

Enterprise Risk Management Practices Model for Hospital Performance in UAE

By

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Abstract

One of the most significant companies' management issues in the last ten years is enterprise risk management. Various scholars have contributed their distinct viewpoints to the evolution of enterprise risk management. Enterprise risk management can be defined at the corporate level, including risk assessment, quantification, financing, and management. This study's primary goal was to examine the connection between enterprise risk management practices and hospital performance in the UAE. The major study question was whether enterprise risk management practices influence hospital performance in the UAE. This study aims to produce a connection between enterprise risk management practices and hospital performance in the UAE that considers both business model innovation and stakeholder engagement in the decision-making. The primary findings of the study center on creating a conceptual model of enterprise risk management practices concerning hospital performance in the UAE.

Keywords: Business Model Innovation, Hospital Performance, Enterprise Risk Management, Stakeholder's Engagement in the Decision Making, Hospital Industry.

Introduction

Enterprise Risk Management (ERM) was developed as a tool to improve corporate governance procedures, especially through risk management, and might add value to the company (Lechner & Gatzert, 2018). Along with productivity and revenue growth, risk management should be seen as the third component of creating value for shareholders (Saeidi et al., 2021). The success of the organizational performance is significantly influenced by the ERM implementation level. The subject of risk management is receiving more attention from academics and business experts (Anton & Nucu, 2020). Moreover, the performance of the organization was negatively impacted by improper risk management implementation procedures. Many studies have focused on developed economies in particular (Mohamad, Jayakrishnan, & Yusof, 2022), whereas emerging economies have garnered very little attention

on the value of the risk management practices is negatively impacted the organization's performance.

Despite the significance of ERM for organizational performance and the ability to innovate, the managing organization still presents several difficulties (Bohnert, Gatzert, Hoyt, & Lechner, 2019). These difficulties emerged because of the required balancing of productive effectiveness with the political and social ramifications of the verdict form, as evidenced by stakeholders' responses in both the immediate and further remote environments that make up the organizational ecosystem. Such ecosystems are governed by both internal and external causes (Jayakrishnan, Karim, & Mohd, 2022). The state-designated norms and business activity principles make up the borders of the ecosystem, where decision-makers, whether they are supportive or opposed, their decisions put hospitals at risk accomplish the intended objectives. As a result, risk management is more challenging than ever (Lechner & Gatzert, 2018). The use of ERM procedures is urged by a wide range of professional rating agencies, among other stakeholder groups, governing organizations, authorities, stock exchanges, global standards groups, and consultancies. More than 80% of corporate leaders and stakeholders agree that an efficient, all-encompassing risk management strategy is essential for organizational sustainability (Senna, Reis, Santos, Dias, & Coelho, 2020). A more formal risk management framework resulted from this emphasis on ERM.

There isn't a single, widely accepted definition of ERM that involves removing risk from risk management. According to (Anton, 2018), ERM procedures support organizational sustainability and the firm's longevity while reducing return volatility. Company executives can use ERM to increase stakeholders' value by developing stronger commercial tactics, relationship administration, pricing of goods and services, capital administration, and risk transfers (Zhao et al., 2021). A relevant ERM definition for corporate leaders is created by combining all these various components. The organization must establish suitable risk management measures that comply with the firm's risk appetite (Chaudhuri, Ghadge, Gaudenzi, & Dani, 2020). The identification of ERM as a systematic strategy to analyze all aspects that might impair the capacity of business leaders to attain corporate goals led to a thorough definition that was in line with the ERM framework. Although several studies have examined ERM in the literature, it is unknown if ERM directly or indirectly affects Business Model Innovation (BMI), which in turn affects organization performance. To benefit from an effective BMI, businesses need a corporate business model, organizational habits, and performance focus.

However, it is still unclear how ERM techniques help businesses develop their BMI. According to (Bashir & Verma, 2019), a top-level risk exposure vigor includes both required and optional disclosures about risk management. Recently, there has been discussion over whether firms should transition a separate operational and strategic risk management process to strategic risk considerations (Wirahadi & Pasaribu, 2022). Moreover, many hospitals in the UAE are unable to put risk management practices into place (Shamayleh, Awad, & Abdulla, 2019). Recent research has also indicated that hospitals in the UAE are struggling with risk management (Al Amiri & Abu Shawali, 2021). There are various categories of risk, including business risk, financial risk, nonfinancial risk, and investment risk. Confidentiality risk, medical risk, and operational risk are all types of risk in hospital organizations. According to (Fraser, Quail, & Simkins, 2021), performance measure of both private and public hospitals can be evaluated using

ERM practices. ERM significantly influences the advantages of competition and Information Technology (IT) structure, and IT strategy significantly influences competitive advantage, which has the effect of mitigating the relationship between ERM and competitive advantage. Competitive strategy, where a hospital can save costs and provide clients with distinctive performance. By lowering financial costs, the same theme of greater profitability and competitive advantage is present. We contend that ERM practices are linked to top management decision-making, and this turn can affect a hospital performance and competitiveness.

We conceptualize the ERM practices, BMI, stakeholder's engagement in the decision-making, and hospital performance. Therefore, as a case study in the UAE, ERM practices will improve hospital performance. We developed a key question on establishing a conceptual model stating the connection between ERM practices and hospital performance in the UAE to design and implement the model. As a result, this study aims to analyze the interactions between BMI, and stakeholder's engagement in the decision-making, as well as the relation between ERM practices and the hospital performance in the UAE.

