) Creating and implementing novel processing and product technologies.
3) Creating new goods to meet consumer demand.
4) Reacting to unforeseen opportunities from competitors and inadvertent technological use.

Businesses must learn in order to innovate more quickly in the dynamic ecosystem (Breznik and Hisrich, 2014). Since learning is considered the cornerstone of dynamic capability, it ultimately influences how much a firm can innovate (Breznik andHisrich, 2014; Schoemaker et al., 2018). This has been noted by Hidalgo-peñate et al., 2019 and Zahra et al., 2006. Replicating capabilities is challenging because they are ingrained in organizational processes that are built on learning, the knowledge that results from learning, and the interaction between the two (Zollo and Winter, 2002; Tallott and Hilliard, 2016; Hidalgo-peñate et al., 2019). Collaborations suggest that sharing concepts and data is no longer limited to departments or divisions (Dubeley et al., 2000).

3. Research Methodology

The literature review is important for academic research, it helps researchers to know the breadth and depth of the topic and can explore the gap (Xiao & Watson, 2019). Systematic Literature review is divided into three steps: (1) Planning the review, (2) conducting the review, and (3) reporting the review. This paper uses a systematic literature review that tries to minimize bias by a deep search of the literature and follows the procedures (tranfield, 2003). The resume of the literature search and evaluation for inclusion shows in figure 3.1.

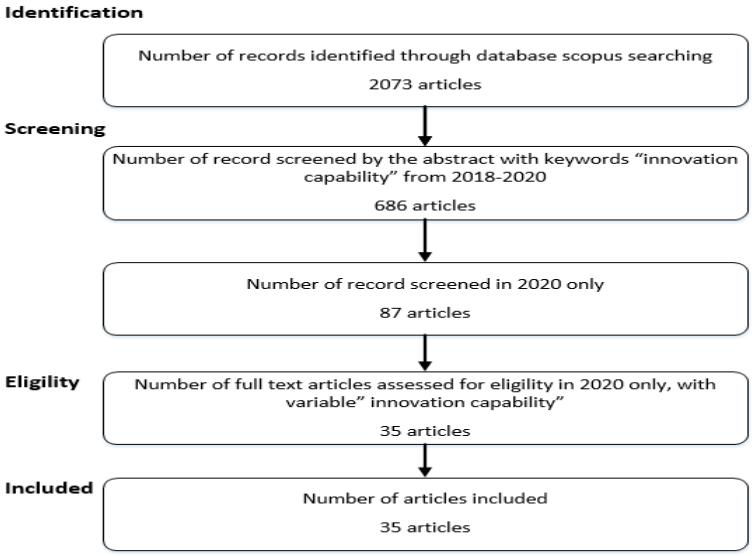

Figure 3.1. Literature Search and Evaluation.

The search process of the literature uses an electronic database by Scopus database. a literature search by using the keywords "innovation capability". Then the manuscript, reviewed by title and years, we only focus on the manuscript that was published at 2020 only then review process continue with focus on abstract and the full text for further evaluation. The literature focuses only with scopus database, a database that most search by researchers across various disciplines. Inclusion criteria for process review included articles that that on" innovation capability" and written in English but in different area from banks, pharmacy, manufacturing and government. After read the abstract of 686 articles to screening the relevance of the topic, finally got 35 articles relevant with the purpose of literature review. The article that included in process review only journal with peer review, written in English and published in 2020 to get the recent issues of innovation capability to know the recent news of the development of innovation capability especially in pandemic era. The next step is quality and eligibility assessment, the next screening is full-text articles and the remaining 35 articles are ready for analysis and synthesis. focus on the analysis of variable connected with innovation capability, roles of innovation capability as dependent variable, independent variable or mediator variables.

4. Results and Discussion

The research found there are 35 journals there two journals are systematic literature review and the rest is an empirical journal. The journals vary from quartile 1 to quartile 3. The empiric research was conducted on manufacturing and service firms. The scale of the firm varies from small, medium, and large firms and another phenomenon is there is research by Perlines, Felipe Hernandez (2020) on the family business become trend to be researched.

Table 4.1. List of 35 Journal Used for The Research.

