



Procurement Digitalization and SMEs: Analyzing Comparative Impact against Big Corporations

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ABSTRACT

With regard to digital procurement activities, both small and large businesses (SMEs) are facing with a number of opportunities and obstacles. Although SMEs can benefit from digital procurement by reducing costs and increasing operational effectiveness, these companies still have to contend with challenges like organizational, technological, and resource crisis barriers. Due to employee aversion to change and a talent shortage, larger companies may also find it more difficult to implement new digital technology. I am going to investigate the potential and problems that SMEs and large organizations face while implementing digital innovation in their procurement departments in this study. In addition to the opportunities and problems for SMEs in digital procurement, my research topics will concentrate on the distinctions between SMEs and large organizations. By addressing these problems, we intend to offer advice that will benefit companies' procurement efforts and help them maintain their competitiveness in a quickly evolving digital environment.

Key Words: Digital Procurement; Digital ecosystem; SMEs; large entities, Innovations

1. Introduction:

Procurement is a business process that is primarily based on the exchange of contractual records and information relating to suppliers' goods, purchase costs, discounts, raw materials attributes, transportation of products, and other variables (Rejeb, Süle & Keogh 2018). The conventional procurement process has been shifted to a system that accumulates information and fixes action points related to purchasing products, and consequently, leads to individual communication among sellers and buyers. In response to that, there are multidimensional digital tools and technologies are used to process the required information to facilitate an organization's procurement activities (Stephens & Valverde, 2013).

Digital procurement is the combination of virtual connectivity-based information and communication technology to facilitate the procurement department of a company to help in operational activities and strategic work (Bhuiyan et al., 2024). To boost organizational successes and gain competitive advantages, businesses are now increasingly using digital platforms in their procurement department. This digitalization can also assist SMEs' business operations by minimizing costs and effective actions in every step of procurement in all economies, emerging or advanced economies.

A major underlying theme in digitalization is the objective to gain information about changes in the environment of the organization, including markets, customer behavior, and competitive landscape (Hallikas, Immonen & Brax, 2021) by engaging in continuous assessment of data, cross-organizational capability development, and enhancing the flexibility in every task of businesses. As consequence, it can be stated that Digital procurement capabilities have a substantial influence in leveraging technological resources in its supply chain management operations (Bhuiyan & Mazumder, 2024). To enable digital procurement, SMEs require some important financial and nonfinancial resources, for example, investing more money to acquire and practice technological equipment and software, adequate and skilled manpower that is one of the key elements of SMEs, establishing digital ecosystems.

It is obvious that Small and Medium Enterprises (SMEs) are very crucial not only in the business world but also in the economy and employment of a country. The SMEs businesses operations' patterns may differ based on the economic conditions of a country as the advancement of technology is mostly correlated to the process of invention and innovation of an economy, and the technical innovation as a critical parameter in economic growth (Freeman, 2006), although there are some common technological challenges faced by SMEs in both advanced and emerging economies.

Small and medium-sized organizations (SMEs) do, nevertheless, have more resource problems than larger businesses, according to Mubarak et al. (2019). Technical, organizational, technological, and regulatory barriers all prevent SMEs from expanding. ICT, managers, and a lack of skilled workers are a few examples of technical hurdles. Organizational obstacles include a lack of infrastructure for research and development, insufficient managerial support, resistance to change, and insufficient financial resources. Lack of expertise and resistance to using cutting-edge service technologies like Enterprise

Resource Planning (ERP), Computer-Aided Design (CAD), Artificial Intelligence, or Industry 4.0 Applications like BDA are examples of technological hurdles (Bhuiyan et al., 2024). Privacy concerns and a lack of management and departmental integration are related to legal obstacles.

