

Improving Firm Performance Through Open Innovation And Change Management

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Abstract

This study examined the influence of open innovation and change management on the firm performance of national shipping companies. The performance of a business is determined by its operational and financial performance. The functioning of the national shipping sector is under severe strain during this pandemic, owing to the presence of legislation governing the Compliance with Restrictions on Community Activities (PPKM). This unstable environment necessitates change management and open innovation to thrive. As such, this research aims to determine the impact of change management and open innovation on the performance of Indonesian shipping companies. The analysis was performed in 2020 and covered 126 Indonesian shipping companies. The quantitative study employs descriptive and inferential statistical data analysis methods, namely, regression analysis. The findings demonstrate that change management and open innovation have a favorable effect on a company's success. This result indicates that change management and open innovation affect firm performance, meaning that management should devote particular attention to developing open innovation personnel inside the organization. The business may then use a transformation plan to change conditions quickly.

Keywords

Firm performance, change management, open innovation.

1. Introduction

During the COVID-19 epidemic, the national shipping sector was also under strain. The introduction of the Rules for the Implementation of Community Activity Restrictions (PPKM) and the closure of ports resulted in a 75-100 percent reduction in the number of passenger transport boats. In contrast, the sector ranging from containers to offshore vessels declined from 20% to 50%. (CNBC Indonesia T.V., 2020). When it comes to increasing earnings, the firm's performance is used as a benchmark for the capital structure. Obtaining good business performance outcomes, particularly in the areas of return on assets, net income, sales volumes, and other metrics, is essential for a firm to fulfill the demands of stakeholders (Iqbal et al., 2020). Maintaining solid corporate performance during a pandemic is both a challenge and a problem for firms.

As a result of the Covid-19, the world community is experiencing a catastrophe on a scale never seen. The virus's pace and scope have been so broad that it has taken the whole world by surprise, including governments, corporations, and the general public. In the past two years, the epidemic has transformed the way businesses operate, and it will continue to influence the way businesses work in the future. For companies to successfully manage this transition, organizational change management is a critical tool in helping people adjust to the company's new normalcy. Change management is distinct from strategic business management, seeking optimum adaptation to the environment. Change management's work is primarily aimed inward, that is, towards individuals of the organization or firm participating in the exchange process. (Lauer, 2019). As a result of the rapid outbreak of Covid-19, change management becomes important since most commercial organizations, particularly shipping firms, would undoubtedly be forced to adjust to survive.

The present pandemic has drawn attention to the need to support productive activities in society via innovative means such as market digitalization through market webs. A distributed innovation process based on the flow of information actively controlled across organizational boundaries has emerged as a widely recognized business approach in many sectors, including the technology sector (Ahn et al., 2015). Shipping firms must have an innovation plan to increase

their overall performance, and several studies have shown that open innovation significantly influences a firm's success. (Bigliardi et al., 2020; Moretti & Biancardi, 2020)

1.1 Objectives

When it comes to boosting competitiveness with competitors, tight integration between change management and open innovation that may result in customers making choices about how to use services is required for its profits to increase and impact its overall performance. For its part, the purpose of this study is to evaluate the link between change management and open innovation on company performance in the context of the National shipping sector.

2. Literature Review

2.1. Firm performance

Everyone in business strives to improve their company's performance in some way or another. All companies want to achieve peak performance, and part of that process requires taking swift and decisive action when underperformance is identified and addressed. Poor performance poses a threat to the long-term viability of a company, and managers are frequently held accountable for such failures. Underperformance is a given in business, and any organization that does not deal with it will eventually fail. The most effective strategy for coping with underperformance in the workplace is to recognize and forgive failure in the workplace when it occurs (Contan, 2015).

Organizational performance is defined as evaluating a company's performance concerning its aims and objectives. Another way of putting it is that organizational performance comprises actual results or outputs that contrast the expected outcomes. The performance gap is the term used to describe this situation. The performance gap is what we call this. Why organizations are judged on their ability to achieve specific goals based on three key outcomes: the increase or decrease in shareholder value, the increase or decrease in financial performance, the increase or decrease in market performance, and the increase or decrease in market value. (Almatrooshi et al., 2016). The economic success of a firm gives an economic justification for the operations and policies of the company. Information on a company's financial health, return on investment (also known as return of asset), and this report provides market share. Market performance, which refers to how well a company or product performs in the marketplace, is similar. The value of a company's shareholders is a measure of its earnings and the amount to which the company benefits its shareholders and other stakeholders. It is a statistic used to determine the success of a business. A combination of financial and non-financial measurements that provide information on the amount to which predefined goals have been met is described as organizational performance (Sangwa & Sangwan, 2018). When a company's operations and policies are evaluated based on non-monetary results, this is referred to as non-financial performance.

