Barriers to Business Process Innovation in Public Service Organizations

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Abstract

This study aims to identify the main barriers in implementing business process innovation in government organizations using the Systematic Literature Review (SLR) method. The barriers were categorized into four aspects: people, technology, structure, and process, in accordance with the Socio-Technical Theory approach. The results show that a lack of knowledge and training related to innovation, limited funding, and inadequate technological infrastructure are the dominant barriers. In addition, complex bureaucracy and lack of structured processes are also significant barriers. The research recommends a holistic approach that includes improved communication, training, technology investment, as well as bureaucratic reform to foster more effective innovation. The findings provide a basis for better policy-making and emphasize the importance of further research to understand and address barriers to innovation in different countries.

Keywords: Business Process Management, Business Process Innovation, Public Sector Innovation

1.   INTRODUCTION

Over time, to improve performance and to compete with a dynamic environment in all organizations, one of which is in government organizations, efforts continue to be made to innovate [1]. One of these special responsibilities is pursued because of the increasing demand for new, more effective, and efficient services from the public [2]. Public Service Government Organizations adopt innovation as a strategy to achieve better results and achieve new value. In the business process management approach, innovation is one of the stages of the transformational redesign cycle [3]. Improvements must be made with new ideas and produce new value. However, in the policies or regulations of one country such as Indonesia, SPBE (Sistem Pemerintahan Berbasis Elektronik) business process innovation has an explanation, namely changes implemented by government agencies through improvements from current processes by utilizing technology by increasing existing value [4].

1973

The innovation process in public services has restrictions that cannot be enforced due to existing policies and rules of the country itself [5]. It can be said that innovation is not allowed without a clear element of purpose or obstacles to be resolved by the proposed innovation [6]. In implementing innovation activities in public services, government organizations find obstacles that hinder the innovation process in public services. One study explains that barriers are found in both internal and external parts of the organization [7]. Some of the barriers in the internal part of the organization are related to people, processes, technology, and organizational structure [8]. This is in line with the sociotechnical system theory where in an organization there are interactions involving social aspects, namely people and structures with technical aspects, namely technology and integrated processes/tasks [9].

From the explanation above, research related to barriers to business process innovation in government organizations has a considerable opportunity to be carried out now. So, this research will be analyzed using a systematic literature review related to the barriers that occur in business process innovation in government organizations in research that has been done before. It is hoped that with this research, government organizations will have new knowledge and consider solutions that can minimize the obstacles often encountered in government organizations. Specifically, the questions to be asked is: What are the barriers faced by government organizations in implementing the innovation process?

2. METHODS

Literature review research is not only done to summarize the results of a collection of studies that have been conducted. More than that, according to literature review research is conducted to find out the differences from previously conducted research. In this study, we used the 'Preferred Reporting Items for Systematic Reviews and Meta-Analyses' (PRISMA) method to ensure complete and transparent review reporting [10]. To answer this research, we will analyze previous studies that discuss the same topic, namely what barriers exist in the process of organizational innovation in government organizations. The analysis of all reviews and results provided from previous research is expected to provide information and knowledge for future research.

2.1. Screening Maping

To strengthen the findings obtained from the screening stage, we conducted mapping using two tools, namely Publish or Perish and Vosviewer. Publish or Perish is used to collect and analyze data from reliable and indexed sources, while Vosviewer is an application for analyzing and visualizing data by identifying

