

THE EFFECT OF BUSINESS PROCESS RE-ENGINEERING ON ORGANIZATIONAL CAPABILITIES: EVIDENCE FROM FIVE STAR HOTELS

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ABSTRACT

The study aimed at investigating the effect of business process engineering on organizational capabilities of five-star hotels in Jordan. Using a questionnaire-based survey, data were harvested from a purposive sample encompassed managers of such hotels via Google forms. IBM SPSS 24.0 and AMOS 23.0 software were used to conduct structural equation modeling for the purpose of hypotheses testing. The results revealed that organization restructure had the greatest effect on organizational capabilities, followed by information technology and employee empowerment, while administrative commitment had the lowest effect on hotels' organizational capabilities. As such, managers are requested to consider communication relationships with their employees, encourage work teams as well as dialogue, in addition to flatten their organizational structures.

Keywords: Business Process Re-Engineering, Organizational Capabilities, Five Star Hotels, Jordan

INTRODUCTION

Technology contributed to the opening of the world, where there are no longer borders, and thus organizations compete with each other in the global markets, and therefore some organizations are constantly facing competitors, so it has become necessary to reconsider how to perform work to keep with the rapid developments from time to time, and to address their problems while it was in a state of deterioration and danger by addressing its organizational structure (Elapatha & Jehan, 2020; Al-Hawary & Al-Syasneh, 2020). Therefore, it became important to re-engineer operations, as process re-engineering was one of the topics that occupied managerial thought in the last century (Dwipriyoko, 2020; Belkhatir et al., 2020). Business process re-engineering is one of the contemporary managerial concepts that coincided with the developments brought about by the rapid development in communication and information technology, which is concerned with achieving efficiency and effectiveness of management (Salsabila & Dachyar, 2020; Putro & Dachyar, 2020). Business Process Reengineering "BPR" is considered the basic model for organizational change events to achieve the organization's competitive advantage, operations flexibility, product quality improvement, response to environmental changes, and cost reduction, Customer satisfaction as a driving organizational initiative to retest and re-engineer business processes and redesigning (Andrea & Santoso, 2020). Business process re-engineering is based on using communication and information technology to achieve numerous goals such as reducing costs, supporting organizational mission, and enhancing organizational performance (Al-Hawary & Ismael, 2010).

Organizational capabilities enable business organizations to possess knowledge and ability to innovate (Al-Hawary & Al-Namlan, 2018). Therefore, leaders of organizations must define and articulate their organizational capabilities in operational and behavioral ways (Al-Hawajreh et al., 2011; Al-Lozi et al., 2018; Al-Hawary & Nusair, 2017). Collis (1994) identified four types of organizational capabilities. First, capabilities that reflect the organization's ability to accomplish its

main functions. Second, capabilities concerned with the dynamic improvement of the organization's activities, such as continuous improvement of activities. Third, capabilities represented in realizing the intrinsic value of other resources to develop rare strategies before competitors. Finally, capabilities represented by basic demands and back to learning (Al-Hawary & Alwan, 2016; Al-Lozi et al., 2017).

A review of the literature on processes reengineering and organizational capabilities pointed out that there are no studies that investigated the impact of processes reengineering and organizational capabilities. Therefore, this study contributes to the literature through bridging such a gap by addressing business process re-engineering that can be utilized enhance the achievement of organizational change in order to boost quality and excellence, reduce costs and advance customer service, and hence, enhance the organization's ability to achieve competitive advantage.

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Business Process Re-Engineering

Organizations operate in changing environments an environment, which is characterized by constant change, forcing them to search for appropriate solutions that enable them to successfully adapt to changing environmental conditions, thus ensuring continuity and growth (Pratiwi & Dachyar, 2020; Al-Anqoudi et al., 2021; Budiman et al., 2021). Organizations may achieve survival in the presence of creative department managers who are able to understand and anticipate change, and have the skills to manage. Dealing with changes requires organizations to find radical solutions to various problems by re-designing and innovating its operations (re-engineering) in a manner commensurate with the requirements of quality continuous development with a focus on providing high quality services to customers. Moreover, re-engineering enable organizations to reduce time and costs of completing the work, to overcome the problems of repetition and overlap in the completion of work, and the problem of integration lack in information and the problem of organizational boundaries, which is one of the requirements of decision-making. Basically, the aim of business process re-engineering is to enhance both effectiveness and efficiency of organizational processes. The main idea of this process is that organizations should review their operations to determine how they can do their business in the best way to improve the business process (Antonius & Dachyar, 2020).