Literature Review

Enterprise Risk Management (ERM) is a procedure used by the management, board of directors, and other staff members of an organization to identify probable events that could negatively impact the performance, govern risk following its risk relish, and give rational certainty that the organization's objectives will be met. The necessity for ERM is brought to regulatory bodies' attention by significant economic occurrences, such as the worldwide pandemic and financial catastrophe, as well as by significant legislative enactments. These are all contributing elements to the importance of ERM as a management subject for company executives. Business executives can incorporate the standards throughout their businesses by following the ERM practices, which serve as the gold standard for organizational performance. Although communicating risk management objectives and strategy to external stakeholders is a crucial role as well, a decision maker's primary responsibility is to implement and coordinate ERM (Jayakrishnan, Mohamad, & Yusof, 2021). The adoption of ERM is influenced by organizational traits like market ratio, leverage, and the volatility of earnings and stock prices. The only significant correlation between those factors and the adoption of ERM is the one between leverage and ERM, which, *ceteris paribus*, indicates that more leveraged enterprises are further inclined to adopt an ERM framework.

To determine the ERM practices and hospital performance, we conducted a systematic literature review. The systematic literature review is a process that focuses on planning how to review and aggregate the body of research literature according to the study's specific indicators. An organized assessment of the literature will help to clearly define the research study's answer and evaluate the research difficulties critically. Additionally, it will highlight the indicators that the research study needs to investigate further. Incorporating information about ERM practices for hospital performance based on a systematic literature review methodology is also beneficial. As a result, as indicated in Table 1, we have determined the ERM practices within hospital performance based on

the systematic review.

Table 1: *Outline of Enterprise Risk Management Practices Towards Hospital Performance*

No	References	Enterprise Risk Management Practices					Classification
		Insights and Transparency	Risk Appetite and Strategy	Risk-related decisions and processes	Organization and Governance	Risk Culture and Performance Transformation	
1	(Florio & Leoni, 2017)	√	√			√	Establishing a shared language for various risk scenarios.
2	(El-Sherif et al., 2022)	√		√	√	√	
3	(Lundqvist & Vilhelmsson, 2018)	√	√	√	√		Choosing the course of action to take in risk-related situations.
4	(Wirtz, 2019)	√	√			√	
5	(Songling, Ishtiaq, & Anwar, 2018)	√	√	√			For the organisational process to be successful, incorporate risk into company decision-making.
6	(Kim, Bonn, & Lee, 2020)		√		√	√	
7	(Bodolica & Spraggon, 2019)	√	√		√		Making sense of risk management across the entire enterprise.
8	(Elamir, 2019)		√	√		√	
9	(Khan, Ajmal, Hussain, & Helo, 2018)		√			√	By achieving the desired result, the organization can reduce risk.
10	(Anton & Nucu, 2020)	√			√	√	

The association between ERM practices and hospital performance has been determined based on Table 1 by (1) Insights and Transparency risk information that could influence different decisions and a different course of action (El-Sherif et al., 2022; Florio & Leoni, 2017), (2) Risk Appetite and Strategy through justification and integration with organizational strategy (Lundqvist & Vilhelmsson, 2018; Wirtz, 2019), (3) Risk-related decisions and processes focusing on the crucial task of risk management and the minimization of risk mistakes that endanger a company's capabilities (Kim et al., 2020; Songling et al., 2018), (4) Risk Organization and Governance think strategically by analyzing and utilizing resources that are focused on the operations of the company (Bodolica & Spraggon, 2019; Elamir, 2019) and (5) Risk Culture and Performance Transformation by making continuous organisational growth throughout numerous cycles that improve performance (Anton & Nucu, 2020; Khan et al., 2018). The strategic analysis setting of the practices will determine their situation of survival through fastness with what they answer the exterior stimuli by their flexibility to quickly change their performance outcome (Jayakrishnan, Mohamad, & Yusof, 2020). Therefore, employing the ERM practices within the hospital performance is essentially required by the dynamics of economic life and the contemporary informational surge that created the usage of different forms of support methods for the decision-making method of necessity.

The administration through previous ERM practices didn't report efficiency due to the existing incongruence that needs actionable insights. The new ERM practices interact with this review collection and follow it because of the conventional in addition to everyday hospital performance. Utilizing ERM practices favors quicker progress of the hospital performance, as integrant the main hospital outcome upon which it may be practiced an optimistic or, often,

bad influence. By hospital performance, we realize the totality of values, prices, icons, and attitudes within an organization that's reflected in the conclusions and measures which they follow and use to be able to assure aggressive progress of the ERM practices. It plays a part in acquiring the synergy influence within the corporation, being fully a significant determinant in acquiring the aggressive advantage. Besides, the hospital performance by the manifestation in the ERM practices favors the organizational understanding method, assures a harmonization within the corporation generates the “social control” upon the progress of the performance outcome.

Additionally, there is a close connection between the influence of Business Model Innovation (BMI) and stakeholders' engagement in the decision-making. By considering the theoretical foundation of Resource-Based View (RBV) theory, researchers can better understand this link. For this study, we've modified and projected the RBV theory. However, researchers of the RBV theory made the argument that building capacity could not depend on how much money a company possesses or acquires but rather on how that capital is implemented and mixed. RBV theory's capability is the ability to efficiently combine and deploy resources to transform inputs into desired outputs (Freeman, Dmytriiev, & Phillips, 2021). Which explains the differences in output amongst companies that invest the same amount of money (Jayakrishnan, Mohamad, & Yusof, 2021). Despite RBV's widespread use in explaining the impact of its competencies on a business's success, it is not without its detractors. The resource-based perspective has drawn criticism for several reasons, such as its disregard for the external elements that influence a firm's competitive edge and its lack of understanding of how basic abilities are acquired. To help the researcher, identify the IT skills that influence innovation and organisational performance, RBV can be utilised as a tool. As shown in Table 2, the connection between ERM practices and hospital performance can be explained as a first step using RBV theory.