structures, relationships, and patterns related to scientific publications. In this study, journal searches on publish or perish were conducted with two databases, namely Scopus and Google Scholar with the keyword "Innovation Business Process Government". It is known in Figure 3 that there are 7 clusters with different colors. The largest node is on the item "Government" with as many as 147 l And on the item "Innovation" with as many as 147. In addition to the largest item, as for the last item, one of them is on "technological innovation" with as many as 67 items, "Innovation Activity" with as many as 36 items, and "Government Policy" with as many as 77 items. The following is an image of the results of the visualization of Vosviewer.
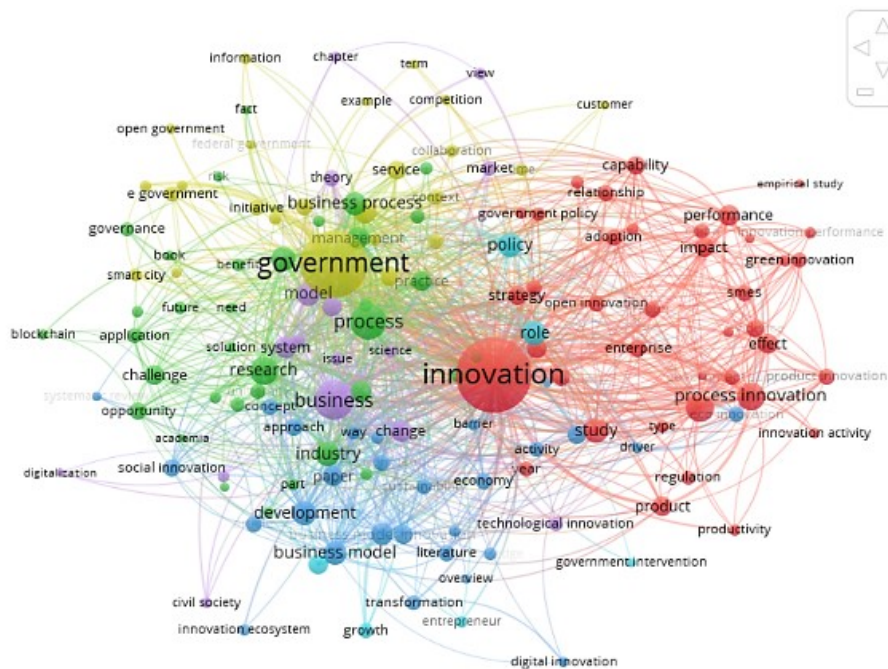

Figure 1. Research area related to barriers to business

Based on the results of mapping using Open Knowledge Maps, Publish or Perish, and Vosviewer, it is known that the research area related to barriers to business process innovation activities in government is still quite small. That way, research on "Analysis of barriers to business process innovation in public service government organizations" is considered to provide new knowledge for future research

2.2. Data Collection

In this section, we searched relevant topics on one of the knowledge databases, Scopus, and manually searched for some data through Google Scholar. The topic search in this research was conducted through Scopus and Google Scholar because the two databases mentioned above have good credibility and quality. We use the categorization of several search keywords to get data that matches the research question [11]. Keywords that have been determined by the question are searched for appropriate word equations, and finally, the data search will be carried out using conjunctions that match the search keywords. The following is an explanation of the question: "What are the barriers faced by government organizations in implementing the innovation process?". The relationship between the question and the category of keywords that can be used according to the topic of this research, namely Keywords: Public Sector, Problem, Process Innovation, Business Process Innovation. Keyword Synonyms: Issues, Barriers, Innovation Public Sector.

The criteria for inclusion in this study are relevant topics related to barriers and problems in business process innovation in government organizations. The type of publication has been published in an indexed journal. The time period is within the last ten years. The methodology used is qualitative or quantitative. As well as parameters in the search, namely keywords must appear in the search, publications must be in English, and publications are academic journal articles.

2.3. Search Term

The data search in this study will be conducted using three perspectives [12]. First, it will use the PICOC (Population, Intervention, Context, Outcome, and Comparison) structure to assist the research in structuring the search terms or keywords relevant to the research questions [13]. Next, the second is to search for synonyms for the appropriate search term components for each keyword that has been found. Third, the keywords are combined by using certain conjunctions and wildcards. The following is an example of research question RQ1.