Paul & Cespedes (1995) confirm that re-engineering as an approach that achieves radical development in the performance of organizations in a relatively short time. It was defined as achieving radical changes in organizations to meet customer needs through synthesizing the best thinkable tools based on modern technology (Parker, 1993). Hamal & Barahaled deemed re-engineering as a radical change that can be made by re-designing managerial processes from scratch regardless of the applicable system, if the information system is part of the new organization, and not just a means of assistance in work, and this requires the abolition of work in managerial functions, and shift to managerial processes.

The process of re-engineering is fully aware that the work within the organization is fragmented into sub-processes carried out by many specialized technical departments within the organization (Ongeri et al., 2020; Jiang et al., 2020). Often, no one is responsible for the overall performance of the entire process. Process re-engineering keeps improving the performance of the sub-processes, which can lead to many advantages, but significant improvements, cannot be achieved if the process itself is ineffective. For this reason, restructuring focuses on re-engineering the business as a whole to bring the greatest possible benefits to the organization and customer service. This process aims to achieve significant improvements by rethinking how work is done

within the organization, which would distinguish the process of re-engineering from other efforts aimed at improving operations within the organization in general (Djan & de Vries, 2020; Weerakkody et al., 2021).

Organizational Capabilities

Organizational capabilities must be based on the ability of the business to meet customer needs, in addition to being unique to avoid the company from being imitated by its competitors. Such an organizational ability is represented in any action that improves the work of the organization and to be distinguished in its markets (da Cunha Bezerra et al., 2020; Yang et al., 2020). Capability refers to an organization's identity as supposed by customers and employees, by the organization is able to do well compared to its competitors through some features that are hard to imitate by competitors. Organizational capabilities are defined as the organization's ability to perform a set of tasks and use organizational resources for achieving a specific result (Helfat & Peteraf, 2003; Kampars et al., 2020; Qahatan et al., 2020).

Lado & Wilson (1994); Lopez-Cabrales et al., (2006) showed that organizational capabilities are classified into three groups: managerial capabilities, technical capabilities, and capabilities associated with outputs. Managerial capabilities defined as having the ability to create a strategic vision for the organization, communicate it through the organization, and encourage the workforce to achieve it (Lopez-Cabrales et al., 2006). Technical capabilities are represented by manufacturing processes, technology, new product development and production equipment in the organization (Song et al., 2007; Bhatti et al., 2020). The capabilities associated with the outputs are represented in the creation of tangible and intangible assets that achieve value for the customer, and it can be indicated that organizational capabilities are represented by static capabilities or zero-level capabilities and dynamic capabilities (Winter, 2003; Verma et al., 2020).

Organizational learning capabilities: Organizations today are in need to build learning capabilities to increase the ability of workers at all managerial levels to establish new approaches for learning faster than competitors through the attempts available to them to achieve goals or (Beheshtifar et al., 2012; Mikalef et al., 2020). The origins of organizational learning and learning organizations extend to theories related to systems school of management (Brown & Kline, 2020; Robey & Sales, 1994). Bernard (1997) believes that organizational learning occurs through unified models of thinking and shared insights into knowledge, which are based on prior knowledge and experience stored in memory.

organizational learning defined as "a systematic process based on acquiring information, storing it in the organization's memory, retrieving this information, and then reviewing and revising it from time to time" (Senge, 1990). Or it is "the intentional action taken by the organization to bring about continuous change through adaptive and innovative learning" (Calvert et al., 1994). Dixon (1994) views organizational learning differently, believing that it is the process by which this information is created rather than acquired. It affirms that organizational learning is not the sum of what the members of the organization know of facts and information, but rather it is resulting from individuals' combined capabilities in order to add new meanings of value to the activities they carry out, although this does not negate the importance of individual learning.