Larger firms, on the other hand, may find that their staff are reluctant to adopt new digital technologies due to a lack of experience or comfort with them. Furthermore, there might be opposition to changing current workflows or procedures. The factor of earnings manipulation by the employees can also be considered another reason why they are reluctant to appreciate digitalization in their work environment. Because the employees actively try to perpetrate fraud by corroborating the fraud factors in the firms (Chakraborty et al., 2017), excess free cash flows are such an option to manage earnings by the employees in a conducive environment (Saha et al., 2016). On the other hand, some researchers document that resistance to change is what leads to the failure or subpar results of digital transformation. Employees are averse to changes brought about by digital transformation since these changes frequently involve alterations to their job duties, responsibilities, and other aspects of their employment. Because they are accustomed to their routines, they worry about the future and the possibility of unfavorable outcomes. In addition, there is frequently a talent shortage because there is a greater demand than there is supply for these skills. For big businesses that need to hire a lot of highly qualified workers, this can be very difficult. Digital technologies are also changing the nature of work, which could have an effect on employee retention.

Therefore, in comparison to larger businesses, small and medium-sized enterprises (SMEs) face difficulties in obtaining financial and other resources. Technical, organizational, technological, and regulatory obstacles all prevent the expansion of SMEs. In contrast, employees at large organizations may be reluctant to accept new digital technologies because they are unfamiliar with them or uncomfortable using them. There may also be reluctance to disrupt existing workflows or processes. Additionally, due to a talent shortage and the evolving nature of work affected by digital technologies, large entities may have trouble finding and keeping skilled talent. Thus, it is time to present the challenges and opportunities that are faced by SMEs and large entities, and in this study, we are going to scrutinize the following research questions:

1. What are the challenges and opportunities are facing SMEs businesses in regard to digital procurement activities?
2. What are the differences between SMEs and large entities for implementing the digital innovation in their procurement department?

2. Literature review:

Procurement activities are now not applied in simple and straightforward processes. It has so many factors that are performed with many complex procedures. For example, duration and deadline, manpower capability associated with the selection of suppliers' numbers to contact when searching them, the process of relevant decisions' making, communication and dealings strategy with the suppliers, business risks, probable services after purchasing the products that have impacts on future relationships between buyers and sellers. Moreover, the changes in technology concern reshaping all relevant processes in business activities, incorporating new businesses, changing relationships between buyers and suppliers, products' using experience, customers' quantities, and impacts of technological complexities (Lucas et al., 2013). The procurement of employees can also be impacted by the firm's performance. Therefore, institutional, or foreign ownership of the shares, family relationships of the board leaders, or the disclosure practices in the firms can also be considered into the mix as they relate to the firm performance (Ali et al., 2023; Mazumder et al., 2024; Uddin & Mazumder, 2016). As one of the diverse applications of digitalization in business, digitalization in procurement is a data-driven approach to derive solutions to supply management-related complexities (Monczka, 2016; Islam & Bhowmik, 2013). To get the diverse application actions, the following factors are the key reasons: 1) continuous assessments are key roles of analytics and finding out criticism of available business data as, in most cases, raw data are not completed and unbiased (Jones, 2019). 2) digital processes are not ready all the time to contribute to business performance; for example, the extensive collaborative nature of big data needs cross-organizational capability development, 3) the digitalization of business activities is not just dealing with technical challenges; but the main objectives of this are to minimize attitudinal obstacles for going ahead of the flexibility and coping with the technological environment (Sivarajah, Kamal, Irani & Weerakkody, 2017).

The organizational procurement process with digitalization has numerous competitive advantages and opportunities for the organization as data can be processed effectively and user-friendly. This digitalization not only contributes positively to supply chain management but also impacts procurement processes as procurement is a part of the supply chain, and the positive impacts are also correlated to the strategic, tactical, and operational process of the overall supply chain (Van Weele, 2009). The role of digital platforms is analysis critically all the procurement activities of management which definitely gains in the performance of the organization. The digital platforms are facilitating 1) technological applications to collect data from real business operations, 2) connectivity to share data from applications to their users, 3) storing data by using of cloud platform that helps application development, and 4) layering the services for exchanging to its users (Colakovi and Hadžiali, 2018).

2.1. Digitalization in procurement and its practices in SMEs

Although human resources are the fundamental priority in small and medium enterprises (SMEs) for influencing digitalization (Dethine, Enjolras & Monticolo, 2020) other resources are also needed to progress organizational practices. In addition to the above categories, predictive analytics needs the IoT, the clouds, and the big data as a resource for the data-based decision-making and management of activities (Frank, Mendes, Ayala & Ghezzi, 2019).