1) Step One, Using the PICOC structure:
   a) Population: Public Sector
   b) Intervention: problem
   c) Context: Business Process Innovation
   d) Outcomes, Comparison: -
2) Step Two, keyword synonym search:
   a) Population: Public Sector
   b) Intervention: "Problem", 'Issues", "Barriers"

3) Step Three, combining keywords with or, and , a wildcard. Search String and Term "Public Sector" and "Barriers" and "Innovation Business Process"

2.4. Selection Process

The search was conducted on May 12, 2024, resulting in 800 search results on the Scopus database and 10 search results manually. 300 search results were deleted due to duplicate records, 80 results were deleted automatically, and 20 were deleted because the publication year was more than expected in this study. The next screening process was carried out with a total of 230 results, where 70 results were deleted because the title did not match, and 80 results because the report was not successfully retrieved. Of the 80 results that have been determined in this study there is a mismatch of abstract and conclusion we deleted a total of 40 results. From this search process, 30 results will be included in our analysis. These process as shown in Figure 2.
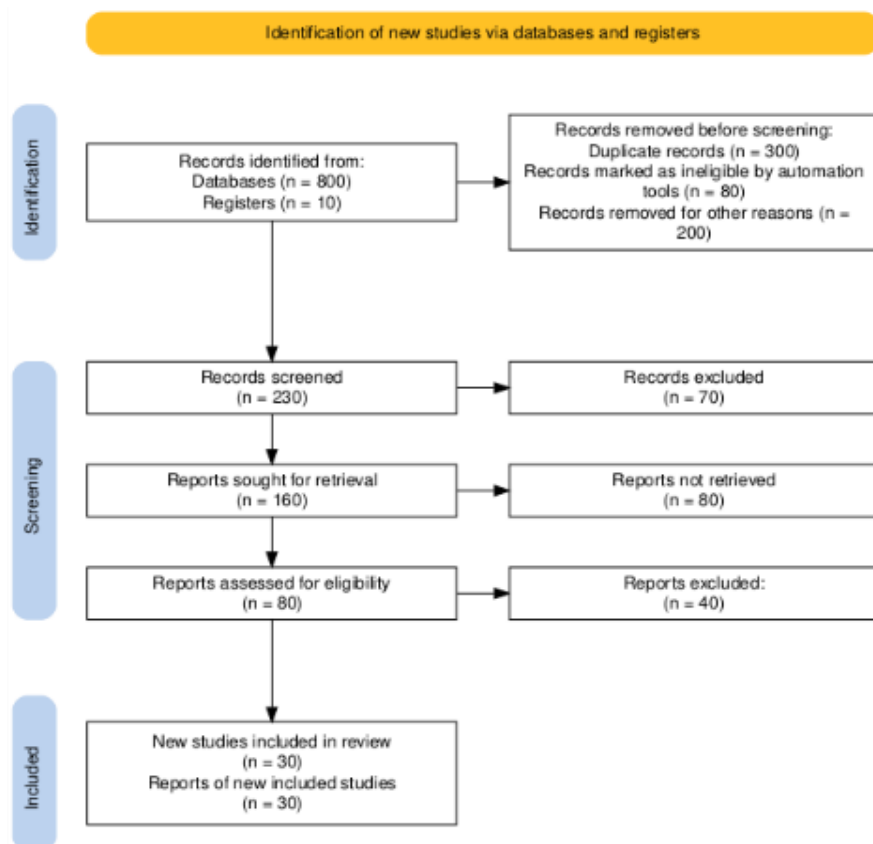

Figure 2. PRISMA Selection Process

After determining the appropriate journal and obtaining the full version of the text, we will use the socio-engineering system theory to analyze the mapping of barriers in four aspects, namely people, structure, technology, and process. Barriers related to human resources will be categorized under the people aspect. Barriers related to organizational structure will be categorized in the structure aspect. From the technical system, barriers related to information technology to infrastructure will be mapped to technology. Barriers related to business processes or tasks will be categorized under process. The result of the literature review analysis in this study is a mapping of four socio-technical aspects related to barriers to innovation process activities.