Many scholars and researchers have been interested in the study of innovation in the organizations. These studies put many different definitions of innovation in various sciences; economics, management, and sociology (Baregeh et al., 2009). The studies also showed different types of innovation, and the focus began on developing definitions of the product innovation, and

process innovation (West & Anderson, 1996), the technology used (Nord & Tucker, 1987) and the available knowledge (Marina, 1996), and management practices (Birkinshaw et al., 2008).

Chesbrough (2003) referred to two models of innovation (closed and open). Closed innovation is creating a culture of innovation in the innovative organization to search for all new product development ideas from within the organization, and then market these ideas. As for open innovation, the organization's ideas are brought from outside its borders, and this is evidence that the organization's external environment is a source of innovative ideas and a market for ideas. Open innovation depends on knowing the way knowledge is distributed across organizations both small and large (Chesbrough, 2006). After the boundaries of the organization became open, the organization was able to transfer ideas between it and its environment. While organizations face the challenge of internal readiness to be open to external innovations (Chesbrough, 2003). Some organizations consider it extreme to move from closed innovation to open innovation (Huston & Sakkab, 2006), but such a transition can create a competitive advantage for the organization.

Business Process Reengineering and Organizational Capabilities

Testing the effect of business process re-engineering on organizations' competitiveness, Deeb (2009) pointed out the business process re-engineering results in improved competitiveness. Similarly, Satti & Irum (2014) analyzed the effect of information technology capabilities on the effect of process re-engineering on banks' performance and concluded that process re-engineering exerts a significant effect on banks' performance. Therefore, the following hypotheses were formulated:

H1: Business process re-engineering (administrative commitment, information technology, employee empowerment, and organizational structure) on organizational capabilities.

STUDY MODEL

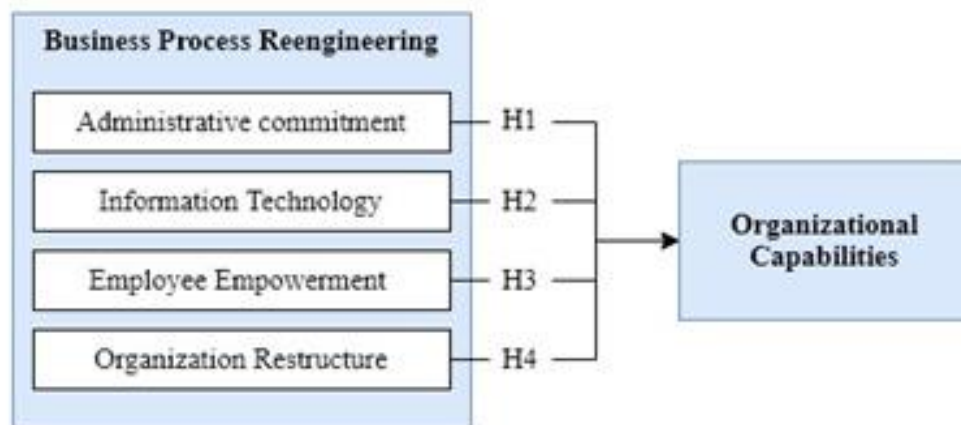


FIGURE 1
RESEARCH MODEL

METHODOLOGY

Research Sample and Data Collection

The sample of the study consists of managers of five-star hotels operating in Jordan. Using a questionnaire created using Google Forms to gather the required data, 163 responses were collected, from which 15 responses were incomplete. Therefore, 148 questionnaires were used in data analyses.

Instruments

The current questionnaire involves two sections. The first one encloses 18 statements used to measure the dimensions of business process reengineering, *i.e.*, administrative commitment (5 items), information technology (4 items), employee empowerment (4 items), and organization restructure (5 items). Such statement were developed based on prior studies (e.g., Charlotta, 2012 ; Mousavidavoudi & Fartash; 2012 Salsabila & Dachyar, 2020; Putro & Dachyar, 2020; Al-Anqoudi et al., 2021; Budiman et al., 2021). The dependent variable (organizational capabilities) was evaluated by 7 items based on a previous study (O'Regan & Ghobadian, 2004).