Table 2: *The Resource-Based View Theory for Enterprise Risk Management Practices*

Elements	Classifying	References
Resources	Each capability's resource inputs carry out the specific set of operations that cause the change.	(Barney, 1991; Freeman et al., 2021)
Business Capabilities	Capabilities that the organization highlights as the assumption of truth and a given.	(Barney, 1991; McGahan, 2021)
Core Competencies	Short-term behavioral adjustments that follow from the outputs are emphasized as a source of sustainable competitive advantage.	(Barney, 1991; Davis & DeWitt, 2021)
Strategy	Create a strategy that aims to make use of the organization's current resources and long-lasting behavioral changes brought on by the outputs.	(Barney, 1991; Malik, Budhwar, & Kandade, 2022)

Based on Table 2, the RBV Theory's capabilities may also be divided into two categories: personnel experience and skills, and location, which are market characteristics that

allow for differentiation based on specialized positioning. This study investigates the function of BMI platforms in creativity and capacity building by analyzing RBV and the involvement of customers and vendors in the design phase and new product results. This study includes ERM practices that assess the mediate impact on the BMI and the success of the hospital performance to refute the criticisms. Sustainable competitive advantage is feasible when a company has skills and resources, depending on the asset-based (RBV) perspective of capital (McGahan, 2021). As a result, hospital management's ability to expand their deployment across IT capabilities is significantly increased. The use of IT capabilities and value creation, as well as the establishment of new businesses, are encouraged by an organization's resource-based perspective. The capabilities also pique the interest of organizations in terms of internal operations, advertising, revenue, and customer interactions, all of which are important corporate elements. We can conclude that the ERM practices and hospital performance are mapped using the theoretical framework.

Framework Development

Academic interest in Business Model Innovation (BMI) has significantly increased in recent years. The BMI can be characterized as the identification of a basic nature new business model within an already subsist organization or as the pursuit of fresh business logic for the company and fresh strategies for generating and capturing value for its stakeholders. Additionally, management workshops and academic conferences have similarly addressed business models and BMI (Sousa-Zomer & Cauchick-Miguel, 2019). BMI is still regarded as a difficult construct to investigate. Finally, the strategic role of the business model is connected to building the business performance. New technical advancements over the past two decades have sparked improvements across the board in the business model (Keiningham et al., 2020). These include new markets where value can be supplied, new methods for creating value, and new chances for generating income. While offering new goods and services is referred regarded as product innovation, proceeding innovation is the adoption of current procedures or production techniques.

Studies show that successful organizations are redesigned by utilizing innovation in their enterprise certain elements of the entire business concept or just a portion of it, which answers the why do certain companies outperform and dominate other marketplaces others experience market share loss or collapse completely. Researchers have just lately begun to examine internal tools that give managers the ability to proactively alter their current business strategy. Some academics have focused their attention on examining the specific micro-foundations of dynamic capacities in their search for internal BMI enhancers. Therefore, it is advantageous for innovative firms to incorporate ERM practices into a strategic performance model. BMI requires significant financial outlays and entails a high degree of complexity, risk, and uncertainty. Although many businesses adopt a "no risk, no return" policy and adopt a first-mover strategy approach, possibly a sloppy BMI deployment could have disastrous, even fatal, effects on a company's core business. The necessity of balancing the utilization of resources, the freedom to try new things, and the coherence of leadership skills, organizational culture, and worker dedication. Additionally, mention leadership cohesion, resource flexibility, and strategy sensitivity as BMI facilitators. This study views this as a significant omission because ERM is a crucial micro foundation for sensory abilities. For this reason, as shown in Table 3, we have assembled the ERM practices that affect hospital performance.

Table 3: *The enterprise risk management practices toward the hospital performance.*

No	RBV Theory	ERM practices	Hospital Performance Indicators	References
1	Resources	Insights and Transparency	Financial Performance	(Barney, 1991; Freeman et al., 2021; Hartwig & Mathews, 2020; Senna et al., 2020; Singh, Agrawal, Sahu, & Kazancoglu, 2021)
2	Business Capabilities	Risk Appetite and Strategy		(Assadian et al., 2021; Avery, Cripps, & Rogers, 2021; Barney, 1991; Elamir, 2019; Habib & Shahwan, 2020; McGahan, 2021; Rizwan et al., 2022)
3	Core Competencies	Risk-related decisions and processes	Nonfinancial Performance	(Barney, 1991; Davis & DeWitt, 2021; Falkenström & Höglund, 2019; Hammoda & Durst, 2022; Sousa-Zomer & Cauchick-Miguel, 2019; Tortorella, Fogliatto, Mac Cawley Vergara, Vassolo, & Sawhney, 2020)
		Risk Organization and Governance		(Amos, 2021; Barney, 1991; Brown, 2020; Chatterjee, Suy, Yen, & Chhay, 2017; Etges et al., 2018; Frankowski, 2019; Venkatesh, Morris, Davis, & Davis, 2003)
4	Strategy	Risk Culture and Performance Transformation	Environmental Performance	(Barney, 1991; Binci, Palozzi, & Scafarto, 2021; Hammoda & Durst, 2022; Khalid, Beattie, & Sands, 2022; Malik et al., 2022; Tukamuhabwa, Mutebi, & Isabirye, 2021; Vainieri, Noto, Ferre, & Rosella, 2020)