3. RESULTS AND DISCUSSION

In this section, we will answer the research question, namely What are the barriers faced by government organizations in implementing the innovation process? The barriers found will be mapped based on social aspects and technical aspects by the socio-technical system theory [14]. We will first explain the aspects of the socio-technical system theory. Next, we will discuss the barriers that we have found using the literature review method.

3.1 Socio technical system theory

Socio-technical thinking developed following research conducted at the UK's Tavistock Institute into the use of Coal mining machinery. This research highlighted the interrelated relationship between technological and social aspects of the work environment [15]. According to Albert Chens, all organizations are socio-technical systems because an organization, cannot be considered as a technical system alone involving processes and technology. Instead, there is another system, namely the social system, which is related to the attributes of people or relationships between people. The following is an explanation of each aspect of the socio-techno system [16]:

1) People
    People are an important element in the structure of any organization. Evaluations should involve individual attitudes, skills, values, beliefs, and interactions, as well as reward systems and hierarchical structures.
2) Structure
    Pugh (1990) [16] views it as a framework that determines how task allocation, coordination, and supervision are directed toward achieving organizational goals. It is also considered a multidimensional construct that includes the formalization of procedures, standardization, and specialization of work within organizational units, as well as centralization/decentralization of control and hierarchy within the organization. In public organizations,

policies, rules, and regulations are also considered part of the organizational structure.

3) Technology

Technology is defined as "the application of scientific knowledge that enables the manipulation of the human environment for the practical purpose of fulfilling human wants" In the context of this paper, attention is focused on Information Technology, which is considered a set of hardware, software, innovative procedures, and applied knowledge used in the context of public organizations. Specifically, this study examines changes in Information Technology during the implementation of e-government service initiatives.

4) Task

The process is a structured and measurable set of activities designed to produce a specified output for a specific customer or market. Bititci (1997) [17] explains that tasks are the basic elements of a process. So, in the context of government, it is explained that all activities in the organization are tasks in this context.

3.2 Barriers to Government Organization Business Process Innovation Literature Review

From several existing studies, it is known that the barriers to business process innovation in government organizations that are often encountered are in the social system, namely the structural aspect. In this aspect, obstacles often arise because of policies that still do not regulate business process innovation, as well as policies that hinder the existence of innovation process actions in policies. Furthermore, obstacles also occur in the spec of people/employees. The obstacles that are often encountered from the table above are people in organizations who do not have knowledge about innovation and are reluctant to make changes to become organizational obstacles in implementing business process innovation. In technical systems such as process aspects, some studies list obstacles such as the absence of a structured process in innovating. The last aspect, namely the technology aspect, found that the lack of infrastructure in the business process innovation process is one of the organizational barriers. A more detailed explanation of each aspect will be explained in the next section.

3.3 Barriers in the Structure Aspect

There are several obstacles encountered in the innovation process in the aspect of organizational structure, the first of which is rigid bureaucracy. The main obstacle to the innovation process in the organizational structure of government organizations is rigid bureaucracy. Bureaucracy that is too rigid creates barriers to the implementation of innovation because complex procedures and regulations often inhibit the flexibility and responsiveness needed for change [6], [17], [18],

[19]. Secondly, strategies that inhibit innovation create an environment where new ideas cannot flourish, reducing the organization's ability to compete and adapt to external developments. This highlights the importance of visionary leadership and effective communication in defining and supporting strategic goals that drive innovation [20], [21], [22]. Third, the absence of good quality governance, such as in the organizational structure there is no specific unit that is responsible and has duties on organizational innovation activities [23], [24].

Furthermore, barriers are also found on the part of government policies as well as the existing legal framework may not provide the necessary flexibility to adapt to new and innovative models of cooperation, thus hindering the potential synergies and benefits that can result from partnerships between public and private organizations. Therefore, more supportive and adaptive regulatory revisions are needed to facilitate more effective and efficient collaboration between these two organizations [19]. Other research also explains that some regulatory barriers that exist in government organizations have restrictions that organizations need to comply with [21]. In government organizations, the innovation process has policy barriers that also limit the organization's expenditure or budget to innovate the organization. It is one of the barriers often identified by previous researchers [25]. Other obstacles such as control systems exist in the internal organization, and lack of commitment is also found in some studies [2].