Findings

Measurement Model

Structural Equation Modeling (SEM) was employed to test research hypotheses. SEM is a present-day statistical technique used to estimate relationships between factors and variables (Wang & Rhemtulla, 2021). Validity and reliability based the Confirmatory Factor Analysis (CFA). Results of convergent, discriminant validity as well reliability are reported in Table 1.

| Table 1 RESULTS OF VALIDITY AND RELIABILITY | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|
| Variables | 1 | 2 | 3 | 4 | 5 |
| 1. Administrative Commitment | 0.757 | | | | |
| 2. Information Technology | 0.492 | 0.784 | | | |
| 3. Employee Empowerment | 0.533 | 0.502 | 0.743 | | |
| 4. Organization Restructure | 0.435 | 0.516 | 0.483 | 0.752 | |
| 5. Organizational Capabilities | 0.692 | 0.647 | 0.677 | 0.680 | 0.756 |
| VIF | 2.037 | 1.974 | 2.226 | 2.815 | --- |
| Loadings range | 0.682-0.825 | 0.638-0.864 | 0.692-0.784 | 0.627-0.833 | 0.682-0.831 |
| AVE | 0.574 | 0.615 | 0.552 | 0.566 | 0.572 |
| MSV | 0.512 | 0.472 | 0.503 | 0.493 | 0.465 |
| Alpha coefficients | 0.868 | 0.860 | 0.828 | 0.864 | 0.902 |
| Composite reliability values | 0.870 | 0.863 | 0.831 | 0.866 | 0.903 |
| Note: Bold fonts in the table indicate to $\sqrt{\text{AVE}}$. | | | | | |

The results in Table 1 highlight standardized factor loadings between 0.627 and 0.864. These loadings are higher than factor loadings thresholds (Al-Lozi et al., 2018; Sung et al., 2019). In terms of convergent validity, the results indicated that the measurement model showed an acceptable values of the Average Variance Extracted (AVE), which were greater than 0.50 (Howard, 2018). According to Rimkeviciene, et al., (2017), assessment of discriminant validity in

covariance-based SEM can be conducted based a comparison between Maximum-Shared Variance (MSV) and AVE as well as a comparison between the square roots of the AVEs and correlation coefficients between research constructs. It was observed that the measurement model had acceptable results. MSV values were lower than AVE values and that the square roots of the AVE values were higher than the correlation coefficients. The results of Cronbach's Alpha coefficients (α) and composite reliability as two indicators used to check reliability revealed that both alpha coefficients and CR values were greater than 0.70, which is the cut-off point of such indicators (de Leeuw et al., 2019).

Structural Model

The structural model had no multicollinearity problem because the values of Variance Inflation Factor (VIF) are less than 5, as shown in Table 1 (Hair et al., 2017).

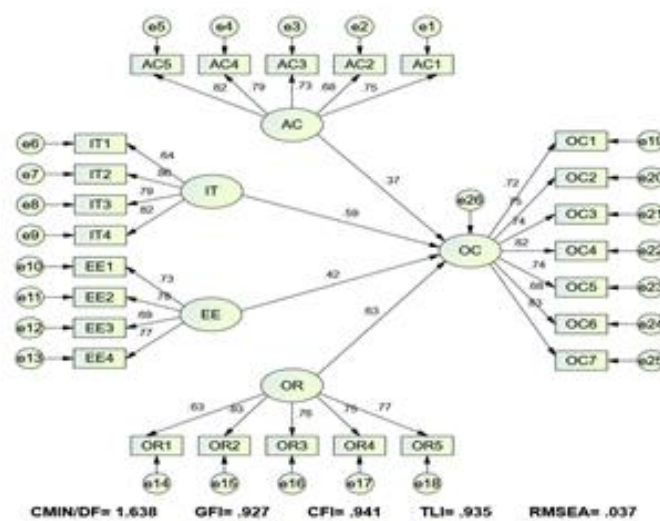


FIGURE 2
RESULTS OF THE BPR EFFECT ON OC

On the other hand, model fit indexes, as shown in Figure 1; confirm that the structural model fits the current data well. Chi-square to Degrees of Freedom (CMIN/DF) was less than 3 (CMIN/DF=1.638), the Goodness of Fit Index (GFI), the Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI) were higher than 0.90 (GFI=0.927, CFI=0.941, and TLI=0.935). Furthermore, the results of the Root Mean Square Error of Approximation (RMSEA) was lower than 0.08 (RMSEA=0.037) (Ahmad et al., 2016; Shi et al., 2019).