2.2. Relationship between Change Management and firm performance

In its name, Change Management (CM) refers to a strategy for managing and enhancing organizational performance that is symbolized by the letters "CM" (Nyaera & Okeyo, 2019). It is necessary to concentrate change efforts on improving corporate and individual performance to establish a successful company and maintain a competitive edge in the geographic region where business activities are carried out.

Change Management may be defined as how a corporation improves its performance while attempting to achieve its ideal state (Hao & Yazdanifard, 2015). To summarize, organizational competitiveness is critical in building and maintaining corporate competitiveness, with the ultimate goal of enhancing organizational productivity and profitability as a consequence. The process of change management is defined as a transformation process that comprises the transfer of a system from one state to another. When it comes to Change Management, the ability of an organization to respond to and adapt to changing business situations and scenarios is at the heart of the process.

Changes in people's attitudes, organizational structures, and technology capabilities are only a few transformations. The organization's life is in jeopardy; various transformation projects are being carried out in people, systems, technology, etc. For change to occur, there must be someone within the business which serves as a catalyst for change and is responsible for leading the change process and ensuring it is completed effectively. Organizations that do not have strong leadership will have difficulty achieving their goals and objectives. Effective change management can only be implemented and sustained when strong leadership is in place (Fiaz et al., 2017). The most successful business executives are ready to take on high-risk projects or activities to position their organization for long-term growth and profitability, regardless of the repercussions. In a nutshell, a leader articulates a vision and is passionately committed to it; inspires others to action; and charismatically models old habits and attitudes to model the new behaviors and

attitudes that management is attempting to impose (Fernandez et al., 2020). They found that change management significantly impacted corporate performance in research done in Owerri, Nigeria, by Ugwu, K. E. and colleagues in 2020 (K. E. et al., 2020).

Based on the facts supplied above, the first hypothesis that can be constructed is as follows:

H1: Change Management has an impact on firm performance

2.3. The relationship between Open Innovation and firm performance

When it comes to innovation management, it is a hot issue, and it is a complicated concept that can be used in several ways inside a firm. While open innovation is still considered a fresh concept, it is currently being investigated and is believed to be one of the most promising. For a firm to be open to innovation, it must first show its willingness to risk its reputation. That type of courage is necessary to seek out and anticipate to uncover a path that may lead to the development of novel solutions to complex challenges (Pokojski, 2018). New intensive businesses developed by existing firms enable inventive organizations to take advantage of the economic possibilities in their surroundings, deploy physical infrastructure, and produce new forms of demand while remaining profitable. Successful innovative businesses are those that recognize and capitalize on profitably accessible market possibilities in their surroundings while also mobilizing physical infrastructure and generating new forms of demand. It is still necessary for both new and existing businesses to make additional investments in innovation to create new sources of indirect effects that may improve their performance (Carboni & Russu, 2018).

Businesses that want to take advantage of these prospects must adopt a forward-thinking approach to their daily operations. The term "open system" refers to a company's open system, which consists of information that has the potential to create value and that comes from both internal and external channels that are devoted to innovation. According to Chiara Verbano et al. (2015), the concept of open innovation is the practice of enterprises increasingly depending on external information to expedite the internal innovation processes inside their organization. (Verbano et al., 2015) Opening up the open innovation has been researched extensively, and numerous studies have identified a relatively accurate assessment of its influence on the performance of firms (Seyfettinoğlu, 2016). This study may also develop the second hypothesis based on the research outcomes stated above.

H2: Open Innovation has an impact on firm performance.

3. Methodology

Research techniques must be followed to answer research questions that have been established. According to the definition, the research technique is described as having the goal of obtaining answers to the research questions. (Bairagi & Munot, 2019). This investigation makes use of both causal and quantitative associative approaches. According to Sekaran and Bougie (2016) (2016: 44), causal studies investigate the relationship between one variable and another variable. (Sekaran & Bougie, 2016)

3.1. Measures

The five elements to measure the firm performance adopted from Jain & Moreno 2015 (Jain & Moreno, 2015) and the ten items to measure the change management were adopted from Magsaysay and Hechanova's (2017) (Magsaysay & Hechanova, 2017) and the five items to measure the Open Innovation are adopted from Davoudi et al. (2018) (Davoudi et al., 2018). According to Figure 1, the independent variable is change management (X1) open innovation(X2), while the dependent variable is Firm performance (Y).

