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SYSTEMATIC LITERATURE REVIEW: EXPLORATION OF FACTORS THAT INFLUENCE INNOVATION PERFORMANCE AND MANUFACTURING COMPANY PERFORMANCE

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ABSTRACT

This research literature review that reviews the literature on the factors that influence innovation variables has been a lot, but those that review innovation performance variables are relatively still not much. Therefore, the literature review in this study aims to investigate the factors that affect innovation performance in manufacturing companies, as well as factors that act as mediation and moderation. The Systematic Literature Review (SLR) method is used in this study to analyze and review or look back at findings that are systematically identified based on previous research evidence related to factors that affect the innovation performance of manufacturing companies. Research data was obtained from Google Scholar with a time span of 2015-2023. Findings on journal searches found 304 articles. Based on the search for articles that discuss and focus on factors that affect the specific innovation performance of manufacturing companies, 25 articles were found. The article is used as a data source and will be examined in more depth. The results of the research found that (1) Various factors affect innovation performance in manufacturing companies; (2) Several factors can mediate and moderate exogenous (independent) variables on the innovation performance of manufacturing companies; and (3) Various theories have been used in research on the innovation performance of manufacturing companies. Therefore, manufacturing companies can use the above variables as factors that can be used to improve innovation performance to increase productivity, effectiveness, and can drive growth for manufacturing companies. These findings can be used as reference material for further research on variables that are able to mediate and moderate the relationship between exogenous variables on innovation performance in manufacturing companies and the theory used.

Keywords: *Innovation Performance, Mediation, Moderation, Systematic Literature Review (SLR) Method, Manufacturing Companies.*

1. INTRODUCTION

Manufacturing is the backbone of many economies, and innovation plays a critical role in its growth and success. The process of creating new products, improving existing products, and simplifying production methods can significantly improve the competitiveness of manufacturing companies. In an ever-changing market, the key to survival is innovation. The benefit of innovation for manufacturing companies is increased efficiency. Innovation is also useful for creating new products and entering new markets. (https://www-yamatoscale-co-uk).

In a knowledge-based economy, the organized creation, management, and dissemination of knowledge will enhance a company's innovative practices. Innovation is increasingly prominent in all matters of economic activity around the world. Not only developed countries, developing countries are also experiencing the same thing that innovation as one of the main drivers of economic growth. This new understanding of the importance of innovation has a growing impact on the course of policy formulation in many countries. Globally, innovation has become a priority, and companies that innovate are now able to do so to generate multiple benefits with their products and services. (Dhir & Dhir, 2020).

According to Kolluru & Mukhopadhaya (2017), evidence from various literatures shows that innovation performance is an economic or social outcome derived from knowledge or knowledge-related indicators (R&D expenditure, R&D intensity, patents, publications, trademarks, market share of knowledge-intensive products and services, etc.). Innovation is a never-ending process and is seen as an engine of productivity and a driver of growth for companies in developed and developing countries. The large number of explanatory variables in the research suggests that innovation is a multi-faceted process driven by a number of factors. Most research investigates variables and their impact on firm innovation independently. The current approach seeks to provide an up-to-date development of variables in the literature and focuses on the interrelationships between indicators in determining innovation performance.

Based on the explanation above, it explains that innovation performance in manufacturing companies is very important in improving efficiency and creating new products or new methods. Research using the SLR method on factors that affect innovation and company performance has been conducted. However, literature research (SLR) that focuses on manufacturing innovation performance is still relatively rare. This gap will be filled in this study to examine the literature on factors affecting innovation performance in manufacturing companies.

2. RESEARCH METHOD

This research method is Systematic Literature Review (SLR). SLR is an in- depth evaluation of previous research conducted systematically by applying applicable standards. This method is used to examine the results of research that has been published in journals in a particular field of study. According to Latifah & Ritonga (2020), that the SLR method by reviewing back related to certain topics of discussion that focus on specific problems that have been identified and classified in a structured manner, assessed, concluded, and selected based on predetermined benchmarks based on evidence and facts from quality research that are relevant to the questions asked. In searching for articles relevant to the research topic using POP with google scholar data base and http://google.com as a secondary data search. The subjects in this study are articles that use Innovation Performance and Performance of manufacturing companies.

Inclusion and Exclusion Criteria

The inclusion criteria in this study are the criteria for articles that the researcher wants based on the research objectives. Exclusion criteria in this study are specific criteria that cause articles that meet the inclusion criteria to be excluded from the analysis. The inclusion criteria in this study are articles that examine various factors that affect the innovation performance of manufacturing companies, articles that examine various factors that have an indirect impact on the innovation performance of manufacturing companies, articles that examine various factors that affect manufacturing innovation performance moderated by other factors, and articles from Google Scholar with a time span of 2015-2023. Based on the inclusion criteria in the selection of articles used in this study, the research question in the study is as follows:

RQ1: What are the factors that influence innovation performance in manufacturing companies?