The results of hypotheses testing as documented in Table 2 showed that the hypotheses (H1, H2, H3, and H4) were supported. It can be noted that the organization restructure had the highest effect on organizational capabilities ($\beta=0.634$, $t=30.36$, $P=0.000$), followed by information technology ($\beta=0.593$, $t=28.25$, $P=0.004$), then employee empowerment ($\beta=0.419$, $t=25.20$, $P=0.02$). Finally, administrative commitment had the lowest impact on organizational capabilities ($\beta=0.372$, $t=19.90$, $P=0.03$).

| Table 2 HYPOTHESIS TESTING | | | | |
|--|-----------------|--------------------------|----------------|----------------|
| Hypothesis | Relation | Standardized Beta | t value | p value |
| H1 | AC → OC | 0.372* | 19.90 | 0.03 |
| H2 | IT → OC | 0.593** | 28.25 | 0.004 |
| H3 | EE → OC | 0.419* | 25.20 | 0.02 |
| H4 | OR → OC | 0.634*** | 30.36 | 0.000 |
| Note: AC: administrative commitment, IT: information technology, EE: employee empowerment, OR: organization restructure, OC: organizational capabilities, * p<0.05, ** p<0.01, *** p<0.001. | | | | |

DISCUSSION

The degree of process re-engineering in the target hotels was high, which means that five-star hotels operating in Jordan meet the necessities of business transformation and have the desire to make the required development in information technology and communication. These hotels comply with the requirements of a continuous development in quality, and focus on providing effective services to customers, and reducing the time and costs involved in completing the work. Moreover, the results displayed an average level of administrative commitment in implementing process re-engineering. It appears from the results of mean that the management of five-star hotel is looking for creative ideas to put them into practice, especially since they are working in a competitive sector and on a global level with the aim of excellence and achieving the customers' needs. Managers also empower their employees to participate in decision-making to ensure good quality of decisions, coming up with updates, accepting teamwork as a true, seeking to improve processes and developing services by attracting vastly skilled employees.

Likewise, the findings showed that the five-star hotels in Jordan have advanced updated technology in line with industry developments as appeared through their possession of high-speed networks, ability to deal with work volume, monitoring and controlling daily operations. Internet networks are available to all employees, which helps employees to learn and know what is new and provides a huge amount of information, which is reflected on their ability and skills, and increasing their ability to present creative ideas that improves the competitive position of the company. Equally, the five-star hotels in Jordan recognized their workers through invoking their authorities to take daily decisions, enriching their knowledge, encouraging them to take their own initiatives and solve their performance-related problems, allocating more resources for their training and development programs. It can be stated that employee empowerment leads to numerous advantages like expanding innovation opportunities, enhancing employee loyalty, and increasing employee creative ideas, which in turn positively affect the hotel capability. Finally, five-star hotels are keening to adopt flexible organizational structures, speed managerial communications, and distribute authorities in order to support their efforts toward process re-engineering.

In summary, the study found a significant impact of business process re-engineering on organizational capabilities, which means that five-star hotels in Jordan are seeking for applicable creative ideas, have advanced technologies used in hospitality industry, owe high-speed networks, and able to accommodate to increased work volume. Additionally, five-star hotels in Jordan encourage employee creative ideas, empower their employees to make decisions, support employee through training and skills building, and adopt more flexible organizational structures.

