



Implementation of Business Process Re-engineering in Improving Local Government Performance: A Literature Review Using Bibliometric Analysis

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Abstract. Companies often use business process management as a discipline to improve process stages and achieve company goals and objectives. One widely recognized technique for improving processes is business process reengineering, which is sometimes known as BPR. Despite the inherent risks, companies often use business process reengineering (BPR) to improve processes and achieve desired goals and objectives within a certain timeframe. This study aims to examine business process reengineering to improve local government performance. We conducted this research by evaluating the literature using bibliometric analysis from Scopus and Program R Studio. The findings suggest that business process reengineering can improve local government performance. These findings are expected to provide valuable insights for stakeholders seeking to improve local government performance.

Keywords: Business Process, Government Performance, Bibliometric.

1 Introduction

This Defining process management is the first step to managing it. The existing process management theories begin with the quality movement and the business process re-engineering movement to revitalize the process. At this point, corporations implement process enhancements using the Business Process Re-engineering (BPR) Total Quality Management (TQM), and Six sigma methodologies. Corporations employ this strategy as a technique to accomplish process management. There are two methods to categorize process management improvement: business process reengineering (BPR) and continuous improvement (TQM, Six Sigma, and Kaizen). The present phase of process automation utilizes technology to automate repetitive, routine processes, allowing the organization to concentrate on more strategic or value-added activities [1] [2] [3].

Table 1. Process Improvement Comparison

	BPR	TQM	Six Sigma
Level of Change	Large scale/Radical	Additional	Additional
Scope	Organization	Process	Single Process
Focus	Redesign the current process	Redesign the current process	Improving the current process
Participation	Top-down/bottom-up	Bottom-up	Bottom-up
Role of Information Technology	Key enablers	Key enablers	Key enablers
Other Support	Purpose	Statistical tools	Statistical tool
Risk	High	Medium	Medium

Table 1 describes the differences in process improvement with three approaches, namely BPR, TQM, and Six Sigma. Process improvement with the BPR approach is to improve all processes in the organization and has a high risk, while TQM and Six Sigma are only certain processes and have a moderate risk.

Business Process Re-engineering', which was created more than ten years ago, suggests utilizing the capabilities of modern information and communication technology to completely overhaul business processes and make significant enhancements in their performance[4]. Many governments in West Europa have embraced the concept of BPR to steer their transformation efforts. Business process reengineering (BPR) is intimately linked to the change initiatives of the business industry in the early 1990s. Essentially, BPR aims to achieve substantial changes in processes and structures. In the public sector, stakeholders commonly perceive this as breaking down traditional organizational structures and eliminating functional divisions to integrate services[5] [6].

The When considering the internal procedures and assessing their effectiveness, organizations should follow the business process reengineering (BPR) method whenever implementing new ideas or changes, regardless of whether they are public sector. In the context of public administrations, innovations might be demonstrated through new legislation or technologies or by the need to provide new services to clients [7]. Thus, more investigation should concentrate on creating alternate explanations for the elements of BPR implementation and the factors that influence its outcome. Nevertheless, there are several studies in the literature that examine a range of BPR implementation elements, which comprise the following[8] [9]. Explored four requirements for a prosperous Business process re-engineering undertaking:

1. Alignment between the organizations strategy and it's understanding of the market, industry, customers, and competitor.
2. Leadership commitment to embracing new approach to operating the company.
3. A business case relying on known analytical methods.
4. A competent team to carry out the implementation of the new models.