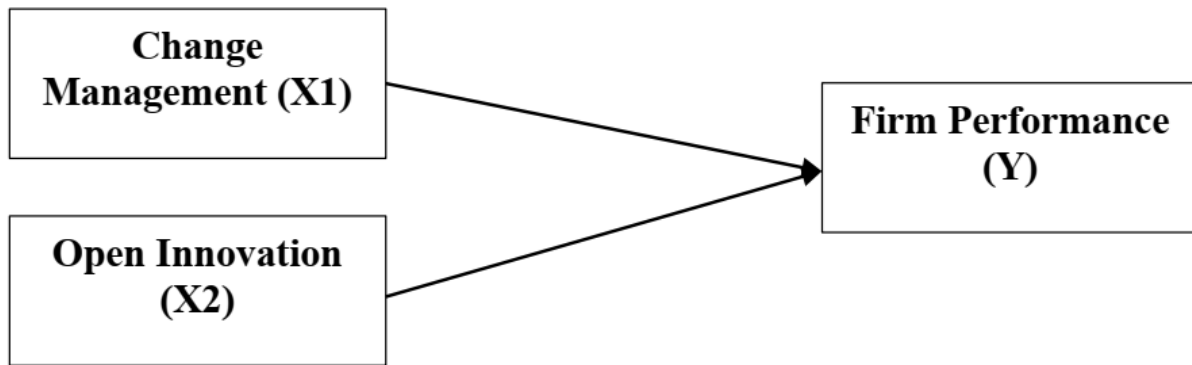


Figure 1. Research Framework

4. Data Collection

A purposeful random sample was used in this research, and questionnaires containing Likert scale items ranging from 1 to 5. Research techniques must be followed to get answers to research questions that have been established beforehand; a database based in partnership with shipping companies was used to send the questionnaire to 148 workers through email. The purpose of this research is to guarantee that each participant has a minimum of one year of job experience before they may participate. There is a cover letter, a description of the survey's aims, and a link to the online component of the study included in the email communication. As a consequence, about 126 correct responses were obtained.

5. Results and Discussion

5.1. Results

Seniority, work duration, and educational attainment are all factors considered in the study's conclusions. There were different responses based on seniority: 2% for directors, 8% for senior managers, 54% for managers, 11% for supervisors, and 25% for employees. More than half (58%) of employees worked for one to five years, more than one-fifth (21%) of employees worked for six to ten years, and more than one-fifth (15%) worked for more than ten years (For further information, check Figure 2, Figure 3 and Figure 4 below)