According to Table 3, ERM practices influence hospital performance because efficiency design themes lead to improved business performance. Additionally, technological innovation enhances the performance of businesses. A higher return on the expenses and income related to BMI can result from improving ERM implementation. Therefore, a company's performance in terms of innovation has a beneficial impact on its business performance. Additionally, higher hospital performance can be produced by more effective innovation outcomes that are produced by effective management of innovation capability. We have tabulated a model for the consistency between the elements of the business model was defined, BMI case study examples were retrospectively explained, and the performance consequences of BMI displayed in Table 4.

Table 4: The Business Model Innovation

Indicators	Classifying	References
Value creation	Creating high-value work with an emphasis on the organization's strategic planning and enhancing opportunities for advancement.	(Andreassen et al., 2018; Jayakrishnan, Mohamad, & Yusof, 2019; Schiavone, Leone, Sorrentino, & Scaletti, 2020)
Value capture	Utilizing data from the business model to enhance decision-making and better value capture through key performance activities.	(Jayakrishnan, Mohamad, & Abdullah, 2019; Kulkov, 2021; Sousa-Zomer & Cauchick-Miguel, 2019)
Value proposition	Moving past the conventional and into comprehensive, actionable insights that offer an automated value proposition in the business model.	(Andreassen et al., 2018; Jayakrishnan, Mohamad, & Abdullah, 2019a; Schmidt & Scaringella, 2020)

Based on Table 4, the Business Model Innovation (BMI) serves as an effective intermediary between the strategies, capabilities, resources, and performance of an organization. Despite the growing interest in BMI among professionals and academics, earlier studies tended to be static and descriptive in style. The scope of BMI can emerge from more gradual reconfigurations of these pieces rather than drastic changes to any or all the business model components. A theoretical lens for examining this preventative BMI procedure has been provided, by the dynamic capacity indicators. Dynamic indicators, as opposed to average abilities, which primarily support a business's current functions, oversee identifying innovative ideas, exploiting fresh possibilities, and changing an organization's business model. BMI is a measure of a firm's risk-taking behavior; however, it is yet unclear from the literature how ERM procedures affect BMI. Additionally, little is known about how BMI influences both ERM practices and hospital performance. Some researchers have argued that ERM practices do not immediately increase organization execution, and those additional factors moderate and mediate the routes. These studies have provided fragmented results between ERM and performance. This makes it detrimental to examine the mediating effect of BMI in these studies. Therefore, the goal of this investigation is to evaluate how ERM practices affect hospital performance while using innovation capabilities as a mediating factor.

The actions of hospital organizations that fall under the macroeconomic category of BMI pertain to all different kinds of goods and services. The risk analyzed in the microeconomic category is in turn results in an inaccurate estimation of the budget for a public hospital. The lack of management practices, where the financial success of the hospital is important to stakeholders, is the biggest challenge facing UAE public hospitals, given that the country's primary healthcare issue is an inadequate BMI level. The establishing investors, parties, payers, other stakeholders, and banks who are connected to a specific hospital outcome may find these qualities useful in their appraisal of the hospital unit. To assess the risk to their entire organization, hospitals should be motivated to raise the necessary resources. Consequently, the participation of stakeholders in decision-making procedures is a must for efficient hospital innovation capabilities. As a result, the goal of this study is to evaluate the moderate influence that stakeholders' engagement in the decision-making process has on the connection between ERM practices and BMI. The information-intensive of stakeholders' engagement in the decision-making for improvements skilled by support ERM practices and BMI that led to reaching the goal for hospital performance are shown in Table 5.

Table 5: The Stakeholder's Engagement in the Decision Making

Indicators	Classifying	References
Broad engagement	Encourages widespread participation and persuasion in a way that maximizes performance, enabling companies to achieve their goals.	(Brown, 2020; Montreuil, Martineau, & Racine, 2019)
Continual engagement	Decision-makers need to be flexible in their approach to procedures that can inform and empower them in a variety of ways.	(Bird et al., 2021; Prakash & Srivastava, 2019)
Deep engagement	Establishing specific objectives and strategic planning represented valuable insights for an improved decision-making process that boosts operational effectiveness.	(Ancarani, Mauro, & Giammanco, 2019; Eljiz, Greenfield, Molineux, & Sloan, 2018)

Stakeholder's Engagement in the Decision-Making serves as a moderating variable for ERM practices and BMI in this research study, as shown in Table 5. Moreover, we have strategized five factors or problem areas that are used to categorize risk in hospital institutions through stakeholder's engagement in the decision-making: (1) cost-effectiveness or the potential for financial loss is equated with significance, (2) operational indicators—a mechanism for measuring how easily a facility can adjust alterations, with a focus within a hospital regulation, (3) internal management, which can be defined as the assessment of the hospital's organizational units control systems, (4) the degree of management mean by all actions involving the reorganization of hospital formations, the adjustment of knowledge flow, and (5) external variables that are fully successful in bringing about changes to the hospital environment. As shown in Figure 1, we have created a conceptual model and map of ERM practices that affect hospital performance.