RQ2: What factors can mediate and moderate exogenous (independent) variables on innovation performance of manufacturing firms?

RQ3: The theory used in the research on innovation performance of manufacturing firms?

3. RESULTS AND DISCUSSIONS

Discussion of research literature using the Systematic Literature Review (SLR) method from the results of the data search process from Google Scholar in the 2015 to 2023 time span related to manufacturing innovation performance. Some of the articles selected according to the inclusion criteria of the article and according to the research objectives are sourced from the Journal of Knowledge Management, Open Access Library Journal, Journal of management Communication and Research, Prizren Social Science Journal, Journal of Contemporary y Issues in Accounting, International Research Journal of Engineering and Technology, International Small Business Journal: Researching Entrepreneurship, International Journal of Business Excellence, International Journal of Environmental Research and Public Health, World Journal of Advanced Research and Reviews, Management of Environmental, Quality: An International Journal, South African Journal of Industrial Engineering, Journal of Open Innovation: Technology, Market, and Complexity, Journal of Economic Development, African Journal of Science, Technology, Innovation and Development, Journal of Indonesian Economy and Business, VINE Journal of Information and Knowledge Management Systems, Business and Finance Journal, International Journal of Professional Business Review, Journal of Technical and Vocational University, Cross-Border Journal of Business Management, International Journal of Humanities and, Cultural Studies, and International Journal of Advanced Studies in Business Strategies and Management. The findings of the articles will be discussed to answer the research questions posed as follows.

A. Factors Affecting Innovation Performance of Manufacturing Companies

Table 1. Factors Affecting Innovation Performance of Manufacturing Companies

Research Article	Factors Affecting Innovation Performance	Journal Name
Marchi (2018)	Absorptive capacity and Relationship Learning affects innovation performance.	Journal of Knowledge Management
Otchere et al., (2022)	Big data characteristics affect innovation performance.	Open Access Library Journal
Hanifah (2022)	There is a significant relationship between IT integration and process innovation process capability on innovation performance.	Journal of management Communication and Research
ÇETIN (2022)	Continuous Improvement and Quality Data & Reporting (QDR) have a positive effect on innovation performance.	Prizren Social Science Journal.
Olubunmi & Orajekwe (2021)	Environmental management practices affect the performance of technological innovation.	Journal of Contemporary Issues in Accounting
Rinoop et al., (2017)	Total quality management (TQM) affects innovation performance.	International Research Journal of Engineering and Technology
Mennens et al., (2018)	Dynamic capability positively influences service innovation performance	International Small Business Journal: Researching Entrepreneurship
Naidoo & Govender (2023)	Leadership, people management, and strategy affect innovation performance.	International Journal of Business Excellence
Chang (2020)	Appropriability Regime, Perceived Similarity, and Green Open Innovation Activities affect green innovation performance.	International Journal of Environmental Research and Public Health

Kashif Akbar (2021)	Economic sustainability and Sustainable Manufacturing Practice affect innovation performance.	World Journal of Advanced Research and Reviews
Mubarak et al., (2021)	Industry 4.0 technologies affect green innovation performance.	Management of Environmental Quality: An International Journal
Long et al., (2015)	Customer focus, Process management, and People management have a positive effect on innovation performance.	South African Journal of Industrial Engineering
Yusr (2016)	Innovation capability has a positive effect on Innovation Performance	Journal of Open Innovation: Technology, Markets, and Complexity
Hung et al., (2020)	Innovation Capability has a positive effect on innovation performance.	Journal of Economic Development
Adegbite & Govender (2022)	Less management support, The lower the level of motivation, Strong resistance to change, Risk avoidance, and The less financial resources negatively affect innovation performance.	African Journal of Science, Technology, Innovation and Development
Hartono & Kusumawardhani (2018)	External search BREADTH&DEPTH and Open Innovation have a positive effect on innovation performance.	Journal of Indonesian Economy and Business
Cabrilo et al., (2018)	Human, Structural, Internal relational, external relational, Renewal, and entrepreneurial have a significant effect on innovation performance.	VINE Journal of Information and Knowledge Management Systems
Elier et al., (2022)	Knowledge inbound sharing has a significant effect on innovation performance.	Business and Finance Journal
Yanginlar et al. (2023)	Risk Control has a significant effect on innovation performance.	International Journal of Professional Business Review
Shababi et al. (2022)	Knowledge structure and open innovation have a significant effect on innovation performance.	Journal of Technical and Vocational University
Askawati (2021)	Internal R&D has a significant effect on innovation performance.	Cross-Border Journal of Business Management
Safari & Azadehdel (2015)	Knowledge creation, application of knowledge, and knowledge-oriented leadership have a significant effect on innovation performance.	International Journal of Humanities and Cultural Studies
Ogunkoya (2019)	Value Creation has a significant effect on innovation performance.	International Journal of Advanced Studies in Business Strategies and Management