2 Method

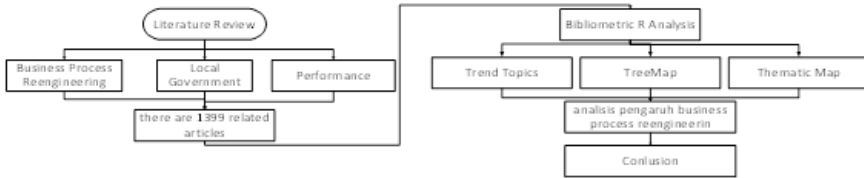


Fig. 1. Research Stages

Fig. 1 describe the stages of research carried out by the researchers; these stages are very important to see the stage and the research process. The authors will use these stages as guidelines to carry out the research. After searching using Scopus, the articles that will be reviewed to see the effect of business process implementation on improving local government performance have the following search keywords: "business process reengineering" OR "Business process re-engineering" OR "BPR" AND "Government" AND "Performance" AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (EXACTKEYWORD , "Business Process") OR LIMIT-TO (EXACTKEYWORD , "Business Process Management") OR LIMIT-TO (EXACTKEYWORD , "Business Process Re-engineering") OR LIMIT-TO (EXACTKEYWORD , "Business Process Reengineering") OR LIMIT-TO (EXACTKEYWORD , "Business Process Reengineering (BPR)") OR LIMIT-TO (EXACTKEYWORD , "Government") OR LIMIT-TO (EXACTKEYWORD , "Local Government") OR LIMIT-TO (EXACTKEYWORD , "Performance")).

3 Result

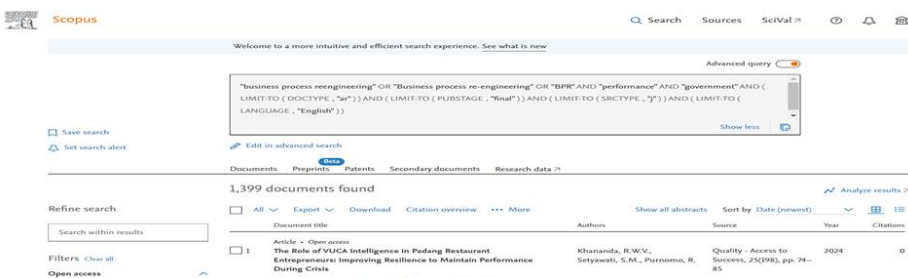


Fig. 2. The results of article liquefaction obtained through Scopus.

Fig. 2 shows the search for articles with the keywords business process reengineering, performance, and government using Scopus. The search results show 1399 articles re-

lated to the three keywords. We will analyze the search results using the R Studio program. Ten articles related to BPR and local government performance were obtained, and these articles were analyze for recommendations, discussion and conclusions.

Next, we will analyze topic trends using the R Studio program to determine the re-search areas that many researchers are focusing on.



Fig. 3. Trend Topics

Fig. 3 illustrates the research topics trend from 2014 to 2023. The topics that are being researched include business process reengineering, digitalization, performance, e-government, and the public sector. This topic trend is very useful for researchers to see what topics are being researched. Researchers can use topic trend analysis to observe the development of widely researched topics, providing a valuable reference for conducting further research.

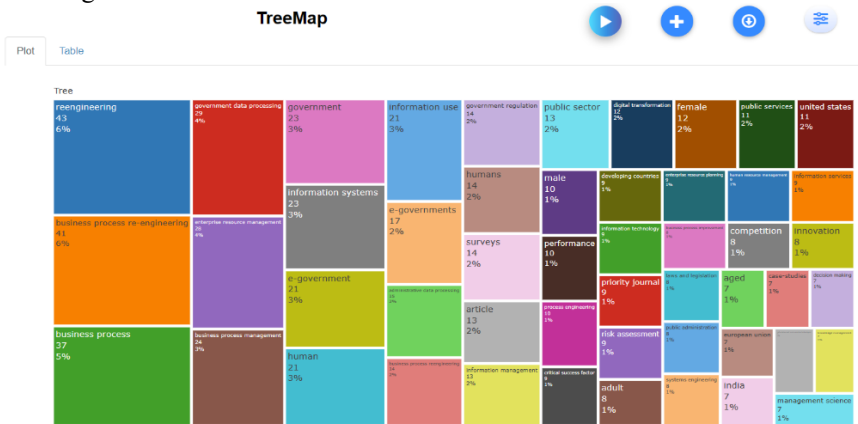


Fig. 4. TreeMap

Fig. 4 displays the TreeMap of the R studio program. This TreeMap is useful to see the number of presentations on topics that are being widely researched, namely reengi-

neering, business process reengineering, business processes, and government data processing. This TreeMap greatly facilitates researchers in conducting research on widely researched topics by providing a clear visualization of the number of presentations.