No.	Name of journal	Number
1.	Journal sage	1
2.	Journal of High Technology Management Research	1
3.	International Journal Busniness Excellence	1
4.	Journal of Manufacturing Technology Management	1
5.	European Journal of Information System	1
6.	Journal of Innovation Management	1
7.	Management and Marketing Challenges for the Knowledge Society	1
8.	International Journal of Innovation Management	3
9.	International journal of Emerging Market	2
10.	journal of Information and Knowledge	2
11.	European Research on Management and Business Economics	1
12.	Journal of Intelligent anf Fuzzy System	1
13.	European Journal of Innovation Management	2
14.	International Journal of Innovation Science	1
15.	Springer Nature	1
16.	Management Science Letter	1
17.	VINE journal of Information and Knowledge Management Systems	1
18.	Journal of Business and Industrial Marketing	1
19.	Leadership and Organization Development Journal	1
20.	Advances in Intelligent Systems and Computing	1
21.	Review of Managerial Science	1
22.	Contaduria y Administracion	1
23.	European Business Review	1
24.	Journal of Workplace Learning	1
25.	Entrepreneurial Business and Economics Review	1
26.	Humanities and Social Sciences	1
27.	Management Decisions	1
28.	International Journal of Entrepreneurial Behavior and Research	1

The International Journal of Innovation Management has a high number of articles that analyze innovation capability with three journals, International Journal of Emerging Market, Journal of Information and Knowledge, European Journal of Innovation Management with two journals, and the rest one journal. There's much journal interest in innovation capability topic.

Table 4.2. Resume Area of Innovation Capability Research

No.	Area of firm	Number
1.	Journal	2
2.	Bank	1
3.	Pharmaceutical	1
4.	Manufacturing	12
5.	IT	5
6.	Government	1
7.	Family business	2
8.	SME	7
9.	Service	1
10.	Agrifood	1
11.	Not defined	1
	Total	35

Research conducted in bank industries, pharmacy firms, manufacturing, IT firms, government, Fashion, and Agri industry. There are seven research on small and medium enterprises (20% of the total research). There are two pieces of research on the fashion industry. The research varies from large firms and small and medium firms.

Table 4.3. Resume of Innovation Capability Research Method

No.	Method	Number
1.	SEM	9
2.	PLS	12
3.	SPSS	1
4.	SLR	2
5.	Regression	1
6.	Case study	1
7.	Qualitative	3
8.	Confirmatory Factor Analysis	3
9.	Panel data	1
10.	Forgotten Effect	1
11.	Generalized Least Square	1
	Total	35

Research methods used vary from systematic literature review, exploratory research, and descriptive, explanation research using SEM AMOS, SEM PLS, regression, SPSS, generalized least square, panel data, and forgotten effect. Most of the research used SEM, with different tools. The most used method was Partial Least Square with 34.2% and SEM with 25,7% of the total research. The rest 20% research are three research on qualitative research using confirmatory factor analysis and case studies. Innovation capability is still being developed. This theory is still new because it was introduced in the early 2000s. The development of the theory can be seen from the differences of the dimensions they have, sometimes it used different name but with the same meaning.

The authors describe the dimension with two general scopes in organization namely, internal driver and external driver. The internal driver dimension is divided into several dimensions, and the most widely used is the dimension that distinguished the types of innovation, they are product innovation, process innovation, marketing innovation, organizational innovation, management innovation, and administrative innovation. Migdadi (2020) also includes services innovation as a dimension, because most of the dimensions taken from manufacturing and not service firms. The other dimensions that quite different are radical and incremental innovation. (Sheng & Hartmann, 2019) used terminology explorative innovation for radical innovation and exploitative innovation for incremental innovation. Knowledge orientation focus on how firms try to enhance employee's ability and considered it as an investment and not as cost. To increase the firm capability, (Alfaro-Calderón et al., 2020) focus on how the firm change the organization and structure, innovation strategic and resource allocation. (Su et al., 2020) used the terminology systematic innovation capability building to describe the transformation of organization structure, changing the marketing and services strategy and collaboration. knowledge also connected with the ability the firms to pursue competitive advantage (Kafetzopoulos et al., 2020).

(Kafetzopoulos et al., 2020) used the term collaborations to enhance relationship with supplier, customer and competitor, and (Awoleye et al., 2020) used the term linkages and networks with additional linkages with knowledge institutions, industrial association, and public support. (Acosta-Prado et al., 2020) used the cooperation with others to obtained technology knowledge, and used the knowledge to produce the innovative products and services. There are other concern about the employee innovation capability, (Ben Moussa & El Arbi, 2020) focus on how firms improve level creativity, how to solve the problem and new approach to get work done. (Lei, Leaungkhamma, & Le, 2020) focus on how innovation capability divided into individual capability (how individual improve their capability) and organization capability (how improve capability at organization level). And the last (Utoyo, Fontana, & Satrya, 2020) focus on how to develop, leverage, and reconfigure innovation capability.