The present technological developments remove much clerical and official administrative work and automate information processes, leading to optimization and efficiency of the work. Overall national level digitalization such as public opinions in digital platforms has also impact on a nation's economy and business (Hong and Bhuiyan, 2023). Although SMEs have substantial contributions to a country's economy and SMEs are considered as fundamental to the economic growth of national economies (OECD, 2017), SMEs are still struggling with their digital platform due to the following

reasons: 1) investments in digitalization in SMEs are generally extemporary basis and in optimistic nature, even they do not implement any standardized digital strategy, 2) Financial barriers are another cause as for digitalization substantial amount of money is required for this, and entrepreneurs are feeling the risk of losing money and 3) skills related to digitalization, as well as a poorly structured strategy, can also constitute a missed opportunity for digital transformation.

2.1. Digitalization in procurement and its practices in large entities

It is true that True, big businesses that were regarded as leading innovators ten or fifteen years ago have struggled to keep up with technological advancement. However, no large company would be able to instantly replace its experienced workforce with new hires, and doing so would be foolish (Linnhoff-Popien et al. 2018). According to Hammer and Champy, the very thought of change always calls up more primal feelings like fear. Employees who feel left behind are much less productive.

Moreover, technology has advanced more quickly in the last ten years, making it difficult for many businesses to keep up. Large organizations with intricate organizational structures and slow-to-adapt processes are particularly susceptible to the issue. Change is also never simple and frequently brings underlying instincts like dread to the surface. Because they are unfamiliar or uncomfortable with new digital technologies, employees may be reluctant to adopt them. The advent of new technologies may also make them feel as though their employment is in jeopardy (Abolade, D. A. 2018, Saha & Bhowmik, 2020; Bhowmik). Employee productivity that feels behind might be significantly impacted by this unwillingness to change. Additionally, the nature of work is changing as a result of digital technologies, which may affect employee retention. Fewer workers are required to complete some tasks as a result of the automation and streamlining of many jobs brought about by the ongoing development of technology. High turnover rates may result from employee worry and worries about their job security brought on by this change.

3. Theory and proposition development

2.2. Institutional theory

According to institutional theory, social norms, cultural values, and institutional practices have an impact on organizations and can both provide opportunities for and place limitations on organizational action. By adhering to the prevalent norms and practices of their surroundings, organizations seek legitimacy and acceptance within their institutional settings. In their institutional setting, organizations may adopt formal structures, practices, and processes that are deemed suitable and legitimate (Greenwood, R. 2008). These elements have the potential to either help or hinder organizational efforts to undergo digital transformation. Because SMEs may become overly dependent on their institutional environment, which can limit their ability to innovate and adapt to changing circumstances, organizations strive to establish legitimacy and acceptance within their institutional environment, and they do so by adhering to the dominant norms and practices related to digital innovation. Additionally, they might struggle to strike a balance between the need for legitimacy and the requirements for differentiation and competitive advantage.

Small businesses may find it challenging to innovate in the digital space since they have few resources and a hard time finding qualified staff. Because they have more resources and access to knowledge networks, medium-sized businesses have more opportunities. Even larger firms, meanwhile, could encounter difficulties implementing digitalization because of probable resistance of employees to change. The impact of skilled labor on the acceptance of digitalization is not always considerable, and the relationship between skilled labor and adoption of digitalization is complex.

Proposition 1: The relationship between organizational resources and the adoption of digitalization in the procurement department is a flatter curve, indicating that while skilled manpower is important, its impact on digitalization adoption depends on organizational size.

Additionally, institutional theory is a framework for describing how cognitive factors, such as organizations and their environments, influence organizational behavior and decision-making and work to create widespread understandings of what is appropriate organizational behavior (Palthe, J. 2014, Das et al., 2020). The institutional pressure theory might be useful in identifying the variables that might affect the decision-making process when it comes to applying digitalization in procurement departments of large corporations. Companies should recognize and overcome institutional factors that can prevent the acceptance of new technologies in order to successfully deploy digitalization in procurement departments.