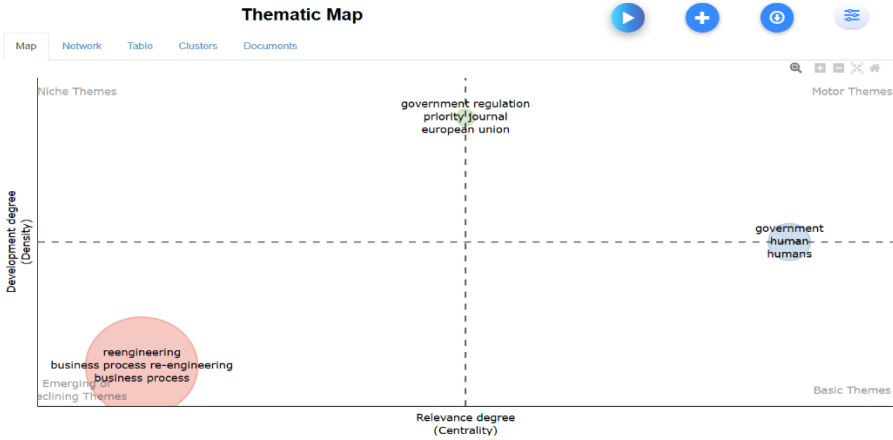


Fig. 5. Thematic Map

Fig. 5 explains the thematic map of the R Studio program analysis. There are four quadrants in the thematic map, each representing a different meaning. Niche themes are in quadrant 1, which means that this quadrant has a very new theme. Motor themes are in quadrant 2, which means that this quadrant is a driving topic with the potential to develop in the future. Basic themes are in quadrant 3, which means that this topic has already been studied by many researchers and has the potential to be further developed. Emerging Declining Themes are in quadrant 4, which means that the topic is already saturated or could be an opportunity for research diversification with that topic.

4 DISCUSSION

A capable team to implement the new idea. Accomplishing the goal involves offering support and instruction to employees, as well as promoting individuals to modify current business cultures, routines, and processes. To facilitate the concept of providing all services in one place, the administrative department must share information with the customer service department. Therefore, our research found that the main links between BPR and reform efforts in the public service [5] [10] [11]:

1. Improved Service Quality: Business Process Reengineering (BPR) and transformation can help governments simplify procedures, reduce bureaucracy, and improve the efficiency of public services. Achieving this requires automating tasks, implementing uniform procedures, and improving coordination among agencies.

2. BPR and transformation can improve the abilities and knowledge of government professionals. Government professionals can achieve this through education, professional growth, and improved job benefits.

Moreover, the findings suggest the need to adjust in specific areas, particularly in choosing capable process owners who have enough authority. In addition, the development of advanced technology can improve the process of gathering and analyzing data, allowing BPR teams to make more informed judgments [12]

5 Conclusion

The results of bibliometric research and literature searches that match the research topics show the benefits of reengineering business processes for local government performance. Giving directions for the transformation of public service for society and stakeholders and accountability for decision-making processes, providing input to make improvements [13]. Sustainable innovation to superior performance and give a proactive attitude to the process recipient [14] [15]. In the implementation of reengineering business processes, we will always encounter obstacles when performing their implementation. According to the literature, some obstacles Barriers to the application of reengineering business processes include culture, human resources competence, process structure, and information technology [15]. This research is expected to be useful for the local government when implementing business reengineering processes, and it can consider the obstacles when applying it. For researchers, it is hoped to be an input material for further research and a benchmark in the development of research to reengineer business processes towards improving the performance of local government.

Acknowledgments. This study only looks bibliometrically using the R studio program, but it can be a reference for further researchers to determine the research theme. The review literature on this study can see the benefits of BPR to support the performance of the regional government, so it can be a reference for the local government when implementing BPR.