Table 1 explains that the various factors that affect innovation performance in manufacturing companies include Absorptive capacity, Relationship Learning, Big data characteristics, IT integration, process innovation process capability, Continuous Improvement, Quality Data & Reporting (QDR), Environmental management practices, Total quality management (TQM), Dynamic capability, Leadership, people management, Appropriability Regime, Perceived Similarity, Green Open Innovation Activities, Economic sustainability, Sustainable Manufacturing Practice, Industry 4.0 technologies, Customer focus, Process management, People management, Innovation capability, Less management support, The lower the level of motivation, Strong resistance to change, Risk avoidance, The less financial resources, External search BREADTH&DEPTH, Open Innovation, Human, Structural, Internal relational, external

relational, Renewal, entrepreneurial, Knowledge inbound sharing, Risk Control, Knowledge structure, Open innovation, Internal R&D, Knowledge creation, Application of knowledge, knowledge-oriented leadership, and Value Creation.

The findings above explain that various variables have influenced the innovation performance of manufacturing companies. Thus, manufacturing companies can use the above variables as factors that can be used to improve innovation performance to increase productivity, effectiveness, and can encourage growth for manufacturing companies.

Factors That Can Mediate And Moderate Exogenous Variables On Innovation Performance.

The results of the analysis of the article findings in table 2 explain that various variables are able to mediate the relationship of exogenous variables to innovation performance. The grouping of research results is (1) Big data team mediates the relationship between big data characteristics and innovation performance; (2) Continuous Improvement mediates the relationship between Quality Data & Reporting (QDR) on innovation performance; (3) Green innovation behavior mediates the relationship between Industry 4.0 technologies and green innovation performance; (4) Innovation capability mediates the relationship between TQM practices and innovation performance; and (5) Open innovation has a positive effect on innovation performance through knowledge structure.

In addition, other findings also explain that various variables are able to moderate the relationship of exogenous variables to innovation performance, namely (1) Relationship Learning moderates the effect of Absorptive capacity on innovation performance; and (2) Innovation Ecosystem moderates the relationship between Knowledge Entrepreneurship and Innovation Performance. The following factors can mediate and moderate exsogenous variables on innovation performance.

Table 2 Factors that can mediate and moderate exogenous variables On Innovation Performance

Research Article	Mediating and Moderating Factors on Innovation Performance	Journal Name
Marchi (2018)	Relationship Learning moderates the effect of Absorptive capacity on innovation performance.	Journal of Knowledge Management
Otchere et al., (2022)	Big data team mediates the relationship between big data characteristics and innovation Performance.	Open Access Library Journal
ÇETIN (2022)	Continuous Improvement mediates the relationship of Quality Data & Reporting (QDR) to innovation performance.	Prizren Social Science Journal.
Mubarak et al., (2021)	Green innovation behavior mediates the relationship between Industry 4.0 technologies and green innovation performance.	Management of Environmental Quality: An International Journal
Yusr (2016)	Innovation capability mediates the relationship between TQM practices and Innovation Performance	Journal of Open Innovation: Technology, Markets, and Complexity

Gachanja et al., (2020)	Innovation Ecosystem moderates the relationship between Knowledge Entrepreneurship and Innovation Performance.	International Journal of Entrepreneurship and Business Development
Shababi et al. (2022)	Open innovation has a positive effect on innovation performance through knowledge structure.	Journal of Technical and Vocational University

Theories used in research

The results of the analysis of the article findings in table 3 explain that various studies use theories, namely Absorptive capacity theory, Grounded Theory, Technology Innovation Adoption Theories, Theories of Total Quality Management, Environmental management, Dynamic capabilities theory, Theories of Total Quality Management, Stakeholder theory, Sustainable manufacturing practices, Diffusion of Innovation Theory, RBV theory, Competitive Advantage Theory, Behavior Theory, Research and Development, Intellectual Capital Theory, Supply chain Theory, Theory of Knowledge, Research and Development, Knowledge management theory, Theory of Value Creation, and Competitive advantage theory. The following are the results of the theoretical study used in the article in table 3.