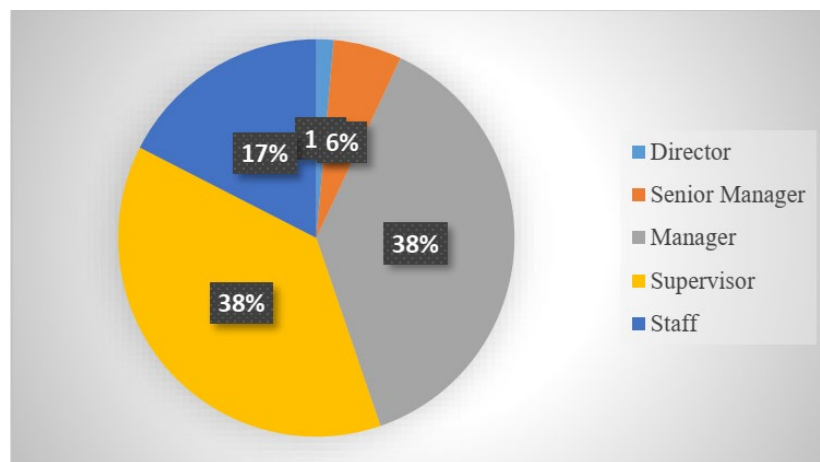


Figure 2 Seniority

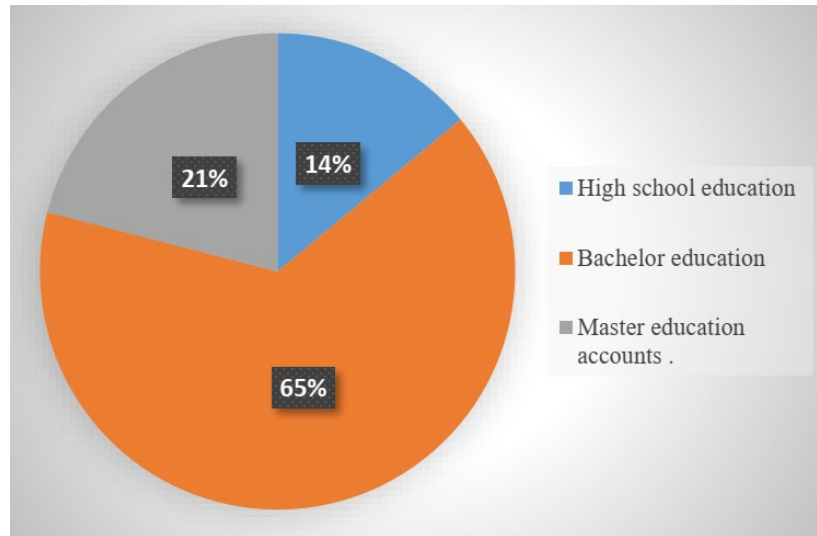


Figure 3 Educational Attainment

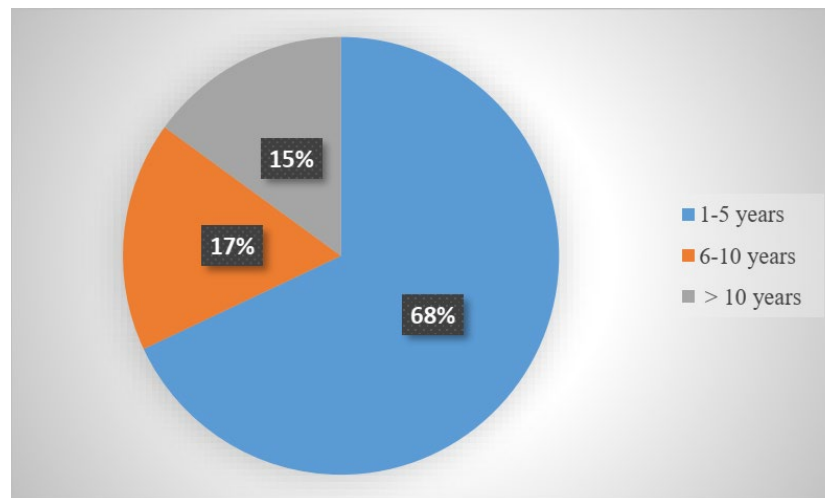


Figure 4 The duration of work

Researchers utilize validity and reliability tests to ensure that the results of a questionnaire are correct. Six components contribute to the firm performance variable; ten elements contribute to the change management variable; five contribute to the open innovation variable. The reliability coefficients for Cronbach's alpha for all variables vary between 0.885 and 0.862, with the lowest value being 0.758. (For further information, check table 1)

Table 1. Variables' reliability.

Variable	No. of cases	No. of items	Alpha
Firm Performance	126	05	0.885
Change Management	126	10	0.862
Open Innovation	126	05	0.758.

With the help of multiple regression analysis, you may figure out the link between a large number of independent and dependent variables at once. According to this study's multiple regression analysis findings, the data supports a positive and statistically significant relationship between the independent and dependent variables. In addition, please read Table 2 for further information.

Table 2 Result of multiple regression analysis

Variable	Sig	t count	Regression coefficient	Remark
X1 to Y	0,014	4,647	0,352	Significant
X2 to Y	0,000	4,945	0,539	Significant
Constanta = 27, 472				
<i>Adjusted R² = 0,579</i>				
F count = 16,844				
Sig = 0,000				

Source: Results of data processing SPSS 26 (2021)

The regression analysis results assessed if the independent factors impacted the dependent variable (Y). The regression data processing approach calculates R squared and then does a t-test to determine whether or not the independent and dependent variables have a statistically significant impact on one another. R squared accounts for 57.9 percent of the coefficient of determination, according to the data in Table 1. This statistic highlights the link between change management, open innovation, and the overall success of a company or organization. The difference of 42.9 percent, on the other hand, is influenced by a variety of factors. Aside from that, for every one unit rise in the change management variable (X1), the firm performance variable (Y) increases by 0.352 units. The opposite is true: if change management (X1) is reduced by one-unit, firm performance (Y) is reduced by 0.352 units. The open innovation variable (X2) grows by one team, and the firm performance variable (Y) increases by 0.539 units for every one-unit increase in the open innovation variable (X2). When open innovation (X2) falls by one team, firm performance (Y) declines by 0.539 units,

There are 4,647 counts in the change management variable (X1), which exceeds the t-count table's value of 0.01 and is less than the alpha value of 0. (0.05). For open innovation, the estimated t-value for the open innovation variable (X2) is 4,945 (higher than the t-table value), while the estimated sig value for open innovation (X2) is 0.000 (lower than the alpha value) (0.05). In this way, change management (X1) and open innovation (X2) have a significant and favorable impact on the success of a company (Y).