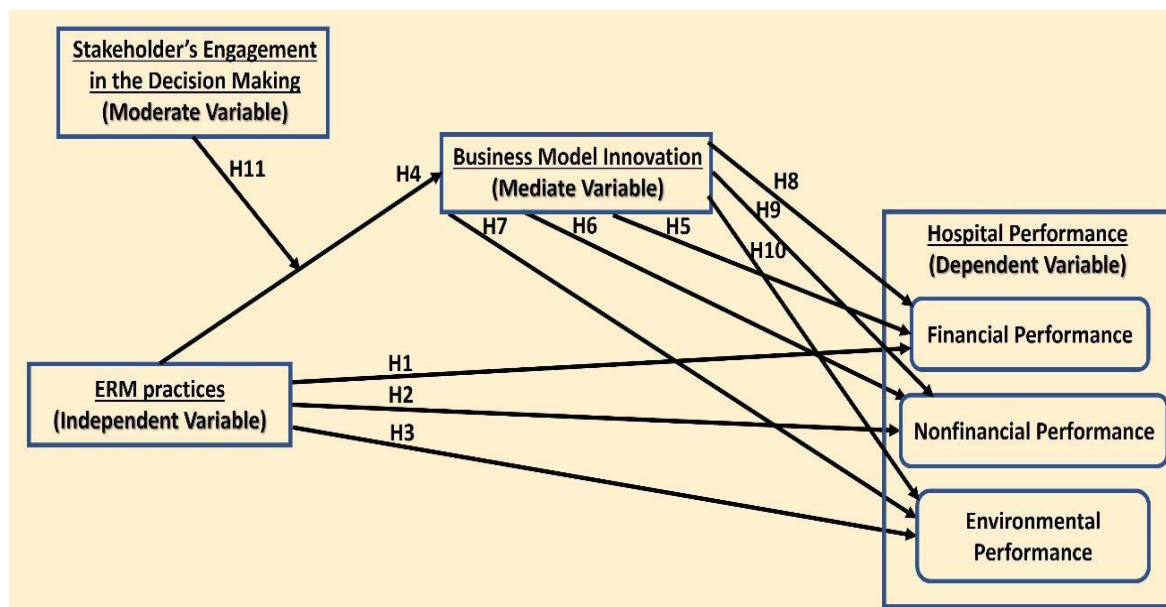


Figure 1: Conceptual Model of ERM practices toward the Hospital Performance.

According to Figure 1, the conceptual model of ERM practices that influence hospital performance identifies risk management as an independent variable in the UAE with a mediating variable on the BMI and a moderate variable on stakeholders' engagement in the decision-making. For the success of the hospital business, we have therefore defined our dependent variable as including financial performance, nonfinancial performance, and

environmental performance. Other organizations or nations might make use of this basic conceptual model to embrace relevant ERM practices for the success of the sector.

Conclusion

ERM practices play a role in implementing one of the widely accepted theories regarding organizational performance, the effective organizational performance grants a crucial outcome due to its aggressive advantage. The ERM practices show a collection of complex techniques centered on the application that provides a vast array of ERM root and fundamental decision evaluation as a simple approach to improving performance through a decision-making process. The quantity and caliber of information that is shared both internally and externally determine an organization's growth more than any other factor. Additionally, it is understood that organizations are promoting the movement of the culture-centered relating data to culture on knowledge. Therefore, value proposition, value production, and value capture are the three interconnected core parts that makeup business models. These components are set up as a mutually reinforcing structure that establishes the business logic of the firm. Moreover, for financial performance and sustainability, BMI is essential. BMI significantly and favorably affects small enterprises' performance and competitive advantage, according to recent studies show that have examined the relationship between BMI and business performance. Businesses must develop a successful business plan to gain the advantages of competition and achieve superior monetary results. Additionally, BMI has been proposed as a mediator in the relationship between global R&D sourcing. The relationships between the ability to combine information and organizational performance are further mediated by innovation in products and processes such as BMI kinds.

References

- Al Amiri, N., & Abu Shawali, A. (2021). Talent management strategies of a public UAE hospital in the Industry 4.0 era: A qualitative analysis. *Problems and Perspectives in Management*, 19(2), 14–27. [https://doi.org/10.21511/ppm.19\(2\).2021.02](https://doi.org/10.21511/ppm.19(2).2021.02)
- Amos, D. (2021). A practical framework for performance measurement of facilities management services in developing countries' public hospitals. *Journal of Facilities Management*. <https://doi.org/10.1108/JFM-03-2021-0034>
- Ancarani, A., Mauro, C. Di, & Giammanco, M. D. (2019). Linking Organizational Climate to Work Engagement: A Study in the Healthcare Sector. *International Journal of Public Administration*, 42(7), 547–557. <https://doi.org/10.1080/01900692.2018.1491595>
- Andreassen, T. W., Lervik-Olsen, L., Snyder, H., Van Riel, A. C. R., Sweeney, J. C., & Van Vaerenbergh, Y. (2018). Business model innovation and value-creation: the triadic way. *Journal of Service Management*, 29(5), 883–906. <https://doi.org/10.1108/JOSM-05-2018-0125>
- Anton, S. G. (2018). The Impact of Enterprise Risk Management on Firm Value: Empirical Evidence from Romanian Non-financial Firms. *Engineering Economics*, 29(2). <https://doi.org/10.5755/j01.ee.29.2.16426>
- Anton, S. G., & Nucu, A. E. A. (2020). Enterprise Risk Management: A Literature Review and Agenda for Future Research. *Journal of Risk and Financial Management*, 13(11), 281. <https://doi.org/10.3390/jrfm13110281>
- Assadian, O., Harbarth, S., Vos, M., Knobloch, J. K., Asensio, A., & Widmer, A. F. (2021). Practical recommendations for routine cleaning and disinfection procedures in healthcare institutions: a narrative review. *Journal of Hospital Infection*, 113, 104–114. <https://doi.org/10.1016/j.jhin.2021.03.010>