Small businesses could not have the organizational framework and funding to adopt digital advances, while large businesses may experience coordination and compatibility problems due to their high operational complexity. Operational complexity and potential employee resistance must be taken into account when implementing digitalization in procurement. Because too little or too much structure can impede adoption, the ideal level of organizational structure is required for successful digitalization.

Proposition 2: Organizational structure and digitalization implementation have a narrow curve relationship, too little structure impeding digital tool adoption while excessive complexity presents obstacles.

4. Methodology

Conboy et al. (2012) claim that qualitative business and innovation research can aid in the development of a thorough awareness of the business environment, increasing the relevance for practical application. This exploratory qualitative study's goal is to pinpoint the precise circumstances and settings in which certain businesses struggle to carry out digitalization projects even after making a strategy. In this study, I'll investigate the claim based

on earlier works in the same subject and provide evidence for why both large and small businesses are having trouble implementing digitalization in their procurement departments.

5. Analyzing the proposition

5.1 Proposition 1: The relationship between organizational resources and the adoption of digitalization in the procurement department is a flatter curve, indicating that while skilled manpower is important, its impact on digitalization adoption depends on organizational size.

5.1.1 Resource crisis in very small firms

In comparison to larger enterprises or SMEs, very small businesses may encounter higher hurdles when implementing digital innovation. According to Lawrence, J. E. (2008) and Wymer, S. A., & Regan, E. A. (2005), they might not have the financial resources, technical know-how, and organizational competencies needed to deploy digital technology successfully. Additionally, they might have a hard time luring and keeping talented workers away from larger organizations with more resources and better opportunities for career advancement. Additionally, very small businesses might struggle to negotiate favorable contracts or gain access to the newest digital tools and platforms due to their limited bargaining power with technology vendors. Very small enterprises may find it difficult to stay up with technological advancement and maintain competitiveness in their particular sectors as a result of all of these problems. To access the most recent digital tools and platforms, for instance, a tiny start-up company with only a few people could find it challenging to negotiate advantageous contracts with technology vendors. Because they might not have access to the same resources as larger retailers, the store may find it difficult to keep up with technological advancement and maintain their competitiveness in their market. Additionally, the company might not have the negotiating power to secure cheaper technology solutions, which could constrain their capacity to make investments in new technologies. Because other retailers might be able to provide better customer experiences by utilizing digital tools and platforms, this could put them at a competitive disadvantage.

Successful adoption of digitalization depends heavily on organizational resources, including skilled labor. The lack of trained labor in small enterprises might make it difficult to integrate digitalization across the board, especially in the procurement process (Mutula, S. M., & Van Brakel, 2007). Organizations may find it difficult to integrate and maintain digital tools and technology if they lack the necessary resources. The implementation of digitalization in the procurement department can be hampered in small firms by a lack of competent labor. On the other hand, medium-sized businesses have greater resources and opportunity to implement digitization. The implementation of digital tools and technologies in procurement can be facilitated in medium-sized enterprises due to the availability of trained staff (relative to small firms), which can result in enhanced efficiency and cost savings (Gunasekaran, A., & Ngai, E. W. 2008).

5.1.2 Strength of medium-sized organizations compared to small entities

In contrast to very small businesses, medium-sized businesses may have more opportunity to accomplish this since they have more resources and the ability to adhere to certain standards and procedures (Grimm, M., & Paffhausen, A. L. 2015). The ability to invest in the infrastructure and technology needed to adopt digital innovation may be within the financial reach of medium-sized businesses, which may aid them in adhering to the standards and procedures of their institutional context. In comparison to small entities, they might also have organizational structures and practices that are more established and can be modified to meet these new criteria. Small businesses may not have as many benefits as medium-sized ones, including greater access to knowledge and information through their networks. Trade associations, industry groups, and other organizations with a similar focus that frequently work in the same industry as the corporation might make up these networks. Companies can access a multitude of information that can help them stay current with the newest practices and norms in their sector by joining such networks. Information about emerging technology, market trends, industry best practices, and changes to the law are just a few examples.