5.2. Discussion

The findings of hypotheses 1 and 2 of this study are consistent with the results of research done by Ugwu, K. E. et al. (2020), which established that change management has a substantial impact on business performance. Because it offers a framework for converting resources into capabilities, change management is crucial in this context. Capacity building on an individual and team level is a critical change management component. People who understand the needs of the job, the product specifications, the target markets, who can be led by leaders, and who can work collaboratively are supportive factors that can move the firm in the direction it should be heading. The performance of the management will be developed in conjunction with the leadership and the person who will provide shelter for it. With competitive management, the organization is poised to capitalize on any opportunity. The corporate culture serves as the foundation for the development of the company. It is a fundamental key, but it is not the most critical change management. A company's bottom line will be lowered if it is operated with improper cultural values in its operations. Authentic leadership with the correct people and teams can establish a business culture that is flexible and adaptable to changing circumstances.

Meanwhile, according to the study's findings conducted by Ümit K. Seyfettinolu (2016), the outcomes of hypothesis 2 of open innovation substantially impact the organization's performance. The open innovation strategy was developed to make it easier to handle internal and external sources of information or knowledge that may be utilized in developing innovation inside a firm. Researchers investigated the influence of absorptive ability on open innovation in concept creation, commercialization, and radical open innovation and the impact of absorbent capacity on the performance of firms. Decreased economic costs of innovation projects and reduced innovation risks were the metrics used to evaluate inventive performance; on the other hand, firm turnover was the measure of financial success. In addition to improving the firm's performance, cooperation positively influences open innovation at the idea formulation stage and open innovation that emerges from radical changes. According to the study's findings, the same factor negatively affects

open innovation throughout commercialization. According to this research, collaboration with consumers and customers has been shown to influence open innovation throughout the ideation and commercialization stages positively. In addition, the capacity of a corporation to innovate is enhanced due to the same factor. The findings of this research contribute to the advancement of open innovation, which influences the performance of businesses.

6. Conclusion

The management of the change in the independent variable has a statistically significant impact on the organization's performance. From the regression coefficient, it can be shown that having a positive value for change management may be understood as enhancing the value of corporate performance by boosting company-owned change management. The change management strategy that has been implemented has had a positive impact on the company's performance by increasing employee knowledge, skills, and abilities and providing soft skills training to enhance leadership programs and develop new leaders who can support and improve the company's overall performance.

There is a statistically significant relationship between the independent variable of open innovation and the dependent variable of company performance. It is possible to read this as meaning that open innovation may boost the performance of businesses. The determination of an open innovation strategy in a shipping business impacts the stage at which open invention is implemented. As a result, it is possible to quantify the impact of company rules and adjustments created throughout the strategy selection process on the phases of open innovation implementation. This conclusion implies that organizations may execute goal-oriented strategies if they have the appropriate resources. To deploy open innovation in a staged manner, firms in the transportation sector might utilize a mixed approach. As a result, selecting a specific stage for implementing open innovation makes it easier to accomplish the desired results. When open innovation is used at more than one level, it becomes more complicated, requiring more complex tactics and reducing effectiveness. Open innovation is changing or creating more effective processes, products, and ideas. The main reason for companies to innovate is to improve the performance of the company, increasing the capacity of the production process to develop new products and new practices in the organization that can increase the ability of the company to acquire and create new knowledge that can be used to develop other innovations.

The results of the study strengthen that change management and open innovation have an impact on company performance, so management can pay special attention to developing the knowledge and innovation of employees in the company