3.4 Barriers to People Aspects of people or human resources

Barriers can be seen in several ways, the first of which is employee fear and aversion to change [2]. Employees often show resistance to change because they are not directly involved in the process of planning and implementing the change, thus feeling they have no control or contribution to the change [26]. This is exacerbated by low commitment to innovation, where employees may not feel motivated to support or actively participate in the changes being made. Furthermore, barriers also occur due to the lack of knowledge that exists in human resources in the organization. The absence of knowledge related to the importance of innovation and how to innovate becomes an obstacle for government organizations to continuously improve work processes or activities [25], [27]. Some of the government organizations have resources that have traditional views, and find it difficult to innovate [6]. The barriers that are often encountered are related to collaboration, in addition to policies that limit collaboration. In the aspect of people or human resources, it is also found that there is an unwillingness to collaborate with other organizations [25].

3.5 Barriers in the Process Aspect

Process barriers are often a major obstacle to business process innovation in government organizations. Lack of broad consultation prior to innovation implementation often leads to dissatisfaction and resistance from various affected parties [17], [26]. Slow decision-making in government environments, often caused by complex bureaucracy, hinders the pace of innovation that should be fast and responsive [6], [28]. Inconsistent management support also exacerbates the situation, as without commitment from the top, innovative efforts often do not receive the necessary attention [7]. In addition, difficulties in collaboration and interaction between parties, both internal and external, pose a major challenge, especially when communication between departments or teams is ineffective and information does not flow well [29]. Rigid administrative methods, legal barriers, and cultural factors also contribute to the inability to innovate effectively [2]. Uncertainty of innovation outcomes and institutional barriers add complexity, making employees risk-averse and lacking commitment to change [2]. Poor planning processes and the inability of departments or teams to communicate and collaborate effectively lead to information isolation and impede the smooth flow of work [25]. All these barriers suggest that the process aspect requires a more structured and strategic approach to support effective innovation in government organizations [25].

3.6 Barriers to Technology Aspects

The technology aspect of business process innovation in government organizations often faces significant barriers. Lack of financial support is often a major barrier, given that technological innovation requires considerable investment. In addition, lack of management support for technology initiatives also hinders the development of innovation, as without commitment and encouragement from upper management levels, innovative efforts often do not receive the necessary priority [30]. Existing technology can sometimes actually hinder innovation if the infrastructure is outdated and unable to support new applications or systems [7]. The difficulty of developing innovation systems includes the challenge of integrating existing systems with new technologies, which often requires major changes in system architecture [31]. Finally, the risk of anomalies or uncertainties associated with implementing new technologies is also a barrier, as concerns over security, privacy, and potential technology failures can deter innovative endeavors [23]. All these barriers indicate that technological aspects require special attention and a strategic approach to be able to support effective innovation in government organizations.