RECOMMENDATION

In light of the findings of the study, the researchers recommend managers and decision makers of the five stars hotels to encourage communication between employees and managers, open the doors for dialogue and discussion, and work to reduce the hierarchy of the organizational structure and encourage work teams, in addition to granting workers greater powers commensurate with their job status, skills and expertise and allowing them to express their opinion and take the other opinion. Encouraging workers to take risk with controlling in order to reach the optimum with the least losses, and work on updating electronic systems in line with the developments and work requirements, and finally conducting future studies dealing with the same current variables and applying them to other service organizations such as the banking sector or insurance companies or Hospitals, verifying the findings of the current study.

REFERENCES

- Ahmad, S., Zulkurnain, N., & Khairushalimi, F. (2016). Assessing the validity and reliability of a measurement model in Structural Equation Modeling (SEM). *British Journal of Mathematics & Computer Science*, 15(3), 1–8.
- Al-Anqoudi, Y., Al-Hamdani, A., Al-Badawi, M., & Hedjam, R. (2021). Using machine learning in business process re-engineering. *Big Data and Cognitive Computing*, 5(4), 61.
- Al-Hawajreh, K., AL-Zeaud, H., Al-Hawary, S.I., & Mohammad, A.A. (2011). The influence of top management support and commitment on total quality management indicators from managers and heads of department's viewpoint: A case study of Sahab industrial city. *Jordan Journal of Business Administration*, 7(4), 557–576.
- Al-Hawary, S.I., & Al-Namlan, A. (2018). Impact of electronic human resources management on the organizational learning at the private hospitals in the state of Qatar. *Global Journal of Management and Business Research: A Administration and Management*, 18(7), 1–11.
- Al-Hawary, S.I., & Nusair, W. (2017). Impact of human resource strategies on perceived organizational support at jordanian public universities. *Global Journal of Management and Business Research: A Administration and Management*, 17(1), 68–82.
- Al-Hawary, S.I.S., & Alwan, A.M. (2016). Knowledge management and its effect on strategic decisions of Jordanian public universities. *Journal of Accounting-Business & Management*, 23(2), 24–44.
- Al-Hawary, S.I., & Al-Syasneh, M.S. (2020). Impact of dynamic strategic capabilities on strategic entrepreneurship in presence of outsourcing of five stars hotels in Jordan. *Business: Theory and Practice*, 21(2), 578–587.
- Al-Lozi, M., Almomani, R.Z., & Al-Hawary, S.I. (2017). Impact of talent management on achieving organizational excellence in Arab Potash company in Jordan. *Global Journal of Management and Business Research: A Administration and Management*, 17(7), 15–25.
- Al-Lozi, M., Almomani, R.Z., & Al-Hawary, S.I. (2018). Talent management strategies as a critical success factor for effectiveness of human resources information systems in commercial banks working in Jordan. *Global Journal of Management and Business Research: A Administration and Management*, 18(1), 30–43.
- Andrea, G., & Santoso, S. (2020). Improving economy of the community based on sustainable tourism and creative economy through Business Process Re-Engineering (BPR) With Geopark development in Lebak regency banten province. *International Journal of Innovative Science and Research Technology*, 5(1).
- Antonius, N., & Dachyar, M. (2020). The Internet of Things (IoT) design for cardiac remote patient monitoring using business process re-engineering. In *2020 3rd International Conference on Applied Engineering (ICAE)*, 1-7. IEEE.
- Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management Decision*, 47, 1323–1339.
- Beheshtifar, M., Mohammad-Rafiei, R., & Nekoie-Moghadam, M. (2012). Role of career competencies in organizational learning capability. *International Journal of Contemporary Research in Business*, 4(8), 563–569.
- Belkhatir, M., Bala, S., & Belkhatir, N. (2020). Business process re-engineering in supply chains examining the case of the expanding Halal industry.
- Mark, B., Matthew, G.S., & Herbert, J.W. (Eds.) (2008a). *Charter School Outcomes*. Mahweh, NJ: Lawrence Erlbaum Associates/Taylor and Francis Group.