References

- Ahn, J. M., Minshall, T., & Mortara, L. (2015). Open innovation: A new classification and its impact on firm performance in innovative SMEs. *Journal of Innovation Management*, 3(2). https://doi.org/10.24840/2183-0606_003.002_0006
- Almatrooshi, B., Singh, S. K., & Farouk, S. (2016). Determinants of organizational performance: a proposed framework. *International Journal of Productivity and Performance Management*, 65(6). <https://doi.org/10.1108/IJPPM-02-2016-0038>
- Bairagi, V., & Munot, M. v. (2019). Research Methodology A Practical and Scientific Approach. In *Transportation Research Part F: Traffic Psychology and Behaviour* (Vol. 4, Issue March 2019).
- Bigliardi, B., Ferraro, G., Filippelli, S., & Galati, F. (2020). The influence of open innovation on firm performance. In *International Journal of Engineering Business Management* (Vol. 12). <https://doi.org/10.1177/1847979020969545>
- Carboni, O. A., & Russu, P. (2018). Complementarity in product, process, and organizational innovation decisions: evidence from European firms. *R and D Management*, 48(2). <https://doi.org/10.1111/radm.12284>
- CNBC indonesia TV. (2020). *Curhat INSA, Pendapatan Industri Pelayaran Turun Hingga 50%*. <https://www.cnbcindonesia.com/>.
- Contan, A. L. (2015). the Importance of a Good Work Performance. *Management - the Key Driver for Creating Value*.
- Davoudi, S. M. M., Fartash, K., Zakirova, V. G., Belyalova, A. M., Kurbanov, R. A., Boiarchuk, A. v., & Sizova, Z. M. (2018). Testing the mediating role of open innovation on the relationship between intellectual property rights and organizational performance: A science and technology park case. *Eurasia Journal of Mathematics, Science and Technology Education*, 14(4). <https://doi.org/10.29333/ejmste/83651>

- Fernandez, A., Kullu, F. D., & Shankar, R. (2020). A Grounded Research Approach to Sustainable Leadership Practices and Competencies. In *Sustainable Human Resource Management*. https://doi.org/10.1007/978-981-15-5656-2_5
- Fiaz, M., Su, Q., Amir, I., & Saqib, A. (2017). Leadership styles and employees' motivation: Perspective from an emerging economy. *The Journal of Developing Areas*, 51(4). <https://doi.org/10.1353/jda.2017.0093>
- Hao, M. J., & Yazdanifard, R. (2015). How effective leadership can facilitate change in organizations through improvement and innovation. *Global Journal of Management and Business Research: A Administration and Management*, 15(9).
- Iqbal, U., Gan, C., & Nadeem, M. (2020). Economic policy uncertainty and firm performance. *Applied Economics Letters*, 27(10). <https://doi.org/10.1080/13504851.2019.1645272>
- Jain, A. K., & Moreno, A. (2015). Organizational learning, knowledge management practices and firm's performance: An empirical study of a heavy engineering firm in India. *Learning Organization*, 22(1). <https://doi.org/10.1108/TLO-05-2013-0024>
- K. E., U., H.E., O., L, O., & N.C, N. (2020). Change Management and Firm Performance of Selected Deposit Money Banks in Owerri, Imo State, Nigeria. *Journal of Empirical Studies*, 7(1). <https://doi.org/10.18488/journal.66.2020.71.1.13>
- Lauer, T. (2019). Change Management - Fundamentals and Success Factors in *Introduction to Information Security* (Vol. 1, Issue 3).
- Magsaysay, J. F., & Hechanova, M. R. M. (2017). Building an implicit change leadership theory. *Leadership and Organization Development Journal*, 38(6). <https://doi.org/10.1108/LODJ-05-2016-0114>
- Moretti, F., & Biancardi, D. (2020). Inbound open innovation and firm performance. *Journal of Innovation and Knowledge*, 5(1). <https://doi.org/10.1016/j.jik.2018.03.001>
- Nyaera, D. R., & Okeyo, W. (2019). Organizational Leadership Styles and Change Management in Telecommunication Industry in Kenya: Case Study of Telkom Kenya. *Journal of Strategic Management*.
- Pokojski, Z. (2018). In *Searching For A Business Model Open For Innovations On The Agricultural Market – Conceptual Approach*. <https://doi.org/10.22630/esare.2018.1.33>
- Sangwa, N. R., & Sangwan, K. S. (2018). Development of an integrated performance measurement framework for lean organizations. *Journal of Manufacturing Technology Management*, 29(1). <https://doi.org/10.1108/JMTM-06-2017-0098>
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach*. John Wiley & Sons.
- Seyfettinoğlu, Ü. K. (2016). Analysis of Relationships between Firm Performance and Open Innovation Strategies and Stages in the Turkish Food and Beverage Industry. *New Media*, 15(1).
- Verbano, C., Crema, M., & Venturini, K. (2015). The Identification and Characterization of Open Innovation Profiles in Italian Small and Medium-sized Enterprises. *Journal of Small Business Management*, 53(4). <https://doi.org/10.1111/jsbm.12091>

Biography

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