Medium-sized businesses can establish themselves as industry leaders and acquire a competitive edge over smaller businesses that lack such resources by keeping abreast of such advancements. For instance, they can use the most recent technology to simplify business processes, raise the caliber of their products, and cut expenses, among other things. As a way to stand out from the competition or to better serve their consumers, they can also leverage their knowledge to create new goods or services.

When it comes to adopting new technologies, medium-sized businesses are in an exceptional position. They frequently have more resources and flexibility than small enterprises, even though they may not have the enormous resources of huge organizations. They are in a prime position to adopt new technology as a result. Medium-sized businesses are typically more flexible and agile than their larger counterparts. In today's fast-paced business climate, they can frequently move more swiftly when it comes to making decisions and executing changes, which can be a big advantage. At the same time, they frequently have more resources available than smaller businesses, which enables them to more successfully invest in and integrate new technologies.

5.1.3 Psychological crisis in the big organizations environment

Even if larger firms have more resources, implementing digitalization is not always simple. Because they may see digitalization as a threat to their job security, employees may be resistant to change and hesitant to learn new technologies (Cohen NS 2016). This may make it more difficult for people to adopt digital technology. The connection between skilled labor and the adoption of digitalization is more nuanced. Although having a skilled workforce

is crucial (Kumar et al. 2021), it is insufficient for a successful adoption of digitalization. Employee resistance to digitization may be caused by worries about losing their jobs or worries about how new technologies will affect their work procedures. Even if the firm has the necessary resources and trained personnel, this can pose substantial obstacles to successful digitalization adoption. Employees in a manufacturing organization, for instance, could be hesitant to learn how to handle new digital technology since they are accustomed to using current production techniques. To assist employees in gaining new skills and adjusting to the changes brought on by digitization, the organization may need to invest in training and development initiatives. However, this expenditure on training and development may call for a lot of time and money (Cirillo et al. 2023), which can add to the difficulties of successfully adopting digitalization. The fact that some employees are at ease with the status quo and may not recognize the immediate advantages of implementing digital technologies may also contribute to their resistance to change. Strong leadership and efficient communication techniques may be necessary to overcome this reluctance and establish a culture of innovation and continual improvement.

5.1.4 Concluding remarks for proposition 1

The relationship between organizational resources and the adoption of digitalization in the procurement department is not linear, I can conclude from the discussion above from the perspectives of small, medium, and large organizations. The association between skilled labor and adoption of digitalization has a flatter slope, indicating that this influence is not particularly substantial. As a result, proposition 1 can be said to be somewhat justified.

5.2 Proposition 2: Organizational structure and digitalization implementation have a narrow curve relationship, too little structure impeding digital tool adoption while excessive complexity presents obstacles.

5.2.1 Organizational structure crisis in small farms

Small businesses could not have the organizational framework needed to successfully deploy digital innovations, while huge businesses with complicated operations might also have trouble going digital. It might be challenging to integrate digital tools and technology in small businesses due to a lack of organizational structure and processes. This could be caused by a lack of tools, knowledge, and digitalization-supporting systems. It can be challenging to integrate digital technologies with current systems and workflows without explicit processes and roles (Basu, A., & Kumar, A. 2002). For instance, adopting a new cloud-based accounting software may be difficult for a small accounting business with limited people and resources. It may be challenging for them to integrate the new digital tools with their current systems and workflows because they lack the appropriate organizational structure and processes (Basu, A., & Kumar, A. 2002, Bhowmik et al., 2021).

5.2.2 Organizational structure medium sized farms compared to small farms

Due to their more defined organizational structure compared to small firms, medium-sized organizations are frequently better positioned to adopt digitalization. This is so that new technology can be adopted more easily. Medium-sized businesses often have more resources, more specialized roles and departments, and a more established decision-making process. When it comes to adopting digitalization, medium-sized firms have a number of advantages over smaller ones, including a better capacity for technological investment. Due to their constrained financial resources, small businesses may find it difficult to invest in the most up-to-date software and tools, but medium-sized businesses can devote a bigger portion of their budget to technology, allowing them to stay on top of developments and maintain a competitive edge in their industry.

In addition, departments and roles in medium-sized firms are frequently more specialized, which helps facilitate the integration of digital tools and software into current workflows. A medium-sized marketing firm might have a distinct data analytics team to handle digital marketing efforts, while a medium-sized manufacturing company might have dedicated IT workers that can help develop and manage new software systems.