- Avery, M. J., Cripps, A. W., & Rogers, G. D. (2021). Health boards' governance of quality and risk: quality improvement agenda for the board. *International Journal of Health Governance*, 26(3), 292–306. <https://doi.org/10.1108/IJHG-01-2021-0006>
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Bashir, M., & Verma, R. (2019). Internal factors & consequences of business model innovation. *Management Decision*, 57(1), 262–290. <https://doi.org/10.1108/MD-11-2016-0784>
- Binci, D., Palozzi, G., & Scafarto, F. (2021). Toward digital transformation in healthcare: a framework for remote monitoring adoption. *The TQM Journal*. <https://doi.org/10.1108/TQM-04-2021-0109>
- Bird, M., McGillion, M., Chambers, E. M., Dix, J., Fajardo, C. J., Gilmour, M., ... Carter, N. (2021). A generative co-design framework for healthcare innovation: development and application of an end-user engagement framework. *Research Involvement and Engagement*, 7(1), 12. <https://doi.org/10.1186/s40900-021-00252-7>
- Bodolica, V., & Spraggon, M. (2019). Toward patient-centered care and inclusive health-care governance: a review of patient empowerment in the UAE. *Public Health*, 169, 114–124. <https://doi.org/10.1016/j.puhe.2019.01.017>
- Bohnert, A., Gatzert, N., Hoyt, R. E., & Lechner, P. (2019). The drivers and value of enterprise risk management: evidence from ERM ratings. *The European Journal of Finance*, 25(3), 234–255. <https://doi.org/10.1080/1351847X.2018.1514314>
- Brown, A. (2020). Communication and leadership in healthcare quality governance. *Journal of Health Organization and Management*, 34(2), 144–161. <https://doi.org/10.1108/JHOM-07-2019-0194>
- Chatterjee, R., Suy, R., Yen, Y., & Chhay, L. (2017). Literature Review on Leadership in Healthcare Management. *Journal of Social Science Studies*, 5(1), 38. <https://doi.org/10.5296/jsss.v5i1.11460>
- Chaudhuri, A., Ghadge, A., Gaudenzi, B., & Dani, S. (2020). A conceptual framework for improving effectiveness of risk management in supply networks. *International Journal of Logistics Management*, The, 31(1), 77–98. <https://doi.org/10.1108/IJLM-11-2018-0289>
- Davis, G. F., & DeWitt, T. (2021). Organization Theory and the Resource-Based View of the Firm: The Great Divide. *Journal of Management*, 47(7), 1684–1697. <https://doi.org/10.1177/0149206320982650>
- El-Sherif, D. M., Abouzid, M., Elzarif, M. T., Ahmed, A. A., Albakri, A., & Alshehri, M. M. (2022). Telehealth and Artificial Intelligence Insights into Healthcare during the COVID-19 Pandemic. *Healthcare*, 10(2), 385. <https://doi.org/10.3390/healthcare10020385>
- Elamir, H. (2019). Enterprise risk management and bow ties: going beyond patient safety. *Business Process Management Journal*, 26(3), 770–785. <https://doi.org/10.1108/BPMJ-03-2019-0102>
- Eljiz, K., Greenfield, D., Molineux, J., & Sloan, T. (2018). How to improve healthcare? Identify, nurture and embed individuals and teams with “deep smarts.” *Journal of Health Organization and Management*, 32(1), 135–143. <https://doi.org/10.1108/JHOM-09-2017-0244>
- Etges, A. P. B. da S., Grenon, V., Lu, M., Cardoso, R. B., de Souza, J. S., Kliemann Neto, F. J., & Felix, E. A. (2018). Development of an enterprise risk inventory for healthcare. *BMC Health Services Research*, 18(1), 578. <https://doi.org/10.1186/s12913-018-3400-7>
- Falkenström, E., & Höglund, A. T. (2019). “There is total silence here” Ethical competence