References

1. J. F. Chang, *Business Process Management Systems: Strategy and Implementation*. New York: Auerbach Publications, 2005. doi: 10.1201/9781420031362.
2. A. Chiarini, "Japanese total quality control, TQM, Deming's system of profound knowledge, BPR, Lean and Six Sigma: Comparison and discussion," *International Journal of Lean Six Sigma*, vol. 2, no. 4, pp. 332–355, Jan. 2011, doi: 10.1108/20401461111189425.
3. P. T. Chountalas and A. G. Lagodimos, "Paradigms in business process management specifications: a critical overview," *Business Process Management Journal*, vol. 25, no. 5, pp. 1040–1069, Jan. 2018, doi:

- 10.1108/BPMJ-01-2018-0023.
4. M. Elnaghi, S. N. Alshawi, M. M. Kamal, V. Weerakkody, and Z. Irani, "Exploring the role of a government authority in managing transformation in service re-engineering – Experiences from Dubai police," *Government Information Quarterly*, vol. 36, no. 2, pp. 196–207, Apr. 2019, doi: 10.1016/j.giq.2018.11.011.
 5. V. Weerakkody, M. Janssen, and R. El-Haddadeh, "The resurgence of business process re-engineering in public sector transformation efforts: exploring the systemic challenges and unintended consequences," *Inf Syst E-Bus Manage*, vol. 19, no. 3, pp. 993–1014, Sep. 2021, doi: 10.1007/s10257-021-00527-2.
 6. M. F. F. Fasna and S. Gunatilake, "Towards successful strategies to overcome BPR implementation issues: case of Sri Lanka," *Business Process Management Journal*, vol. 26, no. 6, pp. 1241–1259, Jan. 2020, doi: 10.1108/BPMJ-03-2019-0087.
 7. M. Rinaldi, R. Montanari, and E. Bottani, "Improving the efficiency of public administrations through business process reengineering and simulation: A case study," *Business Process Management Journal*, vol. 21, no. 2, pp. 419–462, Jan. 2015, doi: 10.1108/BPMJ-06-2014-0054.
 8. J. Farrell, "A Practical guide for implementing reengineering," *Planning Review*, vol. 22, no. 2, pp. 40–45, Jan. 1994, doi: 10.1108/eb054461.
 9. A. Fetais, G. M. Abdella, K. N. Al-Khalifa, and A. M. Hamouda, "Modeling the Relationship between Business Process Reengineering and Organizational Culture," *Applied System Innovation*, vol. 5, no. 4, Art. no. 4, Aug. 2022, doi: 10.3390/asi5040066.
 10. M. Hammer and J. Champy, "REENGINEERING THE CORPORATION: A MANIFESTO FOR BUSINESS REVOLUTION".
 11. T. H. Davenport, *Process Innovation: Reengineering Work Through Information Technology*. Harvard Business Press, 1993.
 12. H. AlGumlasi, M. Awad, and A. Alzaatreh, "Business Process Re-Engineering Projects Success Factors in United Arab Emirates' Public Organizations," *IEEE Transactions on Engineering Management*, vol. 71, pp. 3375–3388, 2024, doi: 10.1109/TEM.2023.3339305.
 13. I. Kregel, B. Distel, and A. Coners, "Business Process Management Culture in Public Administration and Its Determinants," *Business and Information Systems Engineering*, vol. 64, no. 2, pp. 201–221, 2022, doi: 10.1007/s12599-021-00713-z.
 14. K. Martinek-Jaguszewska and W. Rogowski, "Development and Validation of the Business Process Automation Maturity Model: Results of the Delphi Study," *Information Systems Management*, vol. 0, no. 0, pp. 1–17, May 2022, doi: 10.1080/10580530.2022.2071506.
 15. A. Jurczuk, "Barriers to implementation of business process governance mechanisms," *Engineering Management in Production and Services*, vol. 13, no. 4, pp. 22–38, Dec. 2021, doi: 10.2478/emj-2021-0029.

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