5.2.3 Organizational structure complexity in large farms

In contrast, large businesses with complex operations may run into problems as a result of their size and complexity. Because of their complicated decision-making procedures, several levels of management, and compartmentalized departments, these businesses may find it challenging to coordinate their digitization initiatives across the entire business (Giest, S. 2017, Bhowmik et al, 2017). Additionally, it may be challenging to integrate new digital tools and technologies into existing workflows in large firms because of legacy systems and processes incompatible with new digital tools and technologies. Considering operational complexity and potential employee resistance is crucial when introducing digitalization in a large company's procurement department. Adopting digital tools and technology might bring about novel procedures, systems, and workflows that may be foreign to procurement employees from the perspective of operational complexity. This may lead to a learning curve that initially slows down operations and aggravates workers. A large investment in IT infrastructure and systems may also be necessary to integrate digital tools with already-in place systems and procedures. For instance, a sizable manufacturing company has chosen to deploy a new software system for procurement to simplify and increase productivity. However, the procurement procedure is quite complicated because the company's procurement department is in charge of acquiring a broad range of materials and components from numerous suppliers. The organization discovers that the procurement procedure is more difficult than they previously thought when they start to implement the new software system. They find that the new system is unable to manage the variety of materials and components that the business must purchase, necessitating the customization of the program to suit their unique requirements. The new system's deployment will be delayed because this adaptation will require time and resources (Gargeya, V. B., & Brady, 2005, Uddin & Bhowmik, 2023).

5.2.4 Concluding remarks for proposition

In spite of these difficulties, there is a close association between organizational structure and the adoption of digitalization. Thus, there is an ideal level of organizational structure required for the successful implementation of digitalization. Digital tool adoption can be hampered by a lack of organization, and impediments might be created by complexity.

6. Conclusion

The availability of organizational resources, such as skilled staff, has an impact on the adoption of digitalization in the procurement department of firms. Additionally, the size of the organization affects how skilled a workforce is used for digitalization. Due to their lack of financial resources, technological know-how, and organizational capacities, very small businesses have greater obstacles in adopting digital innovation than do medium-sized businesses. They might also have trouble finding and keeping qualified workers, which would make it harder to adapt digitalization. However, compared to small organizations, medium-sized organizations have access to more resources and opportunities for implementing digitalization, including more knowledge and information through their networks. Because of this, they are in a unique position to adopt new technology more successfully and gain an edge over smaller businesses.

Larger organizations, on the other hand, might encounter organizational structural complexity and psychological barriers to successful digitalization adoption. These barriers include the difficulty of changing existing setup technology and employee resistance to change and reluctance to learn new technologies due to fears of job loss or concerns about the impact on their work processes. Although having skilled labor is crucial, it is insufficient for successful adoption of digitalization. Employers may need to spend money on training and development initiatives to assist staff in gaining new skills and becoming more used to the changes brought on by digitization. All things considered, there is a complex relationship between skilled labor and the adoption of digitalization, one that calls for careful consideration of organizational size, organizational structure, resources, and employee attitudes toward technological change.

7. Future research and extensions

Organizational procurement departments now place a high priority on digital innovation. As a result, further study might be done to develop a model that takes into account numerous variables in enterprises of varying sizes that influence the adoption of digital innovation in procurement. Resources, organizational structure, current technology, and financial capacity are a few examples of these variables. A way for conducting this research would be to gather numerical data from well-known sources and utilize it to create a regression model that examines the correlation and significance of these dependent and independent variables.

This research design might offer a number of advantages. In the first place, it might aid in pinpointing the variables that affect how successfully digital innovation is implemented in procurement departments. Second, it might offer a roadmap that businesses can use to integrate digital innovation in their procurement divisions, improving the likelihood of success. This research technique may also assist organizations in identifying potential problems they may run across when implementing digital innovation and in coming up with solutions. To assist the deployment of digital innovation in procurement, an organization can consider possibilities for procuring more money or reallocating resources, for instance, if financial capabilities are identified as a critical factor.

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