- and inter-organizational learning in healthcare governance. *Journal of Health Organization and Management*, 34(1), 53–70. <https://doi.org/10.1108/JHOM-05-2019-0130>
- Florio, C., & Leoni, G. (2017). Enterprise risk management and firm performance: The Italian case. *The British Accounting Review*, 49(1), 56–74. <https://doi.org/10.1016/j.bar.2016.08.003>
- Frankowski, A. (2019). Collaborative governance as a policy strategy in healthcare. *Journal of Health Organization and Management*, 33(7/8), 791–808. <https://doi.org/10.1108/JHOM-10-2018-0313>
- Fraser, J. R. S., Quail, R., & Simkins, B. J. (2021). Questions asked about enterprise risk management by risk practitioners. *Business Horizons*. <https://doi.org/10.1016/j.bushor.2021.02.046>
- Freeman, R. E., Dmytriiev, S. D., & Phillips, R. A. (2021). Stakeholder Theory and the Resource-Based View of the Firm. *Journal of Management*, 47(7), 1757–1770. <https://doi.org/10.1177/0149206321993576>
- Habib, A. M., & Shahwan, T. M. (2020). Measuring the operational and financial efficiency using a Malmquist data envelopment analysis: a case of Egyptian hospitals. *Benchmarking: An International Journal*, 27(9), 2521–2536. <https://doi.org/10.1108/BIJ-01-2020-0041>
- Hammada, B., & Durst, S. (2022). A taxonomy of knowledge risks for healthcare organizations. *VINE Journal of Information and Knowledge Management Systems*. <https://doi.org/10.1108/VJIKMS-07-2021-0114>
- Hartwig, S., & Mathews, S. (2020). Innovation Project Risk Analytics: A Preliminary Finding. *Research-Technology Management*, 63(3), 19–23. <https://doi.org/10.1080/08956308.2020.1733901>
- Jayakrishnan, M, Mohamad, A. K., & Yusof, M. M. (2019). Understanding Big Data Analytics (BDA) and Business Intelligence (BI) Towards Establishing Organizational Performance Diagnostics Framework. *International Journal of Recent Technology and Engineering*, 8(1), 128–132.
- Jayakrishnan, Mailasan, Karim, A., & Mohd, M. (2022). Railway supply chain excellence through the mediator role of business intelligence : Knowledge management approach towards information system. *Uncertain Supply Chain Management*, 10(1), 125–136. <https://doi.org/10.5267/j.uscm.2021.10.003>
- Jayakrishnan, Mailasan, Mohamad, A. K., & Abdullah, A. (2019a). Enterprise Architecture Embrace Digital Technology in Malaysian Transportation Industry. *International Journal of Engineering and Advanced Technology*, 8(4), 852–859. Retrieved from <https://www.ijeat.org/wp-content/uploads/papers/v8i4/D6444048419.pdf>
- Jayakrishnan, Mailasan, Mohamad, A. K., & Abdullah, A. (2019b). Journey of an Enterprise Architecture Development Approach in Malaysian Transportation Industry. *International Journal of Engineering and Advanced Technology*, 8(4), 765–774. Retrieved from <https://www.ijeat.org/wp-content/uploads/papers/v8i4/D6271048419.pdf>
- Jayakrishnan, Mailasan, Mohamad, A. K., & Yusof, M. M. (2020). Business Architecture Model in Strategic Information System Management for Effective Railway Supply Chain Perspective. *International Journal of Engineering Research and Technology*, 13(11), 3927–3933.
- Jayakrishnan, Mailasan, Mohamad, A. K., & Yusof, M. M. (2021a). Developing railway supplier selection excellence using business intelligence knowledge management framework. *International Review of Applied Sciences and Engineering*, 12(3), 257–268. <https://doi.org/10.1556/1848.2021.00267>

- Jayakrishnan, Mailasan, Mohamad, A. K., & Yusof, M. M. (2021b). Organization Cybernetics for Railway Supplier Selection. *Jurnal Online Informatika*, 6(1), 33–40. <https://doi.org/10.15575/join.v6i1.689>
- Keiningham, T., Aksoy, L., Bruce, H. L., Cadet, F., Clennell, N., Hodgkinson, I. R., & Kearney, T. (2020). Customer experience driven business model innovation. *Journal of Business Research*, 116, 431–440. <https://doi.org/10.1016/j.jbusres.2019.08.003>
- Khalid, S. K., Beattie, C., & Sands, J. S. (2022). Barriers and Motivations to Integrating Environmental Performance in the BSC: a case study in health care. *Sustainability Accounting, Management and Policy Journal*, 13(2), 297–319. <https://doi.org/10.1108/SAMPJ-09-2020-0325>
- Khan, M., Ajmal, M., Hussain, M., & Helo, P. (2018). Barriers to social sustainability in the health-care industry in the UAE. *International Journal of Organizational Analysis*, 26(3), 450–469. <https://doi.org/10.1108/IJOA-05-2017-1164>
- Kim, M. J., Bonn, M., & Lee, C.-K. (2020). The effects of motivation, deterrents, trust, and risk on tourism crowdfunding behavior. *Asia Pacific Journal of Tourism Research*, 25(3), 244–260. <https://doi.org/10.1080/10941665.2019.1687533>
- Kulkov, I. (2021). Next-generation business models for artificial intelligence start-ups in the healthcare industry. *International Journal of Entrepreneurial Behavior & Research*. <https://doi.org/10.1108/IJEER-04-2021-0304>
- Lechner, P., & Gatzert, N. (2018). Determinants and value of enterprise risk management: empirical evidence from Germany. *The European Journal of Finance*, 24(10), 867–887. <https://doi.org/10.1080/1351847X.2017.1347100>
- Lundqvist, S. A., & Vilhelmsson, A. (2018). Enterprise Risk Management and Default Risk: Evidence from the Banking Industry. *Journal of Risk and Insurance*, 85(1), 127–157. <https://doi.org/10.1111/jori.12151>
- Malik, A., Budhwar, P., & Kandade, K. (2022). Nursing excellence: A knowledge-based view of developing a healthcare workforce. *Journal of Business Research*, 144, 472–483. <https://doi.org/10.1016/j.jbusres.2022.01.095>
- McGahan, A. M. (2021). Integrating Insights From the Resource-Based View of the Firm Into the New Stakeholder Theory. *Journal of Management*, 47(7), 1734–1756. <https://doi.org/10.1177/0149206320987282>
- Mohamad, A. K., Jayakrishnan, M., & Yusof, M. M. (2022). Thriving information system through business intelligence knowledge management excellence framework. *International Journal of Electrical and Computer Engineering*, 12(1), 506–514. <https://doi.org/10.11591/ijece.v12i1.pp506-514>
- Montreuil, M., Martineau, J. T., & Racine, E. (2019). Exploring Ethical Issues Related to Patient Engagement in Healthcare: Patient, Clinician and Researcher's Perspectives. *Journal of Bioethical Inquiry*, 16(2), 237–248. <https://doi.org/10.1007/s11673-019-09904-6>
- Prakash, G., & Srivastava, S. (2019). Exploring value-dense environment in the healthcare service delivery. *The TQM Journal*, 32(2), 331–347. <https://doi.org/10.1108/TQM-04-2019-0093>
- Rizwan, M., Shabbir, A., Javed, A. R., Srivastava, G., Gadekallu, T. R., Shabir, M., & Hassan, M. A. (2022). Risk monitoring strategy for confidentiality of healthcare information. *Computers and Electrical Engineering*, 100, 107833. <https://doi.org/10.1016/j.compeleceng.2022.107833>
- Saeidi, P., Saeidi, S. P., Gutierrez, L., Streimikiene, D., Alrasheedi, M., Saeidi, S. P., & Mardani, A. (2021). The influence of enterprise risk management on firm performance with the moderating effect of intellectual capital dimensions. *Economic Research-Ekonomska Istrazivanja*, 34(1), 122–151.