- Bhatti, A., Rehman, S.U., & Rumman, J.B.A. (2020). Organizational capabilities mediates between organizational culture, entrepreneurial orientation, and organizational performance of SMEs in Pakistan. *Entrepreneurial Business and Economics Review*, 8(4), 85-103.
- Birkinshaw, J., Hamel, G., & Mol, M. (2008). Management innovation. Academy of Management. *The Academy of Management Review*, 33(4), 825.
- Brown, R., & Kline, W. (2020). Optimal misalignment: Strategic intent, organizational capabilities, and performance. *Journal of Management Research*, 20(2), 113-132.
- Budiman, K., Subhan, S., & Efrilianda, D.A. (2021). Business Process re-engineering to support the sustainability of the construction industry and sales commodities in large scale transaction during Covid 19 with integrating ERP and Quotation System. *Scientific Journal of Informatics*, 8(1), 84-91.
- Calvert, G., Mobley, S., & Marshall, L. (1994). Grasping the learning organization. *Training*, 48(6), 38-43.
- Henry, C. (2003). The era of open innovation. *MIT Sloan Management Review*, 44(3), 35-41.
- Henry, C. (2006). *Open innovation: A new paradigm for understanding industrial innovation*. In Open Innovation: researching a New Paradigm, Henry Chesbrough, Wim Vanhaverbeke, and Joel West, eds., New York: Oxford University Press, 1-14.
- Collis, D.J. (1994). Research note: How valuable are organisational capabilities? *Strategic Management Journal*, 15(2), 143-152.
- da Cunha Bezerra, M.C., Gohr, C.F., & Morioka, S.N. (2020). Organizational capabilities towards corporate sustainability benefits: A systematic literature review and an integrative framework proposal. *Journal of Cleaner Production*, 247, 119114.
- de Leeuw, E., Hox, J., Silber, H., Struminskaya, B., & Vis, C. (2019). Development of an international survey attitude scale: Measurement equivalence, reliability, and predictive validity. *Measurement Instruments for the Social Sciences*, 1(1), 9.
- Dixon, N. (1997). *The hallways of learning*. *Organizational Dynamics*, 25, 23-34.
- Djan, E., & de Vries, M. (2020). *Business process re-engineering and agile software development: Applying the story-card method*. Responsible Design, Implementation and Use of Information and Communication Technology, 12066, 370.
- Dwipriyoko, E. (2020). Partial business process re-engineering in new generation cooperatives enterprise architecture implementation. In *Journal of Physics: Conference Series*, 1477(5). IOP Publishing.
- Elapatha, V.W., & Jehan, S.N. (2020). An analysis of the implementation of business process re-engineering in public services. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 114.
- Hair, J.F., Babin, B.J., & Krey, N. (2017). Covariance-based structural equation modeling in the journal of advertising: Review and recommendations. *Journal of Advertising*, 46(1), 163-177.
- Helfat, C.E., & Peteraf, M.A. (2003). The dynamic resource-based view: capability lifecycles. *Strategic Management Journal*, 24, 991-995.
- Howard, M.C. (2018). The convergent validity and nomological net of two methods to measure retroactive influences. *Psychology of Consciousness: Theory, Research, and Practice*, 5(3), 324-337.
- Huston, L., & Sakkab, N. (2006). Connect and develop; inside Procter & Gamble's new model for innovation. *Harvard Business Review*, 84(3), 58-66.
- Jiang, B., Chen, J., Wang, Y., Zhao, L., & Liu, P. (2020). Deep learning-based service discovery for business process re-engineering in the era of big data. *International Journal of Big Data Intelligence and Applications (IJBDA)*, 1(1), 1-22.
- Kampars, J., Zdravkovic, J., Stirna, J., & Grabis, J. (2020). Extending organizational capabilities with Open Data to support sustainable and dynamic business ecosystems. *Software and Systems Modeling*, 19(2), 371-398.
- Lado, A., Wilson, M., (1994). Human resource systems and sustained competitive advantage: A competency based perspective. *Academy of Management Review*, 19, 699-727.
- Lopez-Cabrales, A., Vale, R., Herrero, I., (2006). The contribution of core employees to organizational capabilities and efficiency. *Human Resource Management*, 45(1), 81-109.
- Marina du Plessis. (2007). The role of knowledge management in innovation. *Journal of knowledge management*, 11(4), 20-29,
- Mikalef, P., Krogstie, J., Pappas, I.O., & Pavlou, P. (2020). Exploring the relationship between big data analytics capability and competitive performance: The mediating roles of dynamic and operational capabilities. *Information & Management*, 57(2), 103169.
- Nord, W., & Tucker, S. (1987). *Implementing routine and radical innovations*. Lexington, MA: Lexington Books.
- O'Regan, N., & Ghobadian A. (2004). The importance of capabilities for strategic direction and performance. *Management Decision*, 42(2), 292-312.