3.7 Analysis of Key Barriers to Public Service Innovation

From the explanation of the obstacles to business process innovation in public services, we take several obstacles that often occur in every government organization. The following are the results of mapping the obstacles in each aspect.
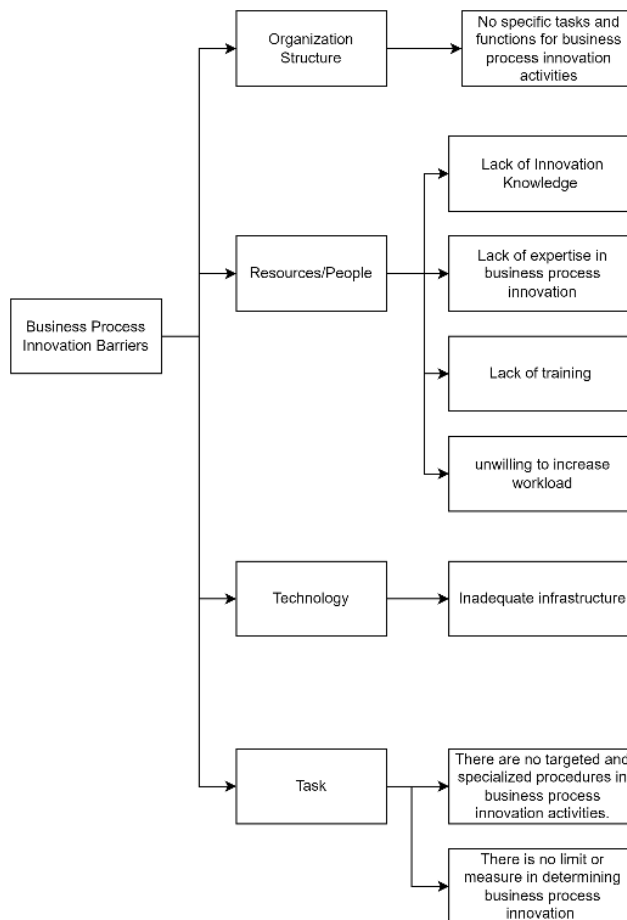

Figure 3. Mapping the obstacles in each aspect

The results of the figure above show that in the organizational aspect, the obstacle that often arises is that there are no specific tasks and functions regulated in the policy in innovating in government organizations [6], [17], [18], [19]. Second, namely human resources, the obstacles that often arise when innovating in public service organizations are lack of knowledge of innovation, lack of expertise in innovating, lack of training, and the last is resistance on the grounds of refusing additional workload [32]. Third, obstacles in the technological aspect that often

arise are inadequate or supporting infrastructur [20], [29], [31]. Finally, the work system or process of obstacles encountered and need to be prioritized in innovating, namely the absence of directed and special procedures in innovation activities there are no limits or measures in determining innovation [2], [33]. The obstacles described above can be a view in business process innovation in public service organizations in government. Previous research states that managerial support in organizations can be one of the important things to reduce potential barriers that occur in organizations [33]. Managerial support can be in the form of providing clear processes or tasks related to innovation in government organizations, training related to business process innovation for organizational resources, maximum utilization of technology related to technological aspects, and a clear organizational structure in government organizations related to the functional duties of each human resource.

4. CONCLUSION

This research identifies several key barriers to business process innovation in government organizations, covering aspects of structure, people, technology, and process. In the people aspect, the lack of knowledge and training related to innovation is the dominant factor that hinders business process innovation activities. Meanwhile, in the technology aspect, the main obstacles include limited funds, minimal financial support, and inadequate technological infrastructure. The lack of a structured process to drive innovation is also a challenge, reducing effectiveness in business process innovation. On the process side, complex bureaucracy, slow decision-making, and difficulties in inter-departmental collaboration also add to the complexity of implementing innovation. The conclusions of this study suggest the need for a holistic and integrated approach to overcome these barriers. Policymakers need to improve communication and training to reduce fear and increase employee buy-in for change. Investment in better technology infrastructure and increased financial support will be key in facilitating more effective technological innovation. In addition, more efficient and collaborative bureaucratic process reforms are needed to ensure that innovations can be implemented smoothly and positively impact public services.

This research contributes to a further understanding of the dynamics of innovation in government organizations and provides a foundation for better policy recommendations to support organizational transformation. In the future, further research needs to be done to explore barriers in other countries or barriers in aspects that have not been explained in this study. In addition, further research can also explore the role of leadership or organizational culture in encouraging innovation in government organizations. This is because each government organization will have different barriers to business process innovation. By doing so, government organizations can manage more specific strategies and more

innovative solutions to overcome these barriers, as well as evaluate the impact of the proposed improvement measures.

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