- <https://doi.org/10.1080/1331677X.2020.1776140>
- Schiavone, F., Leone, D., Sorrentino, A., & Scaletti, A. (2020). Re-designing the service experience in the value co-creation process: an exploratory study of a healthcare network. *Business Process Management Journal*, 26(4), 889–908. <https://doi.org/10.1108/BPMJ-11-2019-0475>
- Schmidt, A. L., & Scaringella, L. (2020). Uncovering disruptors' business model innovation activities: evidencing the relationships between dynamic capabilities and value proposition innovation. *Journal of Engineering and Technology Management*, 57, 101589. <https://doi.org/10.1016/j.jengtecman.2020.101589>
- Senna, P., Reis, A., Santos, I. L., Dias, A. C., & Coelho, O. (2020). A systematic literature review on supply chain risk management: is healthcare management a forsaken research field? *Benchmarking: An International Journal*, 28(3), 926–956. <https://doi.org/10.1108/BIJ-05-2020-0266>
- Shamayleh, A., Awad, M., & Abdulla, A. O. (2019). Criticality-based reliability-centered maintenance for healthcare. *Journal of Quality in Maintenance Engineering*, 26(2), 311–334. <https://doi.org/10.1108/JQME-10-2018-0084>
- Singh, R. K., Agrawal, S., Sahu, A., & Kazancoglu, Y. (2021). Strategic issues of big data analytics applications for managing health-care sector: a systematic literature review and future research agenda. *The TQM Journal*. <https://doi.org/10.1108/TQM-02-2021-0051>
- Songling, Y., Ishtiaq, M., & Anwar, M. (2018). Enterprise Risk Management Practices and Firm Performance, the Mediating Role of Competitive Advantage and the Moderating Role of Financial Literacy. *Journal of Risk and Financial Management*, 11(3), 35. <https://doi.org/10.3390/jrfm11030035>
- Sousa-Zomer, T. T., & Cauchick-Miguel, P. A. (2019). Exploring business model innovation for sustainability: an investigation of two product-service systems. *Total Quality Management & Business Excellence*, 30(5–6), 594–612. <https://doi.org/10.1080/14783363.2017.1317588>
- Tortorella, G. L., Fogliatto, F. S., Mac Cawley Vergara, A., Vassolo, R., & Sawhney, R. (2020). Healthcare 4.0: trends, challenges and research directions. *Production Planning & Control*, 31(15), 1245–1260. <https://doi.org/10.1080/09537287.2019.1702226>
- Tukamuhabwa, B., Mutebi, H., & Isabirye, D. (2021). Supplier performance in the public healthcare: internal social capital, logistics capabilities and supply chain risk management capabilities as antecedents in a developing economy. *Journal of Business and Socio-Economic Development*. <https://doi.org/10.1108/JBSED-04-2021-0046>
- Vainieri, M., Noto, G., Ferre, F., & Rosella, L. C. (2020). A Performance Management System in Healthcare for All Seasons? *International Journal of Environmental Research and Public Health*, 17(15), 5590. <https://doi.org/10.3390/ijerph17155590>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.1017/CBO9781107415324.004>
- Wirahadi, A., & Pasaribu, M. (2022). Business Model Innovation: The Role of Enterprise Risk Management and Strategic Agility. *Proceedings of the 7th Sriwijaya Economics, Accounting, and Business Conference (SEABC 2021)*, 647(Seabc 2021), 283–289. <https://doi.org/10.2991/aebmr.k.220304.037>
- Wirtz, J. (2019). Cost-effective service excellence in healthcare. *AMS Review*, 9(1–2), 98–104. <https://doi.org/10.1007/s13162-019-00139-7>
- Zhao, Y., Chupradit, S., Hassan, M., Soudagar, S., Shoukry, A. M., & Khader, J. (2021). The role of technical efficiency, market competition and risk in the banking performance in G20 countries. *Business Process Management Journal*, 27(7), 2144–2160.

<https://doi.org/10.1108/BPMJ-12-2020-0570>