Table 3. Theories Used in Research

Research Article	Journal Name	Theory Used
Marchi (2018)	Journal of Knowledge Management	Absorptive capacity theory
Otchere et al., (2022)	Open Access Library Journal	Grounded Theory
Hanifah (2022)	Journal of management Communication and Research	Technology Innovation Adoption Theories
ÇETIN (2022)	Prizren Social Science Journal.	Theories of Total Quality Management
Olubunmi & Orajekwe (2021)	Journal of Contemporary y Issues in Accounting	Environmental management
Rinoop et al., (2017)	International Research Journal of Engineering and Technology	Theories of Total Quality Management
Mennens et al., (2018)	International Small Business Journal: Researching Entrepreneurship	Dynamic capabilities theory
Naidoo & Govender (2023)	International Journal of Business Excellence	Theories of Total Quality Management
Chang (2020)	International Journal of Environmental Research and Public Health	Stakeholder theory
Kashif Akbar (2021)	World Journal of Advanced Research and Reviews	Sustainable manufacturing practices
Mubarak et al., (2021)	Management of Environmental Quality: An International Journal	Diffusion of Innovation Theory
Long et al., (2015)	South African Journal of Industrial Engineering	Theories of Total Quality Management
Yusr (2016)	Journal of Open Innovation: Technology, Markets, and Complexity	RBV theory
Hung et al., (2020)	Journal of Economic Development	Competitive Advantage Theory and RBV theory
Adegbite & Govender (2022)	African Journal of Science, Technology, Innovation and Development	Behavior Theory

Hartono & Kusumawardhani (2018)	Journal of Indonesian Economy and Business	Research and Development
Cabrilo et al., (2018)	VINE Journal of Information and Knowledge Management Systems	Intellectual Capital Theory
Elier et al., (2022)	Business and Finance Journal	Absorptive capacity theory
Yanginlar et al., (2023)	International Journal of Professional Business Review	Supply chain Theory
Shababi et al. (2022)	Journal of Technical and Vocational University	Theory of Knowledge
Askawati (2021)	Cross-Border Journal of Business Management	Research and Development
Safari & Azadehdel 2015)	International Journal of Humanities and Cultural Studies	Knowledge management theory
Ogunkoya (2019)	International Journal of Advanced Studies in Business Strategies and Management	Theory of Value Creation
Gachanja et al., (2020)	International Journal of Entrepreneurship and Business Development	Competitive advantage theory

4. CONCLUSIONS AND SUGGESTIONS

Based on the findings from the review of the selected articles, it can be explained that the results (RQ1) have found that the factors that affect innovation performance in manufacturing companies are Absorptive capacity, Relationship Learning, Big data characteristics, IT integration, process innovation process capability, Continuous Improvement, Quality Data & Reporting (QDR), Environmental management practices, Total quality management (TQM), Dynamic capability, Leadership, people management, Appropriability Regime, Perceived Similarity, Green Open Innovation Activities, Economic sustainability, Sustainable Manufacturing Practice, Industry 4.0 technologies, Customer focus, Process management, People management, Innovation capability, Less management support, The lower the level of motivation, Strong resistance to change, Risk avoidance, The less financial resources, External search BREADTH&DEPTH, Open Innovation, Human, Structural, Internal relational, external relational, Renewal, entrepreneurial, Knowledge inbound sharing, Risk Control, Knowledge structure, Open innovation, Internal R&D, Knowledge creation, Application of knowledge, knowledge-oriented leadership, and Value Creation.

Based on the results of the systematic literature review (SLR), it can analyze and provide comprehensive information on variables that are able to mediate the relationship between exogenous variables on innovation performance. these findings include (1) Big data team mediates the relationship between big data characteristics and innovation performance; (2) Continuous Improvement mediates the relationship between Quality Data & Reporting (QDR) on innovation performance; (3) Green innovation behavior mediates the relationship between Industry 4.0 technologies and green innovation performance; (4) Innovation capability mediates the relationship between TQM practices and Innovation Performance; and (5) Open innovation has a positive effect on innovation performance through knowledge structure. Other findings in the review of articles in this study found that several variables were able to moderate the relationship between exogenous variables on innovation performance, namely (1) Relationship Learning moderates the effect of Absorptive capacity

on innovation performance; and (2) Innovation Ecosystem moderates the relationship between Knowledge Entrepreneurship and Innovation Performance. The following factors can mediate and moderate exogenous variables on innovation performance. Thus, RQ2 in this study has been found and can be used as reference material for further research on variables that are able to mediate and moderate the relationship between exogenous variables on innovation performance in manufacturing companies.

The results of the systematic literature review (SLR) have identified various theories used in the articles examined in this study, namely Absorptive capacity theory, Grounded Theory, Technology Innovation Adoption Theories, Theories of Total Quality Management, Environmental management, Dynamic capabilities theory, Theories of Total Quality Management, Stakeholder theory, Sustainable manufacturing practices, Diffusion of Innovation Theory, RBV theory, Competitive Advantage Theory, Behavior Theory, Research and Development, Intellectual Capital Theory, Supply chain Theory, Theory of Knowledge, Research and Development, Knowledge management theory, Theory of Value Creation, and Competitive advantage theory. Thus, RQ3 in this study has been answered and can be used as reference material for further research.

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