Innovation capability connected with many other variables, knowledge management, innovation, export performance, mass customization, big data, firm performance, marketing capability, human resources information system, dynamic capability, competitive advantage, new product development, absorption capacity, self-efficacy, transformational leadership, organizational structure, operational performance, entrepreneurial orientation, social capital, performance capabilities, organizational learning, innovation oriented technology, business creativity superior and cooperation. Most of them connect with knowledge management, and performance. Performance could be firm performance, export performance, operational performance, and performance capabilities. When we discuss innovation capabilities it could be innovation capability, individual innovation capability or organizational capability. It could be product innovation capability or incremental or process capability. Eleven articles describe innovation capability as independent variable, fifteen article that innovation capability as dependent variable and seven article shows that innovation capability as moderating variable, the rest two article as systematic literature review. The research succeeded in finding a model that explains the relationship between variables related to innovation capability, where innovation capability acts as an independent variable, dependent variable and moderating variable.

Table 4.4. The Dimension of Innovation Capability

Internal/external	Dimension	Author
Internal organization	Product innovation	(Iranmanesh, Kumar, Foroughi, Mavi, & Min, 2020), (Ilmudeen, Bao, Alharbi, & Zubair, 2020), (Su, Ma, & Zhang, 2020), (Perlines, Felipe Hernandez., soriano, Domingo Ribeiro., Garcia, 2020), (Nham, Tran, & Nguyen, 2020), (Migdadi, 2020), (Stelmaszczyk, 2020), (Wang, Li, & You, 2020), (Ganguly, Kumar, Saxena, & Talukdar, 2020), (Ferreira, Cardim, & Coelho, 2020), (Qi, Mao, Zhang, & Guo, 2020), (Ben Amara & Chen, 2020), (Shafi, 2020), (Qi et al., 2020)
	Process Innovation	(Iranmanesh et al., 2020), (Ilmudeen et al., 2020), (Perlines, Felipe Hernandez., soriano, Domingo Ribeiro., Garcia, 2020), (Nham et al., 2020), (Migdadi, 2020), (Stelmaszczyk, 2020), (Wang et al., 2020), (Rhee & Stephens, 2020), (Ganguly et al., 2020), (Ferreira et al., 2020), (Ben Amara & Chen, 2020)
	Marketing Innovation	(Iranmanesh et al., 2020), (Migdadi, 2020), (Handiwibowo, Nasution, Arumsari, & Astuti, 2020), (Rhee & Stephens, 2020), (Ganguly et al., 2020)
	Organizational Innovation	(Iranmanesh et al., 2020), (Handiwibowo et al., 2020)
	Management Innovation	(Ilmudeen et al., 2020), (Nham et al., 2020), (Awoleye, Ilori, & Oyebisi, 2020), (Stelmaszczyk, 2020)
	Administrative innovation	(Migdadi, 2020)
	Service Innovation	(Migdadi, 2020), (Rampersad & Troshani, 2020)
	Radical Innovation	(Mikalef & Krogstie, 2020), (Sheng & Hartmann, 2019)
	Incremental Innovation	(Mikalef & Krogstie, 2020), (Sheng & Hartmann, 2019)
	Process management	(Kafetzopoulos, Vouzas, & Skalkos, 2020), (Handiwibowo et al., 2020) R&D?
	Quality Orientation	(Kafetzopoulos et al., 2020)
	Knowledge Orientation	(Kafetzopoulos et al., 2020), (Alfaro-Calderón, Zaragoza, Alfaro-García, & Gil-Lafuente, 2020), (Handiwibowo et al., 2020)
	Organizations and structure	(Alfaro-Calderón et al., 2020), (Su et al., 2020)
	Project management	(Alfaro-Calderón et al., 2020)
	Innovation strategic	(Alfaro-Calderón et al., 2020), (Handiwibowo et al., 2020)
	Resource Allocation	(Handiwibowo et al., 2020)
	R&D	(Handiwibowo et al., 2020), (Xu, Ma, & Najaf, 2020)
External organization	External linkages	(Su et al., 2020), (Awoleye et al., 2020), (Alfaro-Calderón et al., 2020), (Acosta-Prado, Romero Severiche, & Tafur-Mendoza, 2020)
	(collaboration)	(Kafetzopoulos et al., 2020)
	Environmental dynamism	(Kafetzopoulos et al., 2020)

Innovation capability connected with many other variables, knowledge management, innovation, export performance, mass customization, big data, firm performance, marketing capability, human resources information system, dynamic capability, competitive advantage, new product development, absorption capacity, self-efficacy, transformational leadership,

organizational structure, operational performance, entrepreneurial orientation, social capital, performance capabilities, organizational learning, innovation oriented technology, business creativity superior and cooperation. Most of them connect with knowledge management, and performance. Performance could be firm performance, export performance, operational performance, and performance capabilities. When we discuss innovation capabilities it could be innovation capability, individual innovation capability or organizational capability. It could be product innovation capability or incremental or process capability. Eleven articles describe innovation capability as independent variable, fifteen article that innovation capability as dependent variable and seven article shows that innovation capability as moderating variable, the rest two article as systematic literature review. The research succeeded in finding a model that explains the relationship between variables related to innovation capability, where innovation capability acts as an independent variable, dependent variable and moderating variable.