- Ongeri, R.N., Magutu, P.O., & Litondo, K. (2020). The business process re-engineering strategy: It's impact on the performance of companies manufacturing food in Kenya. *European Journal of Business and Management Research*, 5(5).
- Parker, J. (1993). *An ABC guide to business process reengineering*. Industrial Engineering, May.
- Paul, A., & Cespedes, S. (1995). *Reengineering is just acatalyst in Bank culture change*. The Bankers Magazine, May-June.
- Pratiwi, F.N., & Dachyar, M. (2020). SME's business process improvement in food industry using business process re-engineering approach. *International Journal of Advanced Science and Technology*, 29(7), 3665-3674.
- Putro, F.X.A.N.S., & Dachyar, M. (2020). Hospital surgical services design improvement using business process re-engineering and relational database approaches. *International Journal of Advanced Science and Technology*, 29(7S), 3588-3596.
- Qahatan, N., Basiruddin, R., Mohdali, R., Adedeji, B.S., Ali, M.A., Abed, I.A., & Adil, A. (2020). *Board-level IT governance, and IT organizational capabilities on organizational performance of Iraqi medium-sized enterprises*, 1016, 1016-1034.
- Rimkeviciene, J., Hawgood, J., O'Gorman, J., & De Leo, D. (2017). Construct validity of the acquired capability for suicide scale: Factor structure, convergent and discriminant validity. *Journal of Psychopathology and Behavioral Assessment*, 39(2), 291-302.
- Robey, D., & Sales, C. (1994) *Designing organizations*. Burr Ridge Ill: Irwin.
- Salsabila, D.A., & Dachyar, M. (2020). The hospital radiology service redesign, by using business process re-engineering and information systems approach. *International Journal of Advanced Science and Technology*, 29(7S), 3623-3631.
- Shi, D., Lee, T., & Maydeu-Olivares, A. (2019). Understanding the model size effect on sem fit indices. *Educational and Psychological Measurement*, 79(2), 310-334.
- Song, M.C., Benedetto, A., & Nason, R.W. (2007). Capabilities and financial performance; The moderating effect of strategic type. *J. Of the Acad. Mark. Sci.*, 35, 18-34.
- Sung, K.S., Yi, Y.G., & Shin, H.I. (2019). Reliability and validity of knee extensor strength measurements using a portable dynamometer anchoring system in a supine position. *BMC Musculoskeletal Disorders*, 20(1), 1-8.
- Verma, P., Sharma, R.R.K., & Chen, L.H. (2020). Measuring organizational capabilities to horizontal strategy implementation for conglomerates. *Business Strategy & Development*, 3(1), 64-76.
- Wang, Y.A., & Rhemtulla, M. (2021). Power analysis for parameter estimation in structural equation modeling: A discussion and tutorial. *Advances in Methods and Practices in Psychological Science*, 4(1), 1-17.
- Weerakkody, V., Janssen, M., & El-Haddadeh, R. (2021). The resurgence of business process re-engineering in public sector transformation efforts: Exploring the systemic challenges and unintended consequences. *Information Systems and e-Business Management*, 1-22.
- West, M., & Anderson, N. (1996). Innovation in top management teams. *Journal of Applied Psychology*, 81, 680-693.
- Winter, S.G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, 24, 991-995.
- Yang, D., Li, L., Jiang, X., & Zhao, J. (2020). The fit between market learning and organizational capabilities for management innovation. *Industrial Marketing Management*, 86, 223-232.