Table 4.5. Resume the role of innovation capability

As independent variabel	As dependent Variable	As moderating Variable
11	15	7

The performance of the model can divide into financial, non-financial and cultural performance ((Shafi, 2020), or operational performance (Iranmanesh et al., 2020), and firm performance (Rampersad & Troshani, 2020). The most study shows the effect innovation capability to performance, but there's one study that prove that innovation capability effect to competitive catching up (Rhee & Stephens, 2020). Innovation capability is influenced by cooperation (divided by the customer, supplier, and competitor cooperation), IT competence, and many variables that are connected with human resources and organization, they are transformational leadership, organizational structure, self-efficacy and optimism, human resource practices, knowledge management, absorptive capacity, and organizational learning orientation. There are many of human resource and organization effect innovation capability because to increase the innovation capability, the firm has to involved and increase knowledge and skill of people in the firm so they can create a new idea for a new product or new process.

In the future, researchers can explore other variables that influence innovation capabilities such as cooperation. Cooperation pushes the firm to open mind about a new paradigm and make network with the government, university, customer and their supply chain. The idea of a new product and the new process can come from outside the firm, even from the competitors.

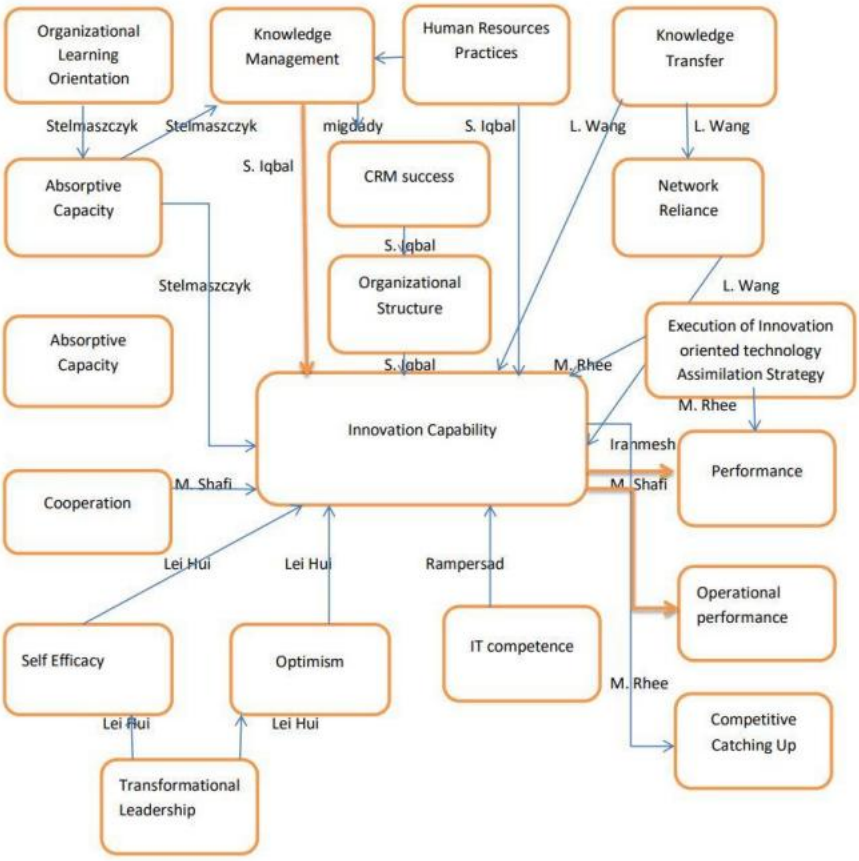

Figure 4.6. The Model of Innovation Capability

5. Conclusion and limitation

From the results of searching using a systematic literature review, the researcher found and conclude that:

1) The area implementation of innovation capability varies widely. From manufacturing service, SMEs to a large firm, and even family businesses. Research methodology varies from the quantitative and qualitative methods, but most researchers used quantitative research.
2) The dimensions that construct variables vary from internal and external dimensions, most of the dimensions relate to the term innovation itself, such as product innovation, process innovation, and marketing innovation, and external dimensions related to network and collaboration.
3) The innovation capability can be improved and developed by finding relationships with variables that are still observed, cooperation and networking are interesting areas to study. The limitation of the research is that the systematic literature review only focuses on journals published in Scopus and only in 2020, although researchers also review some of the best non-Scopus journals in the field of innovation capability.For the further researcher can expand the search for journals from different sources.
4) Researcher focus of learning and review only in 2020 to know the latest emerging topics in innovation capabilities may be less than emerging paradigms in other years and